



101 ORGANIC GARDENING TIPS

SHERI ANN RICHERSON

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By Sheri Ann Richerson

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A Note From The Author

The best part of gardening for me is watching the bees, birds, butterflies, and wild creatures hover over and around the brightly-colored, fragrant flowers.

Somehow, flowers in abundance look so much better to me than those grown and arranged more formally.

The look of the English Garden is charming; it is organized, yet looks wild, as nature intended.

The colorful blooms, sometimes with an odd plant mixed in here and there, the abundance of roses, delphiniums, and other sun-loving heirloom plants mixed with shrubs, trees, herbs, and sometimes even vegetables, is simply delightful.

A garden designed in the English style creates a feast for the senses and a perfect habitat for wildlife, which is something that today's world really needs.

This type of garden brings many surprises along the way, from new plants grown from seeds dropped by visiting birds, plants created by nature's doing the cross pollination, to self-seeding plants that pop up in new locations.

Writing this book has been a labor of love.

It is my wish that you, the reader, will discover tips and tricks to help you create a cherished garden that will live on for generations.

I hope that you will be able to create a place where friends, family, and neighbors can relax and interact with nature; a place where you can go out and pick edible flowers, herbs, or vegetables to add to your meals; a place where children can learn where food comes from; but most of all, I hope you'll create a fragrant, private place where you can escape from the hustle and bustle of the world.

1 | Why Organic?

An organic garden is one that's grown and cared for without the use of pesticides or herbicides.

While growing plants organically can be time-consuming and labor-intensive, the benefits make it well worth the effort.

First of all, studies have shown that organic produce is healthier since it contains no chemical residue.

It's also better for the environment than conventional growing because it eliminates the chemical runoff that can make its way into local waterways.

Many insects and birds are suffering from a buildup of pesticides in their tiny bodies, which makes chemical-free gardening great for wildlife as well.

With the recent push to go green, organic gardens are sprouting up everywhere; learning to grow plants without chemicals, hand-pick pests, use companion planting techniques, and provide a variety of nectar plants for beneficial insects is all the rage.

Knowing that your garden is free of harmful chemicals offers great peace of mind, and there's nothing like going out to your garden and eating a vegetable right off the plant—the taste is incredible.

Although the switch from conventional to organic is time-consuming, it's definitely worth it.

All it takes to go organic is patience and the willingness to learn how to work *with* nature.

Do keep in mind, however, that the pesticides and herbicides that you've used in the past will not go away immediately; in fact, it can take several years.

Going organic doesn't happen overnight, but in time, your produce will be certifiably organic.

2 | Be a Savvy Consumer

When shopping for organic products, do some research before buying.

Read labels, look up information, and get input from other consumers.

The fact that a product is labeled organic doesn't necessarily make it the best.

For example, there are different levels of organic.

Some products may be 70% organic and still possess the label, while others will be 100%.

No matter what you're buying, you should always read the label and understand the ingredient list first.

It's also very important to read the directions for any product you buy, organic or not.

It seems logical to assume that, if one teaspoon is good, then one *tablespoon* must be even better.

Misusing pest disease control products can cause all sorts of problems, from plant death to environmental harm, even if those products are approved for use in organic growing.

Always compare prices and buy locally whenever possible—supporting local merchants is always important.

While it's true that mail-order companies and internet retailers have made a wider range of products available, these products are often more expensive and also come with shipping costs.

Many organic products can be made easily at home.

For example, a simple solution of soap and water will get rid of many plant pests.

Also, baking soda can be sprinkled on rose leaves to help eliminate black spot, and dumping old milk on plants can help eliminate powdery mildew.

Always test any product, homemade or not, on a single set of lower plant leaves.

Even simple products like dish detergents often have new ingredients added that can harm your plants.

3 | Free Mulch Sources

If you're spending more money on mulch than on new plants, try using less of it.

Place a layer of newspaper on top of the soil before you spread mulch.

This way, you can spread a much thinner layer and still keep weeds from growing.

What's even better is that the newspaper will eventually decompose and enrich the soil.

You can even replace mulch entirely with shredded newspaper (as long as you can handle white mulch).

Bulbs and perennials will come up through the shredded paper, but remember to remove the paper from the plants' foliage as they emerge.

Earthworms will eventually incorporate the paper mulch into your soil.

You can also create mulch with autumn leaves.

Simply rake the leaves into a row and lay a long tarp beside them.

Run your lawnmower over the leaves so they get thoroughly chopped.

As you mow, the chopped leaf debris will be blown onto the tarp.

Instant mulch!

Allow it to sit for a few weeks until it begins to break down, and then dress your flower and vegetable beds with a three to four-inch layer of it.

As the leaves break down, they'll add valuable moisture to the soil.

Do not mulch with leaves that have not been chopped, because a thick layer of whole leaves can prevent moisture from reaching the soil underneath.

Other free materials that work well as mulch include compost, cardboard that has been cut to size, and weed-free straw.

If you have chickens or other live-stock, let them sift through the straw.

They'll eat the seeds, leaving you with chopped, weed-free straw— just make sure there's no fresh manure in it when you use it.

4 | Garden Planning

Do you feel lost when it comes to making plans for your spring garden?

If so, you're not alone.

It's hard to know where to begin.

If this is a new garden, the first step is soil preparation (after all, you can't grow a garden in grass or weeds).

Make sure the area is tilled or hand-dug, free of weeds, and that the necessary amendments are added and worked into the ground (more on that in the "Soil" chapter).

If possible, lay down big sheets of cardboard to help kill weeds and grass during the fall before you intend to plant.

The next step involves seeds and plants.

Do you want to grow flowers, herbs, vegetables, or a combination?

Consider what your family would get the most use out of. Now ask some more specific questions. If you choose flowers, do you want ones that are fragrant, of a certain color, good for drying, or attractive to butterflies?

Once you've made some decisions, look at garden catalogs and websites to determine which plants do the best in your area.

Now, consider your planting space to help you determine how many plants you can grow.

If you're planting close for weed control, choose annuals or intermix annuals and perennials (perennials by themselves will need frequent dividing if planted too close together).

There are some flowers, such as marigold, nasturtium, and zinnia, which do well in vegetable gardens.

Don't be afraid to experiment, and remember that gardens are ever-changing.

5 | Cement Walls and Walkways

Building cement walls in a garden adds both character and height.

They can be used as borders or in the center of flat beds to create the illusion of elevation.

They make new gardens appear as though they've been there for years.

You can place tall plants in front of the wall to disguise it or plant creeping vines such as rosemary and Lamium to soften the look of the cement.

Cement or brick walkways also add interest to the garden, and they're a great way to recycle materials from local buildings that are being demolished.

If your walkway has broken pieces, simply plant something that can handle foot traffic, such as thyme; once the plant grows, no one will know that the stones or bricks are damaged.

Cement walkways present a lot of creative opportunity.

You can pour your own stones and add pieces of broken china, stained glass, or any other material that can withstand the elements.

One thing to keep in mind is that cement or stucco foundation walls or walkways can add lime to the soil.

Since lime makes soil more alkaline, avoid planting acid-loving plants near the walls, as this can cause all kinds of problems for them, including stunted growth.

If you already have cement or stucco in your garden, have your soil tested to find out the soil pH.

You can either purchase a pH test kit at your local garden center and perform the test yourself or send a sample off to a lab for analysis.

Check with your local extension agent for a list of labs that test soil.

6 | Test Your Soil

It's important to test your soil in order to know which plants will grow well in your area.

Soil is tested for acidity and alkalinity, and the results are given pH levels, which range from one to fourteen.

Levels below seven indicate acidity, while levels above seven indicate alkalinity.

Home test kits will tell you the alkalinity of your soil, while lab tests can also show its deficiencies.

This information helps you decide which additives your soil needs and which ones you should avoid.

A pH meter is an alternative to a chemical test kit.

It has a probe that you insert into the soil in order to get a reading.

If you intend to do a lot of pH testing or have acreage, this is the way to go.

pH meters are more expensive than soil test kits, but you can use them over and over again.

7 | Organic Weeding Methods

The key to controlling weeds organically is to remove them as soon as you see them, root and all.

Do not allow them to go to seed or grow—weed seeds can live un-germinated in soil for up to seven years.

For tough weeds with tap roots, such as dandelions, chop off the plant below the soil line.

This will require some persistence, but after the root is chopped off several times, the weed will cease to grow.

When mulching, a two- to three-inch layer will keep weeds from sprouting in the first place.

All that will be required to stay weed-free is a short visit each day to gently pluck any rooted weeds that manage to grow.

Corn gluten can also be used to keep weed seeds from germinating.

Only use this around established plants or new transplants, as it cannot distinguish between weeds and seeds you've planted.

Growing demanding plants in certain areas of your garden can also help keep weeds away.

Some plants, like potatoes, compete so strongly for water, light, and nutrients that nothing else can grow where they are.

Spraying vinegar on weeds is another natural way to get rid of them.

Make sure to only get it on the weeds, as it can damage or kill your good plants.

8 | Plants that Clean Metal Contaminated Soil

If your soil has a buildup of heavy metals in it, you may want to try planting a variety of plants known as hyper accumulators.

One such plant is the alpine pennyroyal.

This plant absorbs large amounts of heavy metals from the soil.

Although classified as a weed, alpine pennyroyal may just be a great solution to cleaning up earth that is contaminated with heavy metals.

Other plants that have shown promise include thlaspi which is a weedy member of the broccoli family and amaranthus retroflexus, also known as pigweed.

These plants work by taking up heavy metals via their roots.

The heavy metals then move into the stems and leaves of the plants.

Scientists have found when these plant materials are harvested they can remove the metal from the plants.

Using these plants in places such as landfills may be a great way to clean up the environment.

If you have an area in your yard that has been contaminated by heavy metals, why not plant some of these there?

While you may not be able to extract the metal yourself you may be able to find a place in your area to take the contaminated plants.

If not, at least the soil will be clear of the metal contamination.

In addition to the plants listed, many edible plants such as radish and sunflower will take up metals and other toxins in the soil.

It is important when planting an edible garden to make sure you do not plant it in an area that was a landfill or was contaminated without the land being properly cleaned.

Eating plants grown in poisonous soil can be disastrous.

9 | Replenish the Earth

In the fall, after harvest, roto-till or clear the planting site of debris such as dead vegetable foliage, then lay down sheets of newspaper.

Dampen the sheets of newspaper with water once they're laid down, and then cover them with several inches of compost and chopped leaves.

On top of that, add three to four inches of fresh topsoil.

Earthworms will help work these nutrients into the tired earth.

Over the winter, you can toss kitchen scraps onto the soil (if animal pests are a problem, bury the scraps in small holes).

A second popular method of replenishing the soil is to grow a cover crop or living mulch.

Cover crops are typically grown during the winter, then roto-tilled into the earth in the spring, but that's not the only option.

Cover crops can be grown as a cash crop during the regular gardening season.

Some cover crops make excellent living mulches.

These living mulches are planted between rows of the main crop to help reduce the leaching of nutrients.

Cover crops have several purposes.

The first thing they do is improve the soil tilth.

In addition, cover crops control erosion, weeds, and help maintain the organic matter in the soil.

Replenishing the soil is important in both conventional and organic gardening.

When gardening organically, this is the method used.

Along with replenishing the soil remember to rotate your crops.

10 | Portable Compost Bins

If you want a more portable alternative to the regular compost bin, there are plastic bins available that can be moved around the garden easily.

This is a great solution for people who have small yards or who live in apartments.

Yes, you can compost in apartments!

Check out the new indoor compost bins.

Some indoor compost bins are designed to be kept in the kitchen and come complete with a heating system to speed up the decomposition process.

Because they're designed to fit in enclosed spaces, they really help compost break down quickly.

A properly designed model won't even require the compost to be turned like traditional bins.

You can use compost accelerator in these bins if you like, but it's generally not necessary.

The general rules of composting still apply (alternate green and brown materials follow the manufacturer's instructions, etc.).

The crafty gardener can even make his or her own portable compost bin.

Simply choose a small container that has wheels and a lid (a trash barrel works great).

Drill small holes in the bottom or sides of the container to allow fresh air to get in, and then secure the lid.

Add your materials and some earthworms and you'll have compost in no time.

11 | Recycle Your Christmas Tree

Instead of dragging your Christmas tree to the curb this year, why not recycle it?

During the long, cold winter months, you can place the tree in a secluded spot to shelter wildlife.

When the weather warms, you can use a mulcher to turn your Christmas tree into pine mulch, which can be spread over garden beds.

If you don't have a mulcher, check with your local sanitation department to see if there's a program to mulch homeowners' Christmas trees.

Once you've made your mulch, it's best not to use it right away, as fresh mulch will pull nitrogen out of the soil.

To avoid this, allow the mulch to sit in one spot and age for several months.

If you're unable to have your tree mulched, simply place the entire thing in a secluded corner of your property and allow it to decay naturally.

Make sure the area is away from buildings—snakes, birds, frogs, rabbits and many other small animals may choose this for their new home (it may take a while for this to happen, but you can almost certainly count on it).

Allow some grass to grow around the edge of the tree for additional shelter and seclusion.

When the next year comes, simply lay the new tree on top of the old one.

Don't worry about removing decaying branches—just try to nestle the new tree into the old one.

Before approaching the pile with the new tree, whistle or make some other noise to alert the animals that you're coming.

They'll scatter, but they'll come back later.

12 | Healthy Soil is Important for Healthy Plants

If your tall plants have good color and flower well but lack sufficient strength to stand upright, it could be that they lack essential nutrients, such as phosphorous or potash.

Growing the plants too close together or feeding them with a fertilizer that is too high in nitrogen can weaken the stems which will cause them to flop.

Instead of using a conventional fertilizer, try side dressing your plants with compost.

If you feel the plants need more fertilization than top dressing alone, try organic kelp or fish emulsion.

Plants can take up what is in the soil as well as what touches their stems, leaves and flowers.

Think of liquid fertilizer as the milk on the cereal and the soil as the cereal itself.

Plants that perform poorly are generally not getting the nutrients they need to thrive.

Plants grown in healthy soil that is full of the nutrients they need generally perform well.

If you start out with good soil, add organic compost and stay away from chemicals you will encourage earthworms and other beneficial microbes to stay.

In turn the plants will have what they need to thrive.

Top dressing once a year with fresh compost will allow you to add more nutrients to the soil and help stop the soil from becoming depleted.

When adding extra fertilizer to the soil, choose an organic one.

There are many to choose from such as alfalfa meal, bat or bird guano, blood meal, bone meal, chicken manure, Epsom salt, feather meal, fish emulsion, fish meal, greensand, humic acids, kelp, oyster shells, liquid seaweed, soft rock phosphate and worm castings.

When buying a fertilizer make sure it is organic.

Some fertilizer companies mix non-organic fertilizer with organic components so make sure you read and understand fertilizer labels.

13 | Composting Basics

Composting cuts down on waste, provides a nutritious soil amendment for your garden, and is a great way to recycle precious nutrients back into the earth.

To make a compost pile that will break down quickly to create finished compost, you'll need:

- Green materials such as grass clippings, vegetable trimmings, and weeds. Green waste is high in nitrogen and helps the compost pile heat up quickly.
- Brown materials such as dry leaves, straw and woody brush. Brown materials are high in carbon.
- Enough moisture to keep the pile as damp as a wrung-out sponge.
- Air to help build up more heat so that the material will decompose more quickly.
- A source of good bacteria to help break down the compost. A scoop of garden soil should be all you need, but you can also buy a compost activator.

Put all of your materials together in a pile of four to five cubic feet. A pile of this size heats up quickly, reaching up to 140 degrees Fahrenheit.

- Turn the pile regularly to help it break down evenly.
- Do not add meat to your compost pile (although clean bones are OK).
- Fruit and vegetable scraps, rotted fruits and vegetables, egg shells or rotten eggs, and shredded newspaper are great additions.
- Shredded newspaper holds moisture and is a favorite of earthworms.
- Farm animal manure and bedding are also great additions, but don't add cat or dog manure.

14 | Best Compost Materials

Never add meat or dairy products to the compost heap.

They will not decompose properly and will cause the compost pile to develop an unpleasant odor.

They could also attract animal pests.

Clean bones with no meat are okay to add.

You can safely compost any plant-based materials, such as:

- Fruit and vegetable scraps, including stems, leaves, and peelings.
- Woody plant stems, as long as they are no thicker than a pencil. Larger stems should be chopped up before being added.
- Leaves, although too many oak leaves can make the compost acidic.
- Black Walnut leaves should be avoided.
- Grass clippings, which break down quickly and help heat up the pile.
- Human or animal hair.
- Shredded paper. Choose white paper with black ink—full-color magazines and newspaper ads should be avoided because of the chemicals in the ink. Always shred paper before adding it.
- Shredded or torn cardboard will also decompose.
- Egg shells which are a great source of nutrients and calcium. They decompose slowly, but crushing them speeds up the process.
- Tea leaves and coffee grounds. These can be sprinkled directly on the soil and are particularly good for acidic-loving plants like blueberries, rhododendrons, camellias, and azaleas.
- Manure and bedding, Horse, goat, sheep, poultry, and rabbit manure are great for compost. Avoid dog and cat manure as well as cat litter. Don't worry about bits of hay or straw in the manure—it will compost and is considered a brown material.

15 | Leaf Compost

Leaves have many advantages, but because of their high carbon content, they can take anywhere from five months to two years to compost by themselves.

As with regular compost, it's important to make sure the pile has adequate moisture and is turned frequently (this keeps the leaves from compacting).

Leaf compost can be used in the garden in place of bark.

It's best to shred the leaves before adding them to the compost pile or using them in the garden.

For one thing, they'll compost much faster if they're chopped up first.

Also, leaves that aren't shredded tend to pack together, which can prevent air and moisture from reaching your soil and your plants' roots.

Shredded leaves, on the other hand, improve your soil's water-holding capacity because they act as a weed barrier as they break down.

If you want to use shredded leaves as mulch, create a separate compost area for them to decompose in.

Use a container such as a compost tumbler for this—if leaves are left on the ground to break down, many important nutrients could leach into the ground and get lost.

It's best not to use leaves for mulch as soon as they fall because the microbes that help them decompose will compete against your plants for the nitrogen in the soil.

Leaf mould or compost can also be added to containers.

Simply add twenty-five percent leaves to seventy-five percent soil and mix well.

16 | Maintaining Compost Temperature

Compost has to heat up in order to decompose.

The hotter the pile gets, the faster it breaks down.

The ideal temperature is between 110 and 140 degrees Fahrenheit.

When the right ingredients are added, a compost pile will heat up naturally.

Add several inches of brown material and then several inches of green material in alternating layers until your compost pile reaches the ideal size.

Shredded or chopped materials break down faster than large chunks.

Avoid adding branches unless they're chopped or your compost pile is quite hot, as they take longer to break down than leaves, grass clippings, kitchen scraps, and manure.

Compost piles should not be allowed to dry out.

Try to create your pile in an area that gets sunlight for half of the day and has adequate drainage.

If it gets too dry, sprinkle it with water.

You don't want it to be soggy, but just moist enough to keep the decomposition going.

Turning the pile frequently will keep it hot until it breaks down.

The process can take anywhere from two weeks to several months.

To speed up the decomposition, turn the pile weekly and make sure it's hot enough.

Never add hot compost or raw manure to your garden.

Instead, only use compost that is completely broken down.

17 | Compost Tea

Compost tea is rich in nutrients and a great way to perk up droopy plants.

To make this organic fertilizer, add two gallons of compost to a 55-gallon barrel filled with water and let the mixture brew for a week.

If possible, use an aquarium pump and a long plastic hose to pump oxygen into the barrel during the process.

Cover your compost tea barrel with a lid or screen to keep mosquitos out.

If your barrel has a hose, it's best to put the compost inside some sort of fabric (panty-hose work well) so that the hose won't clog.

When the compost tea is ready, begin by adding one tablespoon to each gallon of water you add to your garden.

Observe your plants' reaction and adjust the amount as necessary.

Water plants with compost tea in the morning and try not to get it on the foliage.

For best results, water your plants at ground-level, near the roots.

Heavy-feeders such as roses will especially enjoy the extra boost of nutrients from the compost tea.

If you're using compost tea on edible plants, it's best not to do so on the day of harvest.

When you do harvest the vegetables, wash and rinse them well.

18 | Mulching with Compost

Try top-dressing your plants with finished compost instead of digging it into the soil by putting the compost around the plants the same way you'd put mulch around them.

Top-dressing plants with compost instead of mulch has several benefits.

First of all, because the nutrients in compost are gradually absorbed by the soil, plant roots are less likely to be burned by it than by fertilizer.

Again, make sure to use aged compost, as hot compost that hasn't broken down fully will burn your plants.

Another advantage is that top-dressing with compost doesn't require you to dig into the soil close to your plants, which prevents their roots from being disturbed.

When top-dressing, create mounded areas around your plants rather than piling compost directly against them.

The mounds will leave sunken areas near the base of your plants that will collect dew and other moisture, ensuring your plants receive adequate natural moisture.

Compost-topped beds also encourage bees and butterflies.

Gardens that are mulched, on the other hand, cover the soil, thus restricting access to the essential minerals that bees, butterflies, and other insects need for survival.

Replacing mulch with compost has several additional benefits.

First, it helps retain the soil's moisture.

Also, if applied three-inches deep once a year, it will help control weeds.

Because it's made from kitchen waste and manure, it's more environmentally friendly than mulch, which is made from destroyed trees.

Compost also eliminates the need for fertilizer, which translates to less spending for you—it truly is black gold.

Once you begin to use compost on a regular basis, you'll notice the difference in the health of your soil and the performance of your plants.

19 | Encourage Earthworms

Earthworms have amazing strength when you consider that they're able to move stones that outweigh them by 50 times.

They also ingest their weight in soil and organic matter every day.

Earthworm waste is known as "worm castings" or "vermicompost" and is an excellent soil conditioner.

In the garden, earthworms are most important for their ability to aerate the soil.

These tiny creatures can help turn hard clay dirt into rich, workable soil.

The more earthworms in the garden, the healthier your soil.

Not only do earthworms need moisture, but they also prefer to live in soil that's well aerated.

You can encourage earthworms to take up residence in your garden in a variety of ways.

One of the easiest ways to do this is to replace mulch with shredded newspaper.

The newspaper will help keep your soil moist, discourage weeds, and encourage earthworms.

The worms will slowly incorporate the newspaper into the soil, which will improve and aerate it.

Another way to encourage earthworm activity is to add organic matter, of which earthworms need a constant supply of.

Try working banana peels into the top layer of soil around your roses.

Other kitchen scraps can be worked in as well, but don't add large amounts to a single area.

If you're uncomfortable doing this, simply add organic compost to the top three inches of your garden once a year or as needed.

20 | Easy to Build Worm Bin

If your composting space is limited, consider worm composting, also known as vermiculture.

Worm composting gives you the freedom to compost in small spaces like your garage; in fact, since most people who practice vermiculture feed their worms mostly kitchen scraps, the garage is a great location for worm bins.

Making your own worm composting bin is simple.

To create one, you'll need:

- A plastic or wooden box with small holes in the bottom.
- Bedding (compost or shredded newspaper).
- Worms

There are a few advantages to wood containers, the most important of which is its insulating capabilities.

Plastic containers aren't great insulators and also tend to hold water.

Choose a box that's at least twelve inches deep and that has a lid.

The number of holes you need to make in the bottom will depend on the size of the box.

The holes, which are used for drainage and aeration, should be one-quarter inch wide.

Once the box is ready to go, add the bedding.

To keep the worms happy, new materials like kitchen scraps should be added to the middle of the soil pile every two or three days.

Once the bedding is in, add the worms and cover the bin with the lid.

Remember that you want the soil to be moist, but not wet.

When you're ready to harvest the compost, use a bright light to drive the worms to the bottom of the pile.

21 | Organic Fertilizer Basics

Organic amendments are a wonderful way to provide your plants with a slow, steady stream of necessary nutrients.

Many organic fertilizers provide trace elements that are sometimes hard to find in commercially prepared compounds.

Even better, organic fertilizers such as compost, steer manure, chicken manure, cottonseed meal, alfalfa meal, and liquid fish emulsion can improve soil's texture and water retention abilities. (When using manure, make sure it's composted—fresh manure will burn up your plants.)

In the fall, after vegetable plants and other annuals have died back, it's OK to spread fish manure on your garden.

At that point, you can till it or allow it to sit on top for the winter and then till it in the spring.

Be aware that leaving the manure on top of the soil may cause the area underneath to retain moisture, making it harder to get the soil to dry out enough for spring tilling.

Composted manure and other organic fertilizers should be applied in early spring when your plants just begin to resume growth.

As with any fertilizer, it's important not to add it near the end of the growing season to perennials, roses, trees, and shrubs so that they'll have time to harden off before cold weather sets in.

When looking for organic fertilizers, don't forget about kelp or seaweed.

Kelp contains all of the essential nutrients and helps the soil retain moisture.

To use it, simply mix it into potting soil, add it to the top of container plants, and mix it in, or apply it directly around the base of the plant, making sure to work it into the top layer of soil, then water well.

22 | Fish Emulsion vs. Fish Meal

Fish meal, which is dried waste from the fish industry, is one of the best (and oldest) fertilizers for enriching soil.

It works best for vegetables that need nitrogen (except cabbage) and is great for leafy greens and lawns that need greening.

It's high in phosphorous, nitrogen, and potassium and should be applied to soil in the fall so that it can replenish it during the off season.

Fish emulsion, which is liquid waste from the fish industry, is a great liquid fertilizer.

It's great for foliar feeding, especially for newly transplanted plants, plants with small root systems, and greenhouse plants.

It might make your garden smell a little fishy, but the smell will be easy to overlook once you see the results.

When using either fish emulsion or fish meal, follow the label instructions carefully, as using too much is not good for your plants.

23 | Create an Inviting Habitat

There are two ways to begin adding beneficial insects to your garden, the first is to attract them.

The second way is to order them.

There are at least 50 different types of beneficial insects that you can order.

They are classified as either predators or parasites.

Predators eat or kill certain insects while parasites complete their lifecycle attached to a host bug such as the tiny white wasps that attach themselves to the backs of tomato hornworms.

Ladybugs, lacewings, ground beetles, predatory stink bugs, spiders, wasps, dragonflies, damselflies, fireflies, praying mantis, predatory mites, minute pirate bugs, assassin bugs and predatory nematodes are all beneficial insects.

Just as birds, bees, and butterflies need the proper habitat in order to stay in the garden, so do beneficial insects.

In addition to bad bugs such as aphids, scale insects, thrips, mealy bugs, mites and nectar-producing plants, shelter and a good water source are important.

You can construct bug houses for beneficial insects; however, they're not really necessary.

Tall grass, thick shrubs, and lush foliage make the perfect hiding places.

Beneficial insects also need a source of shallow water.

This can be as simple as a small dish or a birdbath with a few rocks in it.

Keep in mind that if the water is too deep, the insects may drown.

Change the water every couple of days to avoid mosquitos and to give the good insects a fresh drink.

If you use mulch, leave a few areas of the garden uncovered, as there are lots of minerals in the bare soil that insects need for their health.

If possible, create small areas of bare soil that will puddle (just remember to keep them as shallow as possible).

An easy way to do this is to make some small holes that water can puddle in in the soil below a hummingbird mister.

24 | Plant to Attract

Planting to attract beneficial insects is one of the simplest ways to invite them into your yard.

The easiest way to do this is to purchase a package of seeds designed to attract beneficial insects.

Another way is to do your research and find out what types of plants each insect prefers.

If you are making a planting specifically for beneficial insects think about where you are going to put it.

Look for an area where the plants could be allowed to go to seed and left stand throughout the winter.

This will give the eggs the beneficial insects lay the best chance of survival.

Plants such as asters, daisies and goldenrods are excellent sources of nectar for beneficial insects.

Mint, fennel and dill are just a few of the herbs that attract beneficial insects.

The seven best plants to grow in your garden to attract beneficial insects are *Centaurea cyanus*, commonly known as Bachelor's Buttons, *Lobularia maritima* commonly known as Sweet Alyssum, *Borago officinalis* commonly known as Borage, *Silphium perfoliatum* commonly known as Cup Plant, *Agastache foeniculum* commonly known as Anise Hyssop, *Anthemis tinctoria* commonly known as Golden Marguerite and *Foeniculum vulgare* commonly known as Fennel.

Bachelor's Buttons is an old time cottage garden plant that many people still grow in their garden today.

The seeds can be direct sown in early spring.

It is an annual that sometimes re-seeds.

This plant attracts flower flies, ladybugs, lacewings, and beneficial wasps.

The best part is the beneficial insects can get nectar from the leaves on this plant, so it serves a purpose even when it is not in bloom.

Sweet Alyssum is known for attracting flower flies which feed on aphids.

It is a quick growing ground cover that not only helps smother weeds but is highly

fragrant.

In some climates it will re-seed.

Borage is an edible herb with beautiful blue star shaped flowers, but use some caution as too much of this plant for human consumption is not a good thing.

It can be deadly in fact.

For beneficial insects, especially green lacewings, borage is the plant to have.

Studies in Switzerland have shown that as many as 100 beneficial insects can be found in just one square foot of borage plants.

If you must choose just one plant to grow to attract beneficial insects, pick Borage.

The advantage of growing Cup Plant in your garden is because the leaves wrap around the plant in such a way that a natural water reservoir is made.

This gives both birds and beneficial insects an easy source of water in the garden and best of all nature will maintain this source so it will be less work for you.

In addition to the licorice scented leaves, Anise Hyssop has flowers that are very rich in nectar making this plant attractive to butterflies and beneficial insects.

Attract ladybugs, lacewings, flower flies, tachinid flies and mini-wasps to your garden by planting Golden Marguerite.

This plant grows well in poor soils.

To get the maximum amount of flowers be sure to keep this plant deadheaded.

Besides being a host plant to the caterpillar of the Anise Swallowtail Butterfly, Fennel flowers are known to attract a wide variety of nectar eating beneficial insects.

The leaves, seeds and bulb of the plant are edible.

Fennel has ferny like foliage in green or bronze so it is an attractive plant to grow in your garden.

25 | Avoid Pesticides

To encourage beneficial insects to stay in your garden, avoid sprays or other types of chemicals.

Many sprays, including some organic ones, can be harmful to beneficial insects (even in lower doses than recommended).

Pesticides are designed to kill, which means they'll likely kill every type of insect, good and bad.

When trying to eliminate bad bugs from the garden, allowing nature to take her course is the best bet.

In time, the beneficial insects will eat up the bad bugs.

In the meantime, if the bad bugs are damaging your plants or bothering you, remove the pests by hand or spray them with a strong stream of water from the garden hose.

Pests like tomato hornworm and Japanese beetles can be hand-picked easily, but always use gloves (especially for hornworms).

To get rid of Japanese beetles, place them in a jar filled with soapy water.

Make sure the jar's lid is secure so none of them fly back out.

26 | Attract Worms

Newspaper is a great tool for attracting worms, but do avoid using the glossy inserts as they may contain heavy metals or other toxins.

Keep your papers around once you've read them, or contact your local paper to see if they give away free back-issues.

If you have a shredder, shred the newspapers and use the product the same way you would use mulch.

Make sure to keep an eye on emerging plants and bulbs, as they can get tangled in the strips.

If you don't have a shredder, simply lay the papers down between garden rows.

Either way, earthworms love it, and your flower beds will improve over time as the newspaper breaks down.

Shredded newspaper can also be added to compost piles or tilled right into the garden.

If you do till it, keep in mind that it can get tangled in the tiller blades; for this reason, many people prefer to add it to compost or dig it into the garden by hand.

27 | Avoid Fall Garden Cleaning

Cleaning up the garden in the fall is often encouraged but isn't always necessary.

It's important to keep in mind that many insects—both good and bad—over-winter on plant debris, which means that fall garden cleanup could lead to the demise of beneficial insects.

Before cleaning up your garden, learn which plants the good insects lay their eggs on.

Unless there is a reason to cut these plants back (for example, disease), leave the dead debris standing all winter.

Most of the old debris will be hidden by new plant growth, but if you're worried about your garden's appearance, at least leave some dead stalks, especially if you suspect they have eggs on them.

If there's an area of your yard that you can allow to grow wild, leave the debris into the summer and allow the grass to grow.

Just as you would offer wild birds food, water, and shelter, you should make sure the good insects in your garden have what they need to multiply and thrive.

Allowing beneficial insects to take shelter in your garden will help eliminate the bad bugs naturally, making your garden a safer place for everyone and everything concerned.

28 | Prevent Insect Infestation

With a bit of vigilance, you can control pests before they have the chance to infest your garden.

If you see Japanese beetles on your roses, remove them immediately by brushing them into a jar of soapy water with a lid.

Give the jar a small shake so the beetle is immersed in the liquid.

Leave them in the jar overnight.

By morning they should be dead.

If you raise chickens, they will eat the Japanese beetles that they come into contact with.

They will also eat the grubs.

If you see a hornworm on the tomatoes, pick it off and destroy it, unless it has tiny white bumps on its back which are parasitic wasps, a beneficial insect.

Tomato hornworms can be put into a sealed jar and left until they are dead.

When handling them, wear gloves.

Planting nectar plants for beneficial insects will go a long way in helping to attract the good bugs into your yard.

When nature is in balance, the good bugs will take care of the bad bugs leaving you more time to enjoy your garden.

When trying to attract beneficial insects into your garden it is important to avoid spraying.

When you use sprays, even organic ones, they can kill the good guys just as easily as they kill the bad ones.

Just a few minutes of prevention every day can save you from having to use chemical pest control products.

29 | Pests on New Plants

At least 90% of all pests are transported to the garden on new plants, so take time to carefully inspect new plants for signs of insect infestation before you leave the store.

If you notice signs, notify someone at the store, then decide whether or not you want to purchase the plant.

Make sure to assess the damage to the plant, as some plants may have too much damage to be saved.

If you do buy the plant, quarantine it when you get it home.

You can simply wash some pests away by submerging the plant under water.

Beneficial insects will eat some pests, like aphids.

Identify the pest problem and determine the best way to deal with it.

For example, if you purchase a rose that's covered with aphids and know you have the red ladybugs that eat them in your garden, go ahead and plant the rose—the beneficial insects will take care of the problem for you.

30 | Indoor Plant Pest Management

Indoor plants typically attract pests such as white fly, spider mites, mealy bug, and scale.

These pests are easy to control without the use of harsh chemicals, provided you pay close attention to your plants.

The first step is to inspect your plants' leaves when watering.

If you see spider webs, cottony-looking balls, or other signs of pests, take the plant to a sink or another area where water can be sprayed freely.

First, remove the pests by hand. For scale that has a hard brown shell, use your fingernail to carefully remove it from the leaves and stems.

Make sure to dispose of any pests that you remove otherwise they'll find their way back.

Once the pests have been removed, spray the plant with warm water, covering the stems and the tops and undersides of the leaves. You can also submerge the plant foliage under water for a few minutes if you prefer.

If you're lucky enough to have a greenhouse, you can purchase beneficial insects to manage pests.

Some greenhouse owners even turn small domestic birds such as finches loose in their greenhouses for insect control.

If you are using the beneficial insect method, it's best not to spray your plants even with organic products, as you could end up killing both the good and bad bugs.

Here are a few pest-specific tips:

Spider mites:

- These are tiny red bugs that build webs on plants.
- The best way to control them is to use a solution of soapy water (two drops of soap to one quart of water).
- Test a small area of the plant with the soap solution first to make sure it reacts properly—if it doesn't, you'll notice the leaves turning brown.
- If you can't use soap, spray the plant with a stream of water that's strong enough to knock the pests off.

Mealy bugs:

- There are white and look like small pieces of cotton.
- To remove them, touch them with a cotton swab dipped in diluted rubbing alcohol.
- Be careful not to touch the leaf with the cotton swab, as rubbing alcohol can dry leaves and stems up quickly.
- If you'd rather not use alcohol, use the same mixture of soap and water described above.
- Either option works to dissolve the protective waxy coating on the mealy bug and kill it.

White fly:

- These are best dealt with by using a combination of spraying and trapping.
- Hang yellow sticky traps above your plants to catch white fly and gnats.
- A strong spray of water on a regular basis will also eventually get rid of them.
- Don't forget to look for them under the leaves.

31 | Solving Hydroponic Pest Problems

Whiteflies can be a problem in soil grown plants, but they really love plants that are grown in a hydroponic environment.

When you buy soil for other plants, check it to make sure it has been sterilized.

Some soil contains white- fly, aphid and fungus gnat eggs.

These bugs will not only attack the soil grown plants, but the infestation and damage on the hydroponic plants may be much greater.

Traditional home remedies such as using dish detergent to kill pests doesn't seem to help much, so do be prepared to come up with a plan for combating infestations.

One possible solution is to use a product such as Neem Oil which can be added to the watering cycle of a hydroponic system or if you prefer you could use beneficial insects and natural predators to combat this problem.

The easiest solution to the problem is to remove the plants from the system and do a complete flush of the hydroponic system.

Do not allow the plants roots to dry out, submerge the roots in a container filled with their preferred hydroponic solution so the roots can continue to take up nutrients and water.

Remove the grow rocks and the pots from the system.

Then run a solution of five percent hydrogen peroxide through the system for twenty-four hours continually.

Flush the grow rocks with a fresh five percent hydrogen peroxide solution, then rinse them in warm water until the water running out of the system is completely clear.

Allow the rocks to drain overnight leaving the system to run and flush the interior parts.

The next day remove all the hydrogen peroxide solution from the system and run clear water through the system for a couple hours to ensure that any hydrogen peroxide that was left is gone.

Drain the system and refill with fresh water and nutrient.

While pests and their eggs can be brought in on soil, it is almost impossible to bring them in on hydroponic growing medium.

The grow rocks and rock wool cubes are heated to thousands of degrees in the

manufacturing process.

This practically ensures that any insects, eggs or mold spores cannot survive.

The grow rocks or cubes are then packaged and sent to the stores.

32 | Companion Planting for Balanced, Healthy Ecosystem

A healthy ecosystem is one where a variety of plants, animals, insects, and other organisms can thrive together.

This creates balance.

Once we have a balanced ecosystem, we can easily integrate organic and holistic growing techniques.

Organic gardening is so much more than simply growing without the use of pesticides or other chemicals—organic gardening is about maintaining an interconnected ecosystem.

Companion planting is an important part of integrated pest management (IPM) and organic gardening.

The roots, flowers, and leaves of various plants either repels or attracts insects and can enhance the flavor or increase the growth rates of other plants.

They can also stop some plants from growing or performing well (for example, many plants simply will not grow around black walnut trees).

When done properly, companion planting can eliminate the need for any type of chemicals, including organic ones.

Companion planting is not a new idea; in fact, it has been practiced since ancient Roman times.

To be successful at companion planting, there are five concepts to learn:

- Mixing up monocrops (that is instead of planting one large plot, planting several smaller ones).
- Interplanting herbs, flowers and vegetables
- Providing nectar and refuge for beneficial insects.
- Knowing your weeds.
- Only using organic pesticides as a last resort.

33 | Companion Planting Basics

So how does companion planting work?

First of all, it helps hide crops from pests.

Second of all, companion plants produce odors that confuse pests and can make them move onto greener ground.

Some companion planting techniques even use “trap crops” to attract pests.

An example of using “trap crops” would be planting zucchini among melons to trap cucumber beetles.

Although these pests love to eat melons, they prefer zucchini.

Plant one zucchini plant per fifty melon plants.

When you check for pests, look at the zucchini first.

If it is being bothered with cucumber beetles, set up sticky traps two feet above the plant.

These can be bought or made at home by applying insect glue to yellow plastic cups or cardboard.

To further increase the effectiveness of the trap, attach a cotton swab or Q-Tip soaked in cinnamon essential oil to the trap.

Other control options include attracting beneficial insects to eat the bad bugs, using an organic spray or destroying the plants once they are loaded with bugs.

Companion plants also provide both nectar and a breeding ground for beneficial insects.

As we know, attracting beneficial insects is one of the best things you can do to keep your garden as natural as possible—letting nature take care of the bad bugs through the good ones is the way things were intended to be.

34 | Popular Companion Planting Combinations

- Plant amaranth among potatoes, onions and corn.
- Plant bee balm with tomatoes.
- Marigold if known to repel nematodes. To be effective they must be grown in the same spot for several years in a row.
- Plant marigolds around potatoes, tomatoes, beans, strawberries, roses, and bulbs.
- Roses benefit from having a member of the allium family planted near them, as well as tomatoes, parsley, mignonette, marigolds, and lupines.
- Plant beans with potatoes in alternate rows.
- Plant broccoli with dill, celery, chamomile, sage, peppermint, rosemary, potatoes, beets, or onions.
- Plant cabbage with celery, dill, chamomile, sage, peppermint, rosemary, onions or potatoes.
- Plant cauliflower with celery.
- Plant corn with potatoes, peas, beans, cucumbers, pumpkins or squash. Try a three sisters garden which consists of planting one corn and two pole bean seeds in a hole, then planting squash on the outside of the circle.
- Plant cucumbers with corn, beans, radish and sunflowers. Radishes that are allowed to go to seed will protect cucumbers from the cucumber beetle.

- Interplant lettuce with strawberries, cucumbers, carrots, radishes and onions.
- Plant peas with carrots, turnips, radishes, cucumbers, corn, beans and potatoes.
- Potatoes do well when planted with horseradish, beans, corn, cabbage, marigold and eggplant.
- Plant tomatoes with asparagus, basil, chives, onions, parsley, marigold, nasturtium and carrot.
- Tomatoes are the one fruit that prefers to be grown in the same place year after year.

Yes, tomatoes are a fruit, not a vegetable!

This is not an all-inclusive list by any means. For more information, check out Carrots Love Tomatoes by Louise Riotte.

35 | Two-Level Planting

Another technique that works well with companion planting, especially for gardeners with limited space, is two-level planting.

Two-level planting is a technique where you choose two types of plants such as bulbs and perennials that grow well together.

- The bulbs may want to be planted six inches deep.
- So, plant your bulbs as directed making sure to cover just the top of the bulbs with soil.
- You can then plant a perennial on top of the bulbs.
- Come spring the bulbs will come up through the roots of the perennial plant.
- As the bulbs begin to fade, the perennial plant will begin to grow.
- Two-level planting defined is growing two plants in one space.

Choosing vegetables for this technique does take some research since you will be seeking out ones that are not only good companions but that occupy difference soil space.

Some good combinations to start with are:

- When choosing plants to combine in two-level planting make sure they will not be competing against one another for sunlight or space, such as sunflowers and pole beans would do.
- Also make sure they are good companions for one another.
- Two level planting will require soil that has abundant organic matter in it.
- Just as with intercropping, make sure you side dress with compost throughout the growing season so the plants have plenty of nutrients to take up.
- A little kelp added in addition to organic compost would be quite beneficial.
- The other consideration is soil moisture.

- Both plants will need enough moisture to thrive and they will be taking it up from the same section of soil, so additional water may be necessary.
- Soaker hoses would be good for this type of planting scheme since the water would go into the ground right at root level.
- This technique is often used in ornamental beds.
- Bulbs are planted, then perennials are planted above them.
- This gives multi-seasons of bloom on the same piece of ground.
- Ornamentals, like vegetables, grown in this manner should be given plenty of compost and water to help sustain the nutrients in the soil and keep it healthy.

36 | Intercropping

Intercropping plays a very important role in companion planting.

Intercropping is the planting of two or more plants that benefit one another on the same piece of ground or in the same row.

For example, carrot seeds can be planted in the area around tomato stems and directly underneath where the tomatoes will grow once they begin to bush.

This method can be used with vegetables, fruits, herbs, and ornamentals.

Try planting garlic (or any member of the allium family) around roses to repel insects and strengthen the scent of the rose.

Fast-growing plants like radish can be planted in between rows of beets, carrots, spinach and parsnip to help loosen the ground and choke out weeds.

By the time the radishes are harvested, the slower growing crops will begin to need the additional room.

Companion plants can also be planted in place of removed plants.

For example, if you pull up some lettuce plants to eat, plant an onion in their place.

Grow spinach in the spring between strawberry plants, or find out which plants do well after spinach is harvested.

37 | Nasturtiums

Nasturtium plants and their flowers are beneficial in the garden for many reasons.

In addition to the flowers being colorful and edible, the plants themselves are a natural insect repellent.

Try planting a few nasturtium plants among squash plants to repel squash bugs.

The trick to being successful with this is to make sure the nasturtium are planted before the squash, otherwise the squash will outgrow the nasturtium and the bugs will go for the squash plants instead.

Nasturtiums are great indicators of lime deficiency; if you notice aphids are attacking them; your soil needs more lime.

Plant nasturtiums around the base of your apple trees to repel woolly aphids.

Be sure to keep a few plants growing in the greenhouse or cold frame to rid plants of whitefly.

Other plants that nasturtium benefit includes broccoli, potatoes, radish, cucurbits, and members of the cabbage family.

Be sure to try nasturtium flowers in salads.

They add a peppery flavor and a riot of color.

Eat them whole or cut them up.

Plant a few nasturtium plants around your lettuce patch so you don't forget to pick a few blooms to add to your salads!

38 | Herbs

Herbs make great companion plants, partly because pests usually do not bother these types of plants.

Herbs are very aromatic which can make your time spent in the garden more enjoyable.

Many people find the natural aroma of herbs to be very therapeutic.

Here is a list of some common herbs:

Garlic:

- This is one of the most potent herbs. A spray made from organic garlic can repel mosquitoes, aphids, and onion flies.
- Garlic sprays have also been found effective on light blight.
- These sprays can repel rabbits when mixed with fish emulsion.
- Do not plant garlic with peas or beans, but do plant it around fruit trees (to repel borers) and tomatoes (to repel red spiders).

Mint:

- This herb can be invasive, so it's best planted in pots (unless you want it to grow everywhere).
- It's great around fruit trees and is also a good companion for cabbage, as it repels the cabbage butterfly.
- Mint can also improve the health and flavor of tomatoes when grown next to them.

Lemon balm:

- Like mint, this herb can be invasive, so plant with caution.
- Because it attracts bees, it's great for vegetable and fruit gardens.

Dill:

- This fragrant herb also attracts bees.
- Good companions for dill are cabbage, lettuce, onions, and cucumbers.
- Avoid planting it near carrots, and be careful where you plant it, as it will reseed.

Basil:

- Basil is a great companion for tomatoes.
- Keep in mind that basil is a small plant in comparison to a tomato plant, so make sure to plant in front of tomatoes so it will get plenty of sunlight.

39 | Vegetables

Some vegetable plants may be better, or worse, based on what is growing near them.

When choosing companion plants, look for ones that take the same kind of culture but take soil nourishment at different levels for the best results.

For example, you would not want to plant two heavy feeders together such as sweet corn and tomatoes because they would compete for all the nutrients in the soil.

Companion planting techniques have been used for centuries and over time you will find what plants work best in your particular situation.

The plant combinations mentioned here are suggestions to get you started.

Certain plants, such as various herbs attract beneficial insects into the garden.

Some companion plants such as marigolds or garlic are used to repel bad bugs.

Best of all, companion planting can help you produce more food in the same amount of garden space.

If you plant a tomato and grow carrots under the tomato plants, you will get two crops from the same piece of land.

Beets grow well alongside cabbage, onion, broccoli and cauliflower.

Bush beans also make a good companion plant but pole beans should be avoided.

Carrots grow well alongside peas, turnips, cucumbers, or tomatoes.

Carrots and peas work well together because the carrot roots contain an exudate that is beneficial to the growth of peas.

Some herbs such as rosemary, wormwood and sage make good companion plants too because they help repel the carrot fly thus preventing the maggot larva from attacking the roots of young carrot plants.

Corn grows well with peas, beans, squash, melons, potatoes and pumpkin.

Peas and beans restore the nitrogen to the soil that the corn uses up.

Squash, melons and pumpkins benefit from the shade the corn provides and helps keep raccoons at bay since they get tangled up in the vines.

Avoid planting the following vegetable seed varieties next to each other:

101 Organic Gardening Tips by Sheri Ann Richerson ©2010

<https://experimentalhomesteader.com>

<https://exoticgardening.com>

<http://www.sheriannricherson.com>

Some vegetable plants may perform better, or worse, based on what is growing near them.

By learning what plants do well near one another by reading books on companion planting such as “Carrots Love Tomatoes”, using crop rotation techniques and inter-planting herbs, flowers and vegetables you will be well on your way to natural pest control.

Your garden will reward you with a more abundant crop that is practically blemish free.

40 | Peppers

Hot peppers are useful in the garden in a variety of ways.

Here are some examples of their usefulness.

Cayenne peppers: These can be ground and mixed with water to make an aphid-repellant spray.

Dry ground hot peppers: These can be sprinkled on tomatoes to rid them of tomato hornworms.

Make sure parasitic wasps aren't attacking the hornworms before you spray

These tiny parasitic wasps are predators, and you'll want to keep them around—the pepper will kill them too.

Dried peppers can be sprinkled on and around eggplant and corn to protect it from eggplant pests and raccoons.

Chili peppers: These can help prevent root rot for up to two years. Grow them near plants that tend to have problems with root rot (for example, squash).

Sweet pepper plants: These are good companions for basil because they have the same requirements.

They also make good companions for okra, because they act as a windbreak.

Peppers planted near onions and carrots will improve the flavor of these plants.

Do not plant them near beans, kohlrabi, or fennel.

41 | Understanding Weeds

Weeds in the garden can tell you a lot about your soil: what's abundant, what's missing, etc.

Learning to identify weeds and understanding what they indicate is essential to maintaining an organic garden.

Weeds are not all bad, and a few can actually benefit the garden.

Weed roots help break up soil, which makes it easier for crop plants to penetrate it.

Do keep them from flowering, however—weed seeds can sit dormant in soil for seven years!

Weeds can help shade the ground, making it easier for young seedlings to emerge.

Make sure the weeds don't crowd out your seedlings and keep in mind that they'll take up nutrients and water (the larger they are, the more they'll take).

On the other hand, deep-rooted weeds such as pigweed, lamb's quarters, and thistles can bring up minerals and water from deep within the soil, making it readily available for young plants to take in.

Also, when weeds die, the roots decay, adding organic matter to the soil and helping aerate it.

Here is a list of some common weeds and what they could be saying about your soil:

Docks, finger leaf weeds, lady's thumbs, sorrels: acidic soil

Horsetail, hawkweed and knapweed: slightly acidic soil

Penny cress, morning glory, horse nettle, field mustard, chamomile, quack grass, and pineapple weed: crust formation and hardpan soil

The best way to incorporate weeds into the garden to add organic matter to the soil is to allow them to grow, cut them just before they flower, allow them to lay on top of the ground to wilt for several days, and then till them back into the soil.

This is a great, free source of green manure.

42 | Low Light Plants

If you wish to grow tropical plants, but grow lights are out of the question and your windows are too small or facing in the wrong direction for adequate light, don't despair, all is not lost.

There are many tropicals that thrive in low or medium light situations.

Agalonema commutatum, commonly known as a Chinese Evergreen, will tolerate a wide range of growing conditions, including dry air and poor light.

This plant flowers in late summer and early fall. The waxy flowers resemble Calla Lilies, and are followed with tight clusters of yellowish-red berries.

Aspidistra elatior, a popular plant during the Victorian Era, is commonly known as cast iron plant.

This tough plant can survive extreme heat and low light conditions that would kill most other plants.

Almost the only thing this plant won't tolerate is soggy soil or frequent repotting.

This plant should be positioned in a draft-free place.

In the spring the plant will flower at the soils surface.

Dracaena deremensis "Janet Craigii" needs moderate or bright light, while "Warneckii" and *Dracaena fragrans massangeana*, commonly known as corn plant, will survive in low light.

These varieties of *Dracaena* will not tolerate direct sunlight.

Thoroughly water *Dracaena* only when the soil begins to approach dryness.

Make sure the plant has good drainage and do not allow it to sit in water.

Dracaena marginata, or Madagascar Dragon tree, prefers moderate light; however it does not like direct light.

It differs slightly from the above *Dracaenas* because it prefers to have evenly moist soil.

Hedera helix, the famous English Ivy, is available in many different varieties.

This plant prefers bright, indirect light.

The soil must be kept evenly moist.

This is a great houseplant for someone wanting something a bit different because it is easy to train into a topiary for a unique effect.

Monstera deliciosa, commonly known as a split-leaf philodendron, is a common houseplant.

Give this plant moderate, but not direct, sunlight.

Water thoroughly during periods of active growth.

Allow the soil to dry slightly between watering's except during the winter months when it is best to keep the soil evenly moist.

Even in low light conditions many tropical plants can not only survive, but thrive.

Many of these are common plants that you can easily purchase, and a couple of them will even flower for you in low light situations.

43 | Grow Lights

Beginning indoor gardeners often get frustrated when grow lights do not give the results they expect.

The main reason for this may be the grow light is placed too far away from the plant.

Grow lights should be placed 12 to 18 inches away from the plant to work properly.

If you are raising seedlings, they will need to be closer to keep the seedlings from getting leggy, typically between three to six inches from the top of the seedling.

The second reason the grow light may not be giving you the results you expect, is because the bulb is not a full spectrum bulb.

Sunlight contains many frequencies of light from visible, to UV, to gamma, alpha, and beta radiation.

Grow bulbs often provide one end or the other of the light spectrum, but not both ends of the light spectrum.

Some grow bulbs come in both hot and cold varieties.

To mimic the sun as best as we can, we need both a hot bulb and a cold bulb.

Be sure to ask your local nurseryman for a grow bulb that has both spectrums or simply use two grow bulbs, one from each end of the spectrum.

If you are using fluorescent lights look for one bulb that is on the hot end of the spectrum and one that is on the cold end of the spectrum.

Most of the time this information can be found on the bulb package by looking at the colors on the package.

Bulbs on the hot end of the spectrum will have reds, yellows and oranges on the package while bulbs from the cool end should show blues and greens.

If you do not see this information, or are unsure, ask someone at the store for help.

There are many new products on the market from LED grow lights, to sodium and high intensity halide grow lights.

While these lights may have some advantages over standard fluorescent lights there is no reason for the average gardener to invest a large sum of money in these types of lights.

A set of regular fluorescent bulbs, properly positioned above your plants, will work.

Growing any plant in a pot can be a bit of a challenge, even for the most experienced gardener, but it can be accomplished with a bit of knowledge.

Let's begin by taking a look at the different choices available for soil.

While a heavier potting soil is great for holding water, what about those times of heavy rainfall?

Even with drainage holes, potting soil tends to retain water.

When a plant receives too much water and does not have adequate drainage the roots of the plant begin to rot.

This will eventually cause your plants to die.

It is best to avoid using heavy potting soil unless you intend to cover or move your plant when heavy rainfall occurs.

I personally prefer a soilless mix to grow my plants and bulbs in because it dries out fairly quickly, even with large amounts of rainfall.

The drawback to this type of mix is that you must water, sometimes daily in warm weather.

It is ok to mix several types of potting soil together to get a soil that is heavy enough to hold water well, but drains well.

My favorite potting soil recipe is created by filling a plastic container with 1/2 peat moss, 1/4 vermiculite, and 1/4 perlite, mix these ingredients together, and top off the container with water.

Mix well so the soil absorbs the water.

Put a lid on the container when you are done to help hold the moisture in the soil.

This mix seems to work as well as the soilless mixes you can buy.

You can add your own organic time release fertilizers or compost to the mix if you prefer.

If you are adding compost, use two different containers to mix your soil in, so the soil you use for seedlings remains sterile.

You would not want to start seedlings indoors in compost unless you have a way to sterilize it.

Use compost as an additive only on larger plants or seeds direct sown in the garden.

45 | Container Planting Ideas

Containers can be as decorative or as plain as you want them to be.

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Containers come in a variety of sizes and shapes including window boxes, flower pots and even decorative yard ornaments that are meant to be planted in.

Use your imagination to come up with your own unique container ideas such as old shoes, watering cans or old bathroom fixtures.

I have a plastic swan that ends up in the garden every year.

I've grown annuals, bulbs and even a small pine- apple in it!

So you see the container is limited only by the size of the plant and your imagination.

Another favorite container of mine is an old metal watering can.

I like to plant trailing Lobelia in it.

With a little imagination, the blue Lobelia looked like water running out of the can.

Old worn out shoes make great containers too.

Small flower pots can be used in metal sculptures, hung on trees or the side of railings.

People have even used old toilets for garden planters!

Wooden Barrels tipped on their sides is another favorite.

A personal favorite of mine was an old trunk filled to overflowing with "jewel" like flowers!

Choose colors such as yellows, reds, blues and oranges to make this display shine.

If you want to add some sparkle, find some small pieces of wood that you can coat with glitter, hang tiny mirrors or find some fool's gold.

46 | Growing Multiple Plants in a Single Container

An easy way to plant a container just once, but get multiple seasons of interest from it, is to plant flowers or bulbs that will bloom during different times of the year so that you

always have something new to look forward to without a lot of work on your part.

For example, Caladiums would make a perfect base plant for Bird-Of-Paradise.

Although Bird-Of-Paradise prefers full sun, it will do ok in partial shade.

The large leaves of the Bird-Of-Paradise would provide shade for the plants grown under it.

Caladiums would add a splash of color to the pot. In front of the Caladiums, plant Begonias, Impatiens or Petunias.

Another option in containers is to plant ones that will offer interest through all seasons.

The options for plants will vary depending on your climate.

Let's look at some options for shade garden container plants.

Try planting Forget-Me-Nots, Rhodendrons, or Wild Geranium for spring color.

To continue the burst of color during summer, try Caladiums, Clematis or Bell- flowers.

For autumn interest try Cyclamen, Toad Lily or Boston Ivy.

Finally for winter interest use Hellebore, Hollies or Camellia.

Here is an example.

Choose the center plant first.

For this container, we will choose a Rhodendron surrounded by Daffodils for spring interest.

As spring fades into summer, the daffodil foliage will die back.

Daylilies are coming up by then and cover the dying foliage.

A Clematis planted at the base of the Rhodendron will begin blooming.

It will use the Rhodendron as a trellis.

As fall approaches, the Boston Ivy that has been used as a trailing plant to help cover the pot will begin changing color.

The Toad Lilies planted among the Daylilies will begin flowering.

Once winter arrives, the Hellebore, also planted in between the Toad Lilies and Daylilies will begin blooming.

Choose a large container for this type of planting and be sure to provide adequate fertilization.

If you are planting a small container in full sun try miniature trailing roses and lavender.

Plant a few spring blooming bulbs such as miniature Iris or Daffodils to add a second season of interest.

Cactus also does well in a container.

Make a window box cacti planting.

Add sand, soil and rock with a group of cactus and you have an unusual grouping that will withstand hot, dry conditions.

Many cacti are also cold hardy.

47 | Creating Hanging Baskets

Hanging baskets should be planted with a variety of plants that are colorful, grow quickly and flower freely.

Choose annual plants such as petunias or impatiens, or get a little more unique and choose variegated plants such as Pink Princess Philodendron, Neon Pink Philodendron, or a variety of other variegated tropical plants.

The Hedera Helix or English Ivy is a good choice for a filler vine.

There are many varieties of this plant that prefers to grow in a basket.

There are varieties with curly leaves, big leaves, small leaves, or colored variations such as “Gold Dust” with a yellow-gold variegation or “Glacier” with a white variegation. Ivies love cool, bright, moist places.

Many of them prefer a winter rest and do well left outside year-round.

Some will retain their green color throughout winter.

Others will die back and come to life again in the spring.

Another flowering, quick growing vine is the Madagascar Jasmine.

This vine will produce wonderfully fragrant flowers that will scent your yard.

The plant can be moved indoors in the winter, and kept in a cool room.

If there is adequate light and the plant is kept moist it will continue to bloom, even indoors.

The best way to grow this plant is in a large pot with a trellis for it to climb up.

Tropical vines grow quickly and provide beautiful flowers as well as privacy.

One such tropical vine is the Canary Creeper Vine.

This vine has “bird” like yellow flowers.

A look around at your favorite plant book or nursery will provide you with many more “quick” growing vines that you can either move indoors over winter or save seeds from to grow again the following season.

Other vining and trailing favorites include plants such as the Hyacinth Bean which comes with either purple, pink or white flowers.

Some people choose to grow grape vines for privacy.

This vine is attractive to bees, however if you have a spot that is in desperate need of covering up away from your house, this vine is a fast grower and there is the added benefit of growing your own grapes.

During the Victorian era, vines were necessary in every garden.

Should you want to add a bit of history to your garden, common vines during that time included Akebia, Aristolochia, Campis (Trumpet Creeper), Bittersweet, Climbing Hydrangea (which I would recommend planting away from any building structures), Morning Glory, Honeysuckle, Virginia Creeper, Thunbergia (Black-Eyed Susan Vine), and Wisteria.

48 | Growing Fruit in Containers

When you decide to grow tropical fruit in containers there are some fruits that naturally will give you a higher success rate than others.

I'm not saying you can't grow other fruit in containers because you can, it just may be more difficult.

For the highest rate of success you may want to try growing the following first to get a feel for growing and producing fruit in containers.

- Avocado
- Banana
- Capulin Cherry
- Cattley Guava
- Ceylon Gooseberry
- Coffee
- Guava
- Grumichama
- Imbe
- Jaboticaba
- Kei Apple
- Miracle Fruit
- Natal Plum
- Papaya
- Pineapple
- Pitanga
- Pitomba

Citrus is another fruit that is easy to grow in containers. Some of the recommended citrus fruits to try are:

- Calamondin
- Grapefruit (dwarf)
- Key Lime
- Kumquat
- Lemon
- Lime
- Limequat
- Orange (dwarf)

Finally there are a few temperate fruits that can be container grown with ease, they are:

- Apple (dwarf)
- Blackberry

- Blueberry
- Fig
- Stone fruit (dwarf)

This is a suggestion of fruits that have been container grown and fruited successfully.

There are others I am sure.

The best way to know for sure is to experiment and see what happens.

Another thought to keep in mind is that many times the fruit that the plant will produce will be in direct relation to the size of the plant.

You may need a larger container to get your plant to produce an abundant amount of fruit.

Container grown fruit may not produce large yields.

Another contributing factor to fruit production is the availability of pollinating insects.

Although the flowers can be hand-pollinated, it is best that natural pollinators are allowed to do it.

49 | Growing Plumeria

There are certain steps you need to take to insure your Plumeria is safely put away for its rest period if you are growing it in an area where it is not winter hardy.

The first step is to decide what day you will want your Plumeria to be stored away for the winter.

If you have been growing your Plumeria in the ground, root prune the plant by cutting vertically with a sharp spade into the ground at the perimeter of the root ball.

After this, wait one week, allowing the plant to remain in the ground.

When the week is up, cut all the leaves, except the very top ones, off about one inch from the limbs, allowing the stubs to turn yellow and fall off on their own.

Should your Plumeria be growing in a pot, leave it in the pot for its dormancy period.

Trim the roots back to the weep holes in the bottom of the pot.

Make sure the plant can get adequate air circulation during the rest period.

Another option is to store your plant bare root.

To do this, shake all the dirt off the roots, and then you can decide if you would like to bag the root ball which is not necessary.

You can hang your plant lay it in the pot, or any other method of storage you choose as long as it has good air circulation around it.

Once March is here again, it is time to revive your dormant Plumeria.

You may notice some shrinkage of the plants limbs.

This is perfectly normal.

The first week of March, root prune your Plumeria and repot it.

Fertilize weekly with an organic fertilizer, or 1/4 cup each of Super Phosphate and Bone Meal if your plant is in a five to seven gallon container.

You will need to adjust your fertilizer if your pot is smaller or larger.

The last week of March, feed your Plumeria some Epsom Salt (MgSO₄).

The Magnesium found in this is a core element of chlorophyll, which is what makes plants green.

Follow the same feeding schedule in April.

You should notice bud formations by the second week of April.

Your Plumeria should begin its full flowering season by the second week of May.

Continue to feed your plant for the remainder of the growing season.

If you plan on pruning or shaping your Plumeria, do this in early spring.

Root the stems you cut off by dipping them into rooting hormone immediately following the cut and then allow them to dry out in a warm place for a week before placing in soil or vermiculite.

Keep the soil moist, but not wet.

Allow some light to hit the cuttings, but keep them out of strong sunlight.

Within six to eight weeks you should notice new leaves forming which will be an indication that roots are beginning to form.

50 | Forcing Bulbs

Many gardeners like to force bulbs for midwinter or even holiday blooms.

The stores are full of bulbs around this time of year, such as Amaryllis that have been

forced and are just waiting for someone to take them home.

So, what is the best way to go?

Should you buy bulbs that someone else has forced or attempt to do it yourself?

Well, that answer is completely up to you.

Many times doing it yourself will allow you more freedom to choose bulb combinations, containers, etc.

It is often cheaper for you to force the bulbs yourself, although not always.

If you are planning on working with hardy bulbs, remember that they need a chilling period of about 6 weeks before they should be brought out into warm conditions and forced to bloom.

You will need to buy hardy bulbs in the fall because they can be difficult to find in the winter.

With tender bulbs you will not need this chilling period.

Bulbs that do not require a cool period include florist cyclamen, amaryllis, oxalis, clivia, scilla, melasphaerula, veltheimia, bowiea, cannas and calla lilies.

These bulbs will all make a grand show in your house during the winter months.

One major requirement of these bulbs to get them to bloom indoors is to keep them dormant during the summer months, with the exception of clivias.

When you pot your bulbs up be sure to water them well, and then leave them alone until you begin to see shoots coming up.

Failure to do this will likely result in your bulb rotting instead of blooming, also don't forget to fertilize your bulbs once the leaves begin to show.

Forcing bulbs is a really easy technique that anyone can successfully accomplish with a little patience.

Containers of forced bulbs make wonderful presents or housewarming gifts.

If you feel like you don't have any room for more pots in your house, plant a few bulbs around the houseplants you are already growing.

51 | February Seed Starting

For those who wish to get a head start on the season, February is not too early to start some seeds indoors under lights.

These plants will need to be cared for and hardened off before they can be planted in the

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ground, but they will flower sooner than ones started at the normal times which is generally eight to ten weeks before the last frost in your area.

Some seeds that are good to start this month include salvia, marigold, strawflower, calendula, tomatoes, artichokes, eggplants, tomatoes, ageratum, lobelia, salad burnett, larkspur, geranium, love in a mist and stocks.

Also start seeds of impatiens, yarrow, petunia, wax begonia and gerbera daisy.

Some seeds need to be pre-chilled in the refrigerator.

Salvia is one such seed.

- Sow the seeds in a damp paper towel and refrigerate for three weeks.
- When the seeds are removed, they should readily germinate.
- If you are germinating seeds in paper towels use tweezers to gently remove the plant from the paper toweling.
- Do not pinch or squeeze any part of the plant.
- If possible pick it up by the remaining seed.
- If not slide the tweezers under the stem and gently lift the entire plant up.
- Sit the plant on top of the soil and sprinkle vermiculite on top.
- The seedlings will grow through the vermiculite and root in the soil below.
- To keep pests such as gnats from attacking your seedlings, sprinkle diatomaceous earth on top of the soil.
- If you do not have access to diatomaceous earth, try powdered garlic and cinnamon.

- Help your seed grown plants get off to a great start by adding a teaspoon of organic kelp to the potting soil they are being grown in when you pot them up.
- You can also sprinkle a little organic kelp on top of the soil when you pot the seeds up.

Starting seeds a little earlier than it says on the seed packets insures you will have blooms early in the season when the big box stores and nurseries begin setting their plants out.

Having plants in bloom at home, ready to plant in your garden, can help stop impulse buying.

While this may not be good news for the garden centers, it can help save you money.

52 | How to Harden-Off Plants

Before planting seedlings that have been grown in- doors or in a greenhouse outside, it is a good idea to harden them off.

This should be done gradually.

The same technique should be used for moving houseplants outdoors as well.

On an overcast day, move your plants outside to a protected area for a couple of hours.

Do not choose a windy day, as strong winds could damage the tender plants.

If it is sunny, put the plants in an area that receives filtered sunlight.

Plants that are not used to full sun can be easily burned or even killed if they receive too much sunlight all at once.

Do not set your plants outside the first few days if rainy weather is expected.

The rain hitting the plants could damage them.

It is best not to expose them to windy or rainy conditions until they are used to being outside.

On the first day, sit the seedlings outside for an hour or two.

As each day goes by you can increase the time the plants are left outside.

Watch your plants carefully to make sure they are not getting too much sun or wind.

Once they are used to being outside all day and the night time temperatures have risen above 50 degrees F, go ahead and plant them in the garden.

53 | Avoid Collecting Wild Plants and Seeds

With all of the natural habitat destruction that has been occurring recently, it is no surprise that there are hundreds of wild plant species on the federal threatened and endangered lists.

Because there are already so many problems, it is unwise to collect wild plant seeds to grow in your garden, unless you are sure that you have the identical growing conditions.

In fact, it may be illegal to collect seeds from wild plants.

In some cases, permits can be issued that will allow you to collect seeds from wild or endangered plants, especially if the plants are in an area that is going to be destroyed.

The best way to enjoy wild plants is in their own natural environment.

Most wild collected seed need very specific growing conditions for germination to occur.

Some wild collected seeds need stratification, which is the process of chilling and thawing.

This process occurs naturally throughout the seasons outside.

Other types of wild seeds may need a certain pH, moisture, temperature, or light condition to grow.

Some wild seeds can take two years or longer before they will germinate.

However, if you still want to grow native flowers, you can buy seeds and plants from specialized nurseries.

Before purchasing native or endangered plants or seeds, ask where the nurseries or seed supplies obtained them.

There is a huge black market for plants.

Rare and endangered plants are being obtained illegally from the wild and stolen from botanical gardens.

In the event that an authority figure should find out you are growing plants on their list, you would want to be able to prove where your plant came from and that it was obtained legally.

This information could help you avoid a potentially embarrassing situation.

54 | How to Plant Bare-Root Plants

Unpack your bare-root, mail order plants as soon as they arrive.

You should plant them quickly to keep the roots moist.

If you are unable to plant them immediately, trim off any damaged or dangling roots.

Add a small amount of organic fertilizer or plant starter to a dark colored bucket filled

with enough water to cover the plants roots.

Be sure to mix the fertilizer and water well before adding the plants.

Submerge the plant roots in the water.

If there is not enough water in the bucket to cover the roots, add a little more.

It is important that the roots remain moist so the plant does not die.

When you are ready to put your new plants into the ground, prepare your soil first.

Dig a hole double the size of the root ball of the plant you are planting.

Mix some compost or organic fertilizer into the soil you have removed from the hole.

Remove the plants, one at a time, from their containers and inspect each one carefully.

Make a note of any damage.

Place the plant in the hole so the dirt will cover the roots.

Be sure to spread out the plant's roots.

This will encourage better root growth.

Fill in the hole with soil and then place a shoebox or a paper cone over the plant for at least one day.

If you are planting on a cloudy or overcast day, this is not necessary, nor is it necessary to do this for plants that are still dormant.

A dormant plant will not have any open leaves on it, although there may be leaf buds.

Allow a garden hose to run slowly into the hole as you are planting.

This will help the dirt settle around the plants roots.

Doing this is important because it helps eliminate any possible air holes, which could damage the plants roots.

Once your new plants are in the ground, be sure to water at least once a week.

Give the plants a good soaking to encourage the roots to grow into the ground and not directly below the ground surface.

55 | Interplant Perennials and Bulbs in the Fall

Autumn is the perfect time to plant perennials.

This gives them the entire fall and winter season to establish themselves.

Perennials planted in the fall are ready to begin growing once the spring growing season arrives.

Here is a great selection of perennials for you to plant this fall: aster, blanket flower, cape

fuchsia, catmint, coreopsis, delphinium, gaura, lavender, penstemon, scabiosa and salvia.

Santa Barbara daisies, yarrow and verbena fill out the list.

These hard working plants will fill your garden with color.

When planting autumn perennials, don't forget to choose some spring blooming bulbs such as tulips, daffodils and hyacinth to add color early in the season.

Choose bulbs that will naturalize for best results.

To interplant bulbs and perennials, dig each planting hole about ten inches deep.

Mix some compost in with the existing soil.

Return some of the amended soil to the hole.

You will plant the bulbs first, so if they need to be planted eight inches deep, you will add two inches of soil to the hole, and then set the bulbs in place.

Make sure to keep all of the bulb wrappers and packages picked up.

Critters such as squirrels will search above ground for bits of bulb wrappers.

Once they find bits and pieces of bulbs or bulb wrappers, they begin searching for the newly planted bulbs.

Once the bulbs are in place be sure to cover the top of the bulbs with amended soil, and then plant your perennials directly above them.

Add more compost as a top dressing when you are done.

Water your new plants well.

When spring arrives the bulbs will come up and flower.

Once those flowers fade the perennial foliage will begin to emerge.

The newly emerging perennial foliage will help hide the dying bulb foliage.

Within a short time the perennials will be flowering where the bulbs once were.

Plant perennials that bloom early in the season. some that bloom mid-season, and some that bloom in the fall so you get a succession of bloom throughout the season.

56 | Natural Ways to Stop Bulb Thieves

To stop wild critters from eating your bulbs, you can try one of these solutions.

First, it is important to know what might work in one garden, may not work in the next one.

Once your bulbs are established they are usually safe from wildlife.

- Sprinkle human or dog hair around the bulb beds.

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- Human odor has been known to repel many wild pests. T
- here are natural repellents you can buy that have odors from predator critters as well.
- Simply sprinkle those around the garden, especially in areas where you are having critter problems.
- Puree garlic and spread it around the beds.
- Some pests do not like cayenne pepper, crushed red pepper and cinnamon, so try sprinkling these around your flower beds as well.
- These can be used to repel rabbits, squirrels and various insects such as gnats.
- Cover your bulb beds with chicken wire, and then add a layer of sharp gravel.
- You can use the gravel as mulch or remove the gravel before the green shoots appear.
- Another option is to plant the bulbs in baskets made of chicken wire.
- The stems will find their way out of the holes.
- Stop using bone meal or blood meal in the garden.
- These products attract animal pests.
- When planting new bulbs do not leave any debris in the garden.
- Bury the bulbs and pieces of wrappers that fall off the bulbs.
- Throw everything else away.
- Critters have a very good sense of smell and will look for the bulbs if they know there is a chance they may find some.
- Dogs and cats are great at keeping critters out of the garden.
- The downside is they may trample plants in the process.

57 | Bulbs for Cut Flowers

Heated greenhouses, or in some parts of the country, cold frames, can be utilized in January to start bulbs for cut flower production.

Getting a head start on the season can be a real advantage to market gardeners.

Cut flowers grown in a greenhouse environment have several advantages.

The flowers bloom sooner meaning you can get a higher price for them.

The flowers are not susceptible to weather and bug problems thus allowing them to be blemish free.

The third advantage is that some flowers may never reach their full height potential in the field but will in a greenhouse.

Bulbs to start in January include iris, anemone, triteleria and crocosmia.

Iris and anemone will bloom as early as April.

Triteleria will bloom in May and crocosmia in July.

Remember most plants need a certain number of days to bloom, so the earlier in the month you plant, the earlier they will bloom.

Finding bulbs in retail stores early in the season can be tricky.

You can buy bulbs locally in the spring or fall and store them until time to plant or mail order bulbs.

Either way you will need a way to store them.

Bulbs can be stored in peat moss or if you have the room, go ahead and pot them up but keep them in a cool place.

When it is time for them to emerge, move them into an area where the temperatures are in the bulbs preferred growing range and water well.

Do not overwater.

You do not want the bulbs to rot.

Once you see the foliage emerging, you can begin to water and fertilize on a regular basis.

58 | Echinacea – A Native Wonder

Echinacea, also known as purple coneflower, or simply coneflower, now that there are so many color choices, is a great native plant that should be in every garden.

The brightly colored blooms make a big show in the garden, especially if you plant in drifts.

Today you can find a variety of flower colors to choose from including purple, white, orange or yellow.

Butterflies adore this plant as do bees.

Depending on the variety, Echinacea can be started from seed using winter sowing techniques.

These will self-seed once established.

Some of the newer varieties are tissue cultured however so they must be purchased or divided from a large clump.

Once established, Echinacea is basically a carefree, drought resistant plant.

Echinacea is also a medicinal herb.

Echinacea tea can be made from the leaves and stems of the plant.

Organic grown plants make using the product safer.

There are no chemicals that have been absorbed by the plant that could go into your body or harm beneficial insects, butterflies or birds.

Echinacea is a long blooming perennial that begins blooming in June and will continue through October in most areas.

Flowers can be deadheaded to encourage the plants to bloom again, but be sure to stop deadheading around the middle to end of September so seeds can set for the birds to enjoy come winter.

The dried seed heads form a striking contrast in the winter against the snow.

Goldfinches love to eat the dried seeds of Echinacea flowers.

59 | Growing Great Hydrangeas

If your blue hydrangeas are looking a bit pink, they may need some organic soil sulfur.

If your hydrangeas are blue and you would rather have pink flowers, remove the soil from around your plant and add soil that is low in aluminum.

Aluminum sulfate was often used in the past to change the color of the hydrangea blooms from pink to blue.

Please note that aluminum sulfate is no longer considered organic as of the time of writing this and that it should not be used on or around edible plants because it is poisonous.

The easiest way to change the soil is to plant your hydrangea in a container.

All acid loving plants, including azaleas and gardenias, benefit from an application of organic soil sulfur.

If you prefer to use something other than an additive, try putting coffee grounds, pine needles or straw around your acid loving plants.

In colder climates many hydrangea will die back to the ground in the winter unless you protect them using a cold frame or rose cone.

When spring comes, simply wait until you see new growth and cut all of the old off.

If you have a variety of hydrangea that comes back on old wood, there is no need to trim it other than if you wish to shape it.

Some hydrangea may not bloom for several years after they are planted.

Keep them watered well and side dress with composted manure.

Hydrangeas require a lot of water and are heavy feeders.

An alternative to composted manure is a slow release fertilizer that can be added to the soil around the base of the plant.

Once a hydrangea finishes flowering, the flowers can be cut and dried.

It is best to allow them to dry on the plant for a while.

Harvest the semi-dried flowers from August through October, then hang them upside down to finish drying.

Flowers can also be dried in silica-gel.

60 | Grow Clematis Organically

Clematis prefers a good humus based organic fertilizer.

Apply an organic fertilizer according to the manufacturer's instructions.

Do not allow the fertilizer to touch the tender leaves and foliage of your clematis.

It can burn or discolor them.

As you make the switch to organic growing methods, the soil begins to change.

These changes make the soil hold water better, improve the physical condition of the soil and increase mycorrhizal fungi.

What this means, in simple terms, is that clematis and other plants can take up more nutrients.

Clematis roots prefer to be grown in the shade, but the stems of the plants should be in full sun.

The easy way to do this is to plant them with roses or shrubs.

The clematis will grow through the companion plant and the companion plant will shade the clematis roots.

It doesn't matter if the plants flower at the same time or at different times.

Clematis are long lived plants.

Most of them can live up to fifty years if they are properly cared for.

Pruning clematis at the proper time of the year is essential to your success with them.

The first year you plant clematis, keep it pruned back to less than two feet tall.

Knowing when to prune your clematis is the next step.

If the ones you have bloom on old wood, the only thing you need to do is remove the dead wood.

No other pruning is necessary.

If you have clematis that blooms on both old and new wood, simply remove all the dead wood and prune it back by 1/3.

Clematis that are summer blooming should be cut completely back to 12" in the spring.

61 | Plants that Bloom in the Winter

Your USDA Hardiness Zone will determine what plants will bloom outside in the garden during the winter months.

Hellebores, cyclamen, snowdrops, crocus, heathers, heaths, camellia and a slew of South African bulbs bloom naturally during the cool winter months.

There are outdoor winter blooming plants for almost every climate.

The milder the area you live in the bigger selection you have.

However do not despair, even if you live in a frigid climate.

Many of these outdoor winter bloomers will bloom indoors if the temperatures are not too hot and you have adequate lighting.

Many of them will do quite well in a cool greenhouse.

A variety of bulbs may be the perfect solution for indoor blooms.

Simply purchase them in the fall, place them in the refrigerator, making sure to open the plastic bags so they do not get too much condensation and allow them a twelve week chilling period.

If you do not have room in your refrigerator, put them in pots and sit the pots outdoors in an area where they will get light and rain, but not be flooded.

When the twelve weeks is up, bring the plants inside and watch them begin to grow.

The best way to find winter bloomers for your area that thrive outside is to read garden catalogs.

Many will say that the plants bloom in late winter or early spring.

Watch for words like “will bloom in light snow.”

By doing some research it is possible to have both indoor and outdoor winter blooming plants.

62 | Selecting Fruit Tree Size

Fruit trees come in many sizes.

This range in size makes it easy for people to fit fruit trees into small spaces or to fill an entire orchard.

Standard fruit trees need at least 25 feet of space for each tree.

These trees live for many years and produce large quantities of fruit.

The downside of growing standard fruit trees is you will need to buy a fruit picker, use a ladder or climb the tree to reach all of the fruit.

Semi-dwarf trees can fit into 15 feet of space.

They live almost as long as standard trees and produce plenty of fruit.

A fruit picker or a good, sturdy ladder will still be necessary to reach all of the fruit.

Dwarf trees require a mere eight feet of space.

However, they are not long lived and do not produce large quantities of fruit.

An advantage of growing dwarf fruit trees is they will produce fruit sooner than larger trees.

The fruit is easier to reach as well.

Whatever size of fruit tree you buy, keep in mind that sometimes they will grow larger than they are supposed to.

Keeping your tree pruned will help keep it in shape and keep it a manageable size.

Even standard trees need to be pruned yearly to keep them compact and producing.

Fruit trees that are neglected and allowed to grow as they please are more likely to break from high winds or heavy fruit loads.

They also produce less fruit than ones that are carefully pruned every year.

63 | Planting Fruit and Nut Trees

Fruit and nut trees typically do not produce anything the first year you plant them.

There are exceptions to this rule, such as patio trees or trees that have been bought in flower or are already producing fruit.

However, if you are planting them in the ground, it would be to your advantage to remove the fruit and flowers so the plants energy can be used to help the plant establish the root system.

A good rule of thumb is to plan your fruit and nut tree production five years in advance.

What this means is that you should figure you will not get a good harvest for five years from the date you plant your trees.

This is not a hard and fast rule.

Trees grow at different rates.

For example, you may get a good harvest as soon as three years from the date you plant the trees if your trees have everything they need to thrive.

The older your trees get and the better they are cared for, the better they will produce.

Remember healthy soil is the key to success.

It is important to make sure your trees get adequate water.

Give them good long soaks with a hose to get them established.

This should also be done in times of drought even if the trees are well established.

The deeper you water, the deeper the roots will go into the ground.

The deeper the roots are, the easier time they will have finding nutrients and water sources deep in the ground.

If birds are a problem, plan to drape your trees with bird netting.

Sometimes putting up a simple bird feeder in another area of your yard will divert the birds from your fruit and nut trees.

Keep lawn mowers and weed eaters away from the base of trees.

Nicks in the trunk of your trees can let infection in.

If chewing critters are a problem, use tree trunk wrap or build a frame around the base of your tree to keep critters back.

Planning is an important part of adding fruit and nut trees to your landscape.

Remember they will need an area where they get full sun.

Plant them ten feet apart if you are creating an orchard.

A few years after you plant the fruit and nut trees, you will be rewarded with an abundance of fresh fruits and nuts right from your own yard.

64 | Orchard Weed Control

Keeping weeds down in your orchard may be an issue however there are many ways to easily solve this problem.

Some people choose to plant their fruit and nut trees in raised beds.

This allows you to control the soil, the moisture in the soil and the nutrients much easier than growing in the ground.

When creating raised beds, be sure to use some type of weed blocking material underneath.

Stacks of newspaper, cardboard or weed cloth will help keep the weeds down.

To keep weeds from establishing themselves in the new soil it is important to keep them pulled out.

Weed seed can live in soil for up to seven years.

Some gardeners put the same weed blocking material on top of their raised beds as they put underneath of it.

While this may not be attractive, the weed blocking material can be covered with mulch.

Another method of weed control that some gardeners like better is to plant under the trees.

Strawberries are an excellent choice for planting around fruit trees or in young orchards.

If you are looking for something a little less labor intensive, try chives or mint.

Both of these plants are beneficial to fruit trees.

Mint will spread and can be invasive.

Chives will reseed.

Neither plant will choke out your fruit trees.

Until these plants are established you will need to remove the weeds around them.

For natural weed control, try poultry.

Not only will they eat the grass around your fruit trees helping to keep it low, but they will eat insects and their eggs.

If fruit falls on the ground, this will get devoured too.

Low growing plants such as strawberries, blueberries or raspberries will need to be fenced off or you will not have any fruit left.

Be aware that some poultry can fly.

They may fly into your trees to eat the fruit.

Early spring before the trees fruit and late fall after you have harvested the fruit may be the best time to use poultry for weed control.

65 | Organic Ways of Handling Fruit Tree Problems

Fruit trees can have a variety of problems which are typically dealt with by spraying.

There are approved sprays for organic production on the market, but why spray when you can treat these problems in a variety of other ways?

Powdery mildew can be a problem with fruit trees.

It can be recognized as a white, powdery substance on leaves and is a disease.

An easy, organic way to control this is with milk.

If you have a plant that is susceptible to powdery mildew you can spray the leaves of the plant with the milk or pour it around the base of the tree so the roots absorb it.

Old milk that has soured is ok to use.

The calcium in the milk is what helps the plant.

Crushed egg shells also contain calcium and can be buried into the top layer of the soil around the plant.

As with any organic method, you will not see immediate results.

Over time, however, your plant will get stronger and the mildew will go away.

The best way to keep your fruit trees healthy is to grow them in healthy, organic soil.

Remember that fruit trees need lots of nutrients to produce.

The plants roots take up these nutrients.

Healthy soil, full of minerals and organic matter, is essential.

To create healthy soil you must start at the beginning.

If your soil is not alive, add lots of composted organic matter.

If it is alive, that is, teaming with beneficial microbes and insects, adding organic matter on a yearly basis is necessary to keep it healthy.

One of the easiest ways to boost the nutrients in your soil and make them readily available to plants, is to add kelp.

Kelp contains everything a plant needs.

Of course, without continuing to add other types of organic matter, the plant will deplete the kelp.

Making sure your soil is healthy is the easiest way to insure the health of your plants.

66 | Organic Ways to Outsmart Fruit Pests

An easy way to keep insects from laying their eggs on your fruit tree flowers is to make a banana smoothie.

This smoothie must be put out before the fruit trees flower.

Once the fruit trees flower, the insects may have laid their eggs in the flower and setting out the fruit smoothie will not accomplish the task of stopping this from happening.

To create the smoothie, add one banana, one cup of sugar and one cup of plain white vinegar to your blender.

Once the ingredients are in the blender, turn it on and blend until it looks like a fruit smoothie.

You will want to gather several gallon jugs together to pour the fruit smoothie into.

Milk jugs work best since they have handles that can be used to hang them in the trees.

Fill the empty milk jugs two-thirds full of water and add the entire contents of the blender to the milk jug.

You will need one smoothie for each gallon you make.

Hang the jug in the tree.

One jug will be enough for a small tree however two to three jugs may be necessary for larger trees.

For small fruits such as strawberries, use a short Shepard's hook so the jug is suspended directly above the strawberry patch.

Besides putting out fruit smoothies, here are a couple more ways to outsmart fruit pests and keep your fruits bug free.

Keep fruit that falls to the ground picked up.

This will help stop insects from burrowing into it.

The fruit can be tossed in the compost pile, buried in the ground or given to chickens to eat if it is ripe.

Another way to discourage insects such as slugs is to put diatomaceous earth on the ground under your plants.

When soft bodied insects crawl across this material, it will slice them up, causing them to dehydrate and die.

This will not harm earthworms when they work it into the ground.

67 | Fruit Tree Pruning Tips

Fruit trees should be pruned regularly to help maintain their health.

To properly prune fruit trees, you should:

- Remove any diseased or dead branches.
- If you are pruning to shape the tree, you should do your pruning while the tree is dormant. A tree is dormant when new spring growth such as leaf buds or flowers have not yet appeared.

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- Always remove any suckers immediately, since they are usually from the root stock and not the tree that is grafted onto the stock. A sucker comes up from the base of the tree. It may look as though it is growing up from the ground. Sometimes you will see where the sucker is attached to the trunk of the tree and sometime the sucker will be attached underground.

Before pruning fruit trees it is important to know when the right time to prune is.

This depends on your climate.

Most fruit trees should be pruned in early spring before new growth begins.

If you prune too late in the spring you risk cutting off the flowers.

The flowers are what the bees pollinate which make the fruit, so if you eliminate the flowers on your fruit tree, you will not get fruit.

Before you begin to prune you will need to decide what type of shape you want your plant to have.

For example if you are using the espalier method of pruning you may wish your tree to take on a candelabra shape.

If this is the case you will selectively prune your tree to make it grow in that shape and remove any branches that do not fit the pattern.

This method of pruning takes a bit more work than simply allowing the tree to grow in its natural shape.

However for smaller gardens, using the espalier method can allow you to grow more trees than if you allowed them to grow to full size.

68 | Tapping Maple Trees for Sugar and Syrup

February 1 is the day to tap sugar maple trees.

While any maple tree will give sap that can be boiled down into maple syrup, the sugar maple offers a sweeter sap than other varieties.

It takes quite a bit of sap to make syrup. Fifty gallons of sap will make one gallon of syrup.

However, a gallon can last quite a long time depending on how much you use.

Maple sugar can also be made.

This is done by simply continuing to boil the syrup until it turns into sugar.

Maple syrup and maple sugar can be used in a variety of ways.

The most common use is as syrup for pancakes.

Maple sugar is often used in place of granulated sugar in baked goods.

Maple syrup can be used as a sweetener just like honey.

To tap a maple tree, you will need tree taps.

These can be bought online or through a local person who taps sugar maple trees.

Insert the tap into the tree so the sap can begin running.

There will be a hole on the bottom side of the tap that you can look at to judge the depth the tap will need inserted.

Do not insert the tap too far into the tree.

The typical depth is 1 1/2 inches to 2 inches deep.

As the weather begins to warm, the sap will begin to flow.

Attach a bucket, coffee can or milk jug to the tree when you insert the tap so you do not lose any sap.

You can do this by tying it to a tree branch or dowel rod.

Be sure your container has a lid on it so bugs do not invade the sap bucket.

Keep an eye on the containers that are collecting sap.

You will need to empty them into a larger bucket as they fill up.

Once you have collected enough sap, boil the sap down outdoors.

While it can be done inside on a stove, the evaporating moisture may cause brown drops to form on your ceiling, walls and other items.

Most people build a wood fire outside and boil the syrup down in large kettles.

There is nothing like making your own maple syrup.

Give it a try this year if you have access to a maple tree.

69 | Black Walnut Harvesting Tips

Black walnuts are not a favorite tree of gardeners because there are numerous plants that will not grow under them.

This is because of the weed suppressing chemical they produce.

If you really want to grow something around your black walnut trees, try bulbous plants.

Some plants that I have been successful with include daylilies, hosta, Solomon's seal, columbine and phlox.

An advantage to growing black walnut trees is you can harvest the tasty nuts.

Harvesting black walnuts is easy.

When the walnuts are ready to harvest, the large green husks will fall to the ground.

The first ones that fall may be empty inside or they may be poorly filled.

These can be left for wild critters such as squirrels to eat.

Removing the green husk and cracking the nut open is the easiest way to tell when the nuts are ready to be picked up.

The green husk will stain anything it comes into contact with, so wear gloves and old clothing.

The easiest way to remove the green husks is to put a tarp or old sheet down on your driveway.

Put the nuts, husk and all, on top of the tarp and drive over them.

Removing all of the husk material may take several days.

You need to make sure your vehicle does not have any leaks such as gas, antifreeze, oil or transmission fluid before you use this method to remove the husks.

You would not want these poisonous chemicals on the nuts.

The husks can be removed by hand as well, but do remember the husks will stain anything they come into contact with.

Once the husks have been removed, you will see a dark brown nut shell.

Place the nut shells in a bucket of water.

You will stir the nut shells, dump the water and repeat the process until the water stops looking like strong black coffee.

Nuts that float are likely not filled and should be removed.

It is a good idea to double check a few of these nuts by cracking the shells open to make sure they are not just thin shelled.

Thin shelled nuts will float.

Once the nuts are clean, they need to be spread out in a cool, dry place to cure.

You can also put them in a food dehydrator to speed the process up.

The nuts should be allowed to cure for three to four weeks minimum.

The curing process is what makes nuts taste good.

Once the nuts are cured, crack the shells open, remove the nuts and store in a cool, dry, dark place.

You can also freeze the nuts.

70 | Tips for Storing and Using Nuts

Nuts can be stored in their shell or the shell can be removed.

The thing to think about when storing nuts is that you need them in a critter proof container.

Glass jars with metal lids work well if you will eat the nuts up fairly fast.

If not, consider putting them in the refrigerator or freezer.

Nuts that have been frozen will last for

a long time. Since the nut meat does not really freeze, there is no need to thaw them before use.

Use your nuts for fresh eating or in a variety of recipes.

Brownies are divine when black walnuts are added.

Try nuts as a breading for meat or in sauces.

Toss a few nuts in a salad or make nut butter.

To make nut butter you will need a food processor, then simply add 1 tablespoon of oil to 1 1/2 cups of nuts.

Try to find an oil similar to the types of nut you are using.

Process this mixture in your food processor until it is smooth.

If you prefer chunky nut butter, set aside 1/4 cup of nuts.

Process as above, then add the nuts you set aside and process just enough so they are chopped up into small pieces.

Put this in a jar and refrigerate.

It will last two weeks.

If the oil tries to separate, simply stir it back into the nut butter.

Of course, if you still have too many nuts to use, you can sell some or give some to friends.

Part of the fun of growing your own fruits and nuts is being able to share the harvest with others.

Don't forget to donate some to your local food pantry as well for the Plant-A-Row for the Hungry campaign.

71 | Fruit Preservation Tips

Once you are ready to harvest fruits and nuts from your own organic raised trees, you will need ideas on how to preserve them.

Some people will use a root cellar to keep their fruit fresh for several months, others may wish to freeze or can their harvest.

There is no right or wrong answer on how to preserve the harvest.

Whatever works for you really is the best solution.

Most fruit can be cold pack canned which is the easiest way for beginners.

It is also possible to freeze it either in freezer containers or baggies.

Some people freeze their harvest as it comes in and can it later.

The Ball Blue Book is essential to have on your book shelf if you are freezing or canning.

Everything you need to know is in the Ball Blue Book.

If you have a root cellar you can use it to store the fruit, and then can later as well.

Whatever method you use, choose fruits that are blemish free.

Damaged fruit that has bruises, cuts, nicks or insect bites will not store as well.

It can be used right away in recipes or eaten fresh if you cut the bad parts out.

Fruit that is to be preserved really should be top quality.

One way to use fruit that is overly ripe or has been damaged is to make jam or jelly.

You can also make wine with it.

Damaged fruit that has had the bad parts cut out can be juiced or used to make sauces such as applesauce.

If you have a steamer/juicer you can juice this fruit, and then use the paste that is left over to make sauce with.

72 | Herb Garden Basics

When growing herbs, it is best to grow them organically.

Whatever you put onto your herbs in the form of fertilizer, the herb will absorb.

When you harvest and use the herb, those products will go into your body.

Most herbs are pest free.

If your herb plants do have a pest problem, make sure it is not a beneficial insect or a butterfly before you do anything.

Once it is confirmed that the pest on your herbs is not a beneficial insect, a hard spray with a hose will generally get rid of them or you can hand pick them off.

Herbs are some of the easiest plants to grow.

Here are a few herbs, along with some tips, that should be included in every herb garden.

Lovage is a flavorful alternative to celery.

Celery was developed from lovage to be used as a vegetable.

Celery has large stalks and tiny leaves.

Lovage has smaller stalks and larger leaves.

Lovage tastes like celery, but the taste is about ten times stronger than celery.

It is a biennial and blooms in the late summer to early fall.

Lovage is very easy to grow.

Borage is an interesting and easy plant to grow.

The tender shoots of this annual are tasty when young, but develop a stiff, prickly feel when older.

Borage produces very deep blue star shaped flowers from late spring to late summer.

Bees love it and they make an interesting honey from this plant.

The blue flowers are a great edible flower to put on wedding cakes or can- died as a treat.

Borage is poisonous in large amounts, so be sure to keep this in mind.

Chives are a wonderful addition to any garden.

Most people plant chives in the herb garden, but they make a wonderful border plant for flower or vegetable beds.

Be sure to plant them around roses as well to keep pests away.

Chives, like any member of the allium family, planted around roses will increase the flowers fragrance.

Chives will grow in a variety of habitats, but give the best flavor and bloom when grown in fertile, damp soil.

They bear large globular balls of purple or pink flowers in the summer.

The exact bloom time depends on cultivar and conditions.

Tired of the same old marigolds?

Why not try a very old cultivar, the calendula.

Calendula grows very easily from seed as an annual.

It will reward you with beautiful daisy-like blooms in a wide range of reds, oranges and yellows.

Calendula starts blooming around the end of June and continues through September, if dead headed regularly.

The petals are edible, beautiful in salads and on wedding cakes.

What is an herb garden without lavender?

The relaxing scent of the leaves and flowers make the herb garden a great place to be.

The flowers are edible and make a great addition to frostings, cookies, punch, tea, bread and meat dishes, especially chicken.

73 | Time for Thyme

Thyme, botanically known as *thymus vulgaris*, is a fine addition for any herb garden.

This plant is low growing reaching about four to eight inches tall, and has wiry stems.

Thyme has leaves that are small, oval shaped and gray or green in color.

This herb produces pretty clusters of purple flowers.

You can start thyme plants from seeds, cuttings or by dividing the plants.

Thyme is useful as both a culinary herb and a landscape plant.

When properly pruned, this plant can grow into a low hedge.

Plant thyme close together to create formal Celtic knot gardens or use it as a border and allow it to sprawl over edging rocks.

Thyme should be pruned in the spring as soon as new growth starts to appear.

Simply hold up the top and snip off the tips.

Use the clippings to flavor soups.

Thyme is fairly drought tolerant, but can handle a bit of dampness.

For the adventurous that prefer more than just regular thyme, you can find it in a wide variety of scents such as lemon thyme and orange scented thyme.

To find these unusual varieties check your local herb shop or look online.

It is best to buy scented plants locally if possible so you can smell the herbs before you buy and make sure the scent is strong enough.

Be aware that although you may not have a problem with fresh or dried thyme, the essential oil made from thyme may be an irritant to you.

74 | Growing and Using Sage

Sage, botanically known as *salvia officinalis*, is an herb that you simply must grow.

Sage leaves are oblong, wrinkled in appearance and gray-green in color.

The plant's lilac blue blossoms are quite pretty.

This plant can grow to a height of two feet and will sprawl out unless it is kept trimmed.

Sage is aromatic, with a slightly bitter taste.

It is frequently used in poultry dishes and stuffing.

It can be used to make teas or custom herbal tobacco blends.

Use sage sparingly when making a tobacco blend, as it is a hallucinogenic.

Sage can be started from seeds.

Cuttings are easy to root or you can divide existing plants.

It is best to plant sage in a sunny location once all danger of frost has passed and the seedlings reach three to four inches in height.

The best time to harvest sage is right before the plants bloom.

As with most herbs, you can have a variety of scents and colors.

There is purple sage, tri-color sage and a wide variety of grey-green colored sages as well as a variegated sage.

For a real taste treat, not to mention hummingbird attractant, try pineapple sage.

The red flowers are a favorite of hummingbirds.

Try pineapple sage on ham or any other meat that would taste good with a pineapple flavor.

Another favorite scented sage is honeydew sage.

Since these scented herbs smell like their names, they make an excellent addition to potpourri.

Again, the best place to find the more unusual herbs is your local herb shop or you can order seeds so you can grow your own.

75 | Give Mint a Try

Peppermint and spearmint are hardy plants that should be a part of an herb garden.

Most mint plants reach two feet in height.

Regular peppermint has dark green leaves, a reddish stem and lovely lavender flowers.

Spearmint is lighter green in color with pink flowers.

Mints can be used in a variety of dishes especially deserts, hot or iced tea and in sachets or potpourri.

Harvesting the plants is simple.

Just cut the whole plant back to 1 inch above ground level just prior to blooming.

Use peppermint and spearmint fresh or dry some for winter use.

Members of the mint family can be quite invasive.

Mint can take over a garden and needs to be divided or weeded out often.

This can lead to problems in the garden, since mint can smother more delicate plants.

It is better to grow this herb in pots to keep it from spreading through the garden.

If you do grow mint in the ground, it is best to space your plants at two foot intervals.

In addition to peppermint and spearmint there is chocolate mint, pineapple mint, black stem peppermint, orange mint, lemon mint, apple mint, banana mint and a host of others.

If you like mints, try some of every variety.

Pineapple mint is a wonderful herb that has bright green leaves with white edges.

The leaves are ruffled and bumpy.

The foliage adds contrast from early spring to late fall.

Pineapple mint is a low growing plant and fills in nicely around the base of bushes.

It does not tend to be as invasive as other types of mint and has a wonderful scent.

Pineapple mint makes a wonderful addition to your summer fruit salad.

76 | The Pesto Herb: Sweet Basil

Sweet basil, also known as *Ocimum basilicum*, should be grown in every garden where there is a cook.

Basil's blue green foliage grows two to four feet tall.

The plants should be harvested on a regular basis and not allowed to flower.

The leaves of basil can be used in cooking many of your favorite recipes and is a must for pesto.

Planting this herb is easy.

Basil can be started from seed between April and July and should be planted in a well-drained, sunny area.

It is best to thin the seedlings to eight to ten inches apart.

A great way to preserve basil for use in soups and other dishes is by freezing the leaves in water to form herb cubes.

Simply place your chopped herbs in an ice cube tray, fill with water, and freeze.

Then remove the herb cubes and store them in a plastic freezer bag.

Toss the entire ice cube into your recipes allowing the ice cube to dissolve.

Basil can be dried or preserved in olive oil but it is better to preserve it at home using the ice cube method.

In addition to sweet basil, look for clove basil, lemon or lime basil, cinnamon basil or purple basil which has adorable purple colored leaves.

There are numerous varieties of basil on the market.

Sweet basil just happens to be the one that is most well-known.

To eat basil fresh, tear up some leaves and toss them in your salad.

Basil imparts a spicy taste so be sure to cut the leaves up into small pieces.

If you can or freeze tomato sauce, you can add some basil leaves to the bottom of your container before adding the sauce.

The sauce will absorb the oils from the basil leaves.

When you cook the sauce you can remove the leaves if you want to or you can leave them in the sauce.

77 | Dill: For You and the Butterflies

If you think of pickles, you probably also think of dill.

The two are synonymous.

Dill is a great plant for the beginning gardener.

It is a self-seeding annual that is a rapid grower.

Simply sow your seeds in a sunny location with moist soil and in no time at all you will have a patch of dill.

The flat yellow flowers are beautiful when dill is planted in a clump.

It readily re-seeds itself if it is left alone until the seed heads ripen.

Once you get dill growing, you will have it for life.

Dill can grow from three to seven feet tall.

You can plant it right in your vegetable garden, or make a raised bed that is just for growing dill.

It is best to keep it contained since it self-seeds unless you don't mind dill growing all over your garden.

Dill is a favorite host plant of butterflies, so if you see caterpillars on your plants, do not distress and do not remove them.

They will eat your dill, but this is such an easy to grow plant that you can just plant more.

One way to encourage butterflies to lay their eggs in other parts of your garden is to mix dill in with your perennial flowers.

You can also plant several clumps of dill in different areas of your yard.

This way both you and the butterflies will be happy.

The flower heads, leaves and seeds can be used in various culinary creations from homemade pickles, to breads and salads.

A few dill leaves put into regular salad, added to homemade cheese or added to corn while it is cooking will give you a taste sensation like no other.

Experiment and see what ways you can find to add dill to your everyday meals.

78 | Parsley: A Butterfly Favorite

There are two types of Parsley, curled and Italian.

Curled parsley has tightly curled foliage, while the Italian has broad, flat leaves and a stronger flavor.

Parsley is primarily used as a garnish because it acts like a breath freshener.

However the cut up leaves make an excellent addition to fresh salad.

Add parsley to soups, potatoes, omelets and seasonings of any kind.

It is best to plant the seeds in August in rich soil outside, although you can start seeds in the spring.

Parsley can be harvested as soon as the plants are about six inches tall.

You can store the leaves fresh in a jar in the refrigerator or you can dry the leaves for later use.

Parsley requires a rich soil containing lime.

In order to thrive the soil this herb is planted in must be kept moist, but well drained.

Using mulch can help retain moisture.

Parsley can be dried for winter use or added to ice cubes and frozen for later inclusion in soups or other recipes.

Parsley will reseed itself if it is happy.

This is also a host plant of butterflies.

Plant some extra parsley in your flower beds for the butterflies.

You can also plant several groups of parsley in your garden so if the butterflies take over you will still have some to harvest.

Look for signs of butterfly eggs and caterpillars before harvesting parsley.

79 | Rosemary: The Herb of Remembrance

Rosemary, also known as *Rosemarinus officinalis*, has several uses.

You can use rosemary either fresh or dried in many of your favorite dishes for extra flavor.

Rosemary is popular as a hair rinse for brunettes.

This herb is an evergreen shrub that reaches two to four feet in height.

It has needle-like, leathery, dark green leaves with blossoms of pale lavender blue in color.

The entire plant has a balsamic smell.

Rosemary is not hardy in cooler climates, however it is possible to protect the plant with a cold frame and keep it alive outside over winter.

This will require some experimentation on your part to see what works well for you.

Look at the hardiness zone rating of the rosemary you wish to grow, some are hardy to zone 6, however these rosemary plants still need protected even if you live in zone 6 unless they are grown in a highly sheltered spot.

Try rosemary in homemade chicken noodle soup add it to breads or cakes.

The flavor of rosemary is quite strong so you will want to add a little bit at a time so you do not add too much seasoning to your recipes.

The lovely blue flowers of rosemary are steeped in legend.

It is said that the plant had white flowers until the holy family fled into Egypt.

Mary was said to have spread her blue cloak on the rosemary plant.

The plants flowers then changed from white to the exact blue of her cloak.

Rosemary is known as the herb of remembrance and affection.

For those looking for something a little different, there is a pine scented rosemary.

80 | Preserving Herbs by Drying

One of the easiest methods for drying herbs involves using a pot rack.

Simply fasten small sprays of herbs together with rubber bands and hang them upside down on the rack.

The sprays should consist of three to five stems.

You want air to be able to circulate around the leaves and stems so they do not mold.

Don't use string to hold the herb sprays together, because the string won't shrink as the herbs dry.

The drying herbs will slip from the string and fall to the ground.

Herbs can be hung in any dark, cool place while they dry.

Too much moisture in the air when you hang them can cause problems.

You may find that they won't dry or they may want to mold.

Herbs that mold should be thrown away immediately.

Keep sunlight off of herbs you are drying or that have already dried.

Sunlight will cause the herbs to deteriorate faster.

Herbs can be dried in an oven on the lowest setting although some of the oils may evaporate.

Another easy way to dry herbs is to use a food dehydrator.

Choose herbs to dry for winter use that are pest free and as clean as possible.

If you must clean them, rinse them quickly under cold water so you do not rinse the oils off.

Pick herbs as early in the morning as possible.

The ideal time is right after the dew has dried.

The later you wait in the day the more likely it is that most of the essential oils will have evaporated.

The essential oils are what give the herbs their scent and flavor.

Pick no more than one-third of the current growth, stems and all.

You can dry the herbs on the stems or you can pick the leaves off to dry individually.

Do not crush the leaves until you are ready to use them.

This will help keep the flavor strong.

Herbal teas, tinctures and infusions can be made to cure a variety of ailments.

As with any home remedy it is best to consult a licensed physician before trying it, especially if you are on prescription medication.

Modern medicines are chemical reproductions of natural plant based medicines.

There can be serious drug interactions.

It is also important to seek professional help if your medical condition persists.

Several traditional herbal medicines can help provide cold relief however they do not work on severe colds or flus.

They are most effective when they are taken at the first sign of the onset of a cold.

Their effects may be limited once the cold takes hold.

These plants are Echinacea, yarrow, goldenseal, coltsfoot leaf, and dandelion root.

To use these cold relief herbs, steep one tablespoon of herbs in one cup of hot water.

Remember, this is a medicine, not just a cup of tea. It is best taken before bedtime.

These herbs can be found at most health food stores and some pharmacies.

You can take them singly or in combination.

It is possible for you to grow your own medicinal herbs.

Here are some other traditional medicinal uses for herbs.

Ever get a case of the blues?

St. John's Wort may be just the thing.

St. John's Wort has been traditionally used to battle minor depression.

But it does not work for all depression, especially where there is an underlying problem.

St. John's Wort may work for an occasional pick me up if you are suffering from mild depression, but if the depression is moderate, chronic, or severe, seek the advice of a professional.

If you suffer from insomnia, valerian and skullcap have been used as a sedative for hundreds of years.

Use one teaspoon of either, steeped in one cup of hot water, taken before bedtime, and sleep will soon follow.

Use caution, as these herbs for insomnia may be habit forming.

Horehound can help ease coughing.

You can make a tea by adding one tablespoon of horehound leaf to a cup of hot water and allowing it to steep for five minutes.

Some wonderful cough drops are available at most grocery stores made from horehound, lemon, honey, eucalyptus and a variety of other things.

These are very soothing and a good alternative to traditional lozenges.

Old timers used to make hard tack candy with horehound in it.

Purchase vegetable seeds early, as the supply of popular and heirloom vegetable seeds can be stripped bare when the planting season finally arrives.

If you are concerned about genetically modified seeds, purchase heirloom seeds from a reputable supplier such as Baker Creek Heirloom Seeds or ask your favorite retailer if their seeds are GMO.

An advantage of heirloom seeds is they are open pollinated and you can save seed from your favorite vegetables from year to year.

When you order your seeds early, group them together by their growing season using rubber bands so you don't forget to plant the seeds you ordered or worse, misplace them.

Group your vegetable seeds into three categories:

- Seeds that should be planted as soon as the ground is ready.
- Seeds that should be planted two to three weeks before the frost-free date in your growing area.
- Seeds that should not be planted until all frost danger has passed.

Seeds will keep until planting time, especially those that are purchased through reputable companies because their seeds are generally packaged in moisture vapor packets.

If you do not use all of your vegetable seeds during the gardening season, do not despair.

Many seeds will keep for several years provided they are kept in a cool, dry spot.

Extra seeds can be used to experiment with extending the garden season.

You can find out how long some plants will grow in your area or how early in the spring some types of seeds can be planted.

When experimenting with extending the gardening season remember that cold frames and frost covers are beneficial tools that can help you achieve success.

83 | Direct Seed Carrot and Spinach Seed in January

If you have a cold frame or tunnel house it is possible to direct seed carrot and spinach as

early as January 15, even in the Midwest.

Build raised beds using wood or concrete blocks.

Fill the beds part way with decomposing manure and the rest of the way with compost.

You do not want to add fresh manure to the beds.

Choose manure that has been decomposing for at least three months.

Make sure it still has some heat.

Put this in the bottom of the beds.

This will create a heat sink that will help to heat the cold frame.

Once the manure is topped off with compost, you can direct seed the carrot and spinach plants.

For the carrots, adding some leaf mould and sand will be beneficial.

The looser the dirt, the better the carrots will perform.

Fresh manure can be added directly in the fall if the beds are empty and mixed into the previous year's soil unless there was a disease problem.

If the soil was diseased, all of the old soil should be removed as well as the materials used to make the raised beds.

Hard materials such as concrete, metal and plastic can be thoroughly washed, disinfected and reused.

Unless you have a way to sterilize the soil it is better to not re-use it or compost it as you would not want to spread the disease.

Soil can be sterilized using high heat however for the typical home gardener it is not cost effective.

The seeds may not germinate until temperatures inside the cold frame heat up.

Once they do germinate it may take a while for them to grow, but once conditions are favorable, the seeds will take off and within no time at all you will be harvesting carrots

and spinach way before you ever would if you waited to grow it in a field.

For those who are in a big hurry, a little supplemental heat can hasten germination and growth times.

84 | Start Carrot Seed in Empty Toilet Paper Roll

Beginning on January 1, seeds of carrots can be sown.

Here is a great tip.

Save empty toilet paper rolls.

When you have enough to stand them end to end, side by side, and fill up a plastic shoe box or similar container with tall sides, fill them to the top with soil.

Tap the soil down just enough so there are no air pockets.

You do not want the soil to compact.

It is best to use a seed starting mix or lightweight sandy soil.

Sprinkle a bit of vermiculite on top, add one carrot seed and cover lightly with vermiculite.

Put enough water in the container so the toilet paper rolls can soak it up and become wet.

If they are not wet, they can wick water away from the plants.

Once the carrots begin to grow and you see roots, plant them making sure you completely cover the top of the toilet paper roll.

An alternative would be to cut it off.

You can also choose to grow mini carrots and harvest them directly from the toilet paper rolls.

When planting carrots outside it is important to remember they like a loose, organic enriched soil.

The looser the soil, the larger they will grow.

If you have a type of soil such as clay that is not suited to growing carrots you can amend it or grow them in a raised bed.

Carrot seed should be kept moist until it sprouts and gets about three inches tall.

After this just keep the seedlings well-watered and in no time at all you will be harvesting organic carrots right from your own garden.

85 | Onion, Cabbage, Celery and Parsley

You may be wondering what these four plants have in common.

Well, for gardeners in the Midwest they can be planted on the same day, January 12.

Direct sow the seeds into flats, individual pots or pre-germinate them in damp paper towels at room temperature.

Whatever way you choose to germinate the seeds, be sure to watch for signs of germination such as root tips if you are using paper towels or little green shoots coming up out of the soil.

Once you have small seedlings emerging, simply grow them on under grow lights until it is warm enough to put them outside or into a cold frame.

When you begin to fertilize remember to use a diluted amount to begin with so you do not overdo it and kill the fragile seedlings.

You do not need to plant every seed of this type on this day.

This is just a guideline of when to begin sowing these seeds.

Spreading the germination time out over several weeks will give you different harvest times which can be a real help when the produce starts coming in.

When you transplant the cabbage and onions into the garden, interplant them because they make good companion plants.

If you did not get around to planting parsley but have lots of seeds, don't despair.

Parsley seed can also be direct sown in August.

The small plants will overwinter well and come spring you will have plenty of parsley to harvest.

Grown this way, the plants may go to seed, but again, do not despair, just let the seed drop or collect some to share and soon you will have a large patch of parsley.

86 | Succession Planting

Succession planting ensures that your vegetable garden is brimming with a harvestable product the entire growing season from early spring to late fall or winter.

After you harvest one vegetable, you can replant different vegetables in its place.

Here are a few succession planting ideas for you.

After you have harvested your leaf lettuce, you can plant squash or bush beans.

When your radish crop is nearing completion, you can replant the area with your cucumber seeds.

Follow up your cabbage crop by planting snap beans.

When your snap beans are harvested, you can use the area a third time by planting your fall lettuce.

The idea behind succession planting is to get three or four harvests of different crops from one piece of land.

For example if you plant spinach in the early spring, by the time that crop is done, you can plant green beans, follow that with a quick planting of radish and then lettuce as a winter crop.

If you think the season is going by too fast, try combining crops.

For example if you plant green beans and radish together, the radish will be harvestable before the green beans.

So essentially you get two crops from the same space, one quick maturing crop and one crop that takes longer to mature.

When using succession planting techniques remember to renew the soil in between plantings with some finished compost.

The better your soil is, the healthier and more nutrient enriched your vegetables grown in it will be.

87 | Successfully Growing Corn in Small Spaces

If the area you plan to grow corn in is small, don't despair.

There are ways to plant corn in small spaces and still get maximum yields.

If you have space in the ground, try planting your corn in a block or grid of four rows that are side by side.

This will help to maximize your small garden area.

Another way you can grow corn if you are really short on space or do not have a yard is to grow it in a large container.

Look in seed catalogs, especially heirloom seed catalogs, for special varieties of corn that have been bred specifically for container culture.

What is really nice about growing corn in containers is you can plant vining plants such as nasturtium around the edge of the container to add color and interest.

Growing corn in a container will require extra care to see that it gets the nutrients and water that it requires.

You may need to hand pollinate.

Corn is wind pollinated which is why it is best planted in a close group.

You can help speed pollination along by hand pollinating your corn.

Just gently bend the young tassels down and shake the pollen loose.

If you are growing corn in containers or just a few ears of corn you will want to hand pollinate.

If, however, you have a nice patch, just let the wind do the work for you.

In corn patches there are two main ways to shade out weeds.

The first is to lay straw or another type of organic mulch such as compost between the stalks once they are up and growing.

The second way is to interplant the corn using the three sisters' technique.

The way this works is you plant corn, vining beans and squash or pumpkin together in a circle if possible.

The corn and beans will grow together with the beans using the corn stalks as a trellis and the pumpkin or squash will shade out the weeds.

88 | Cucumber Growing Tips

Cucumbers prefer to be grown in soil that has been enriched with organic matter such as chopped leaves, hay or straw as well as finished compost.

Instead of planting cucumbers in hills, simply dig a trench half an inch deep, then place the seeds in the holes about twelve inches apart.

In between the cucumber seeds, place radish seeds.

Cover the seeds and water well.

If you are making more than one row of cucumbers, place the second row approximately three feet away.

If you are using a trellis to vine the cucumbers up, you can make the rows a little closer.

Once the cucumbers begin to vine there is an easy way to keep them in check.

Walk along one side of the cucumber row and gently kick the vines to the other side of the row.

When you have gone all along the row and done this, go to the other side and repeat it, this time moving both vines to the center of the pile.

What this does is teach the vines to twine on one another.

When it is time to pick cucumbers, simply walk down the row, lift the vine and pick the cucumbers.

This also helps conserve water since the center stem will be shaded.

The key to keeping your cucumbers from being bitter is water.

Cucumbers require at least one inch of water every week.

Cucumbers that miss out on being watered regularly -- even once or twice -- may become bitter.

It is important to keep cucumbers picked off the vines.

If you allow them to die on the vines or go to seed, the vine will stop producing.

89 | Pumpkin Growing Tips

Growing pumpkins organically is easy.

Simply make sure you apply plenty of organic matter such as compost to your soil.

If you are checking your soil pH, pumpkins do best in a pH of 6.0.

Pumpkins like a lot of nitrogen and potassium, so look for an organic fertilizer that is high in both nitrogen and potassium.

Pumpkins can be grown in mounds of soil or directly on the ground, whichever method you prefer.

The vines can get rather long, so give them some room to run.

If you are trying to grow prize winning pumpkins, the way to get larger ones is to remove all the blooms on a single vine except for one.

This will cut down on the number of pumpkins you will get but the ones that do grow will be larger.

If you are experiencing pest problems such as squash bugs, cover your pumpkins with frost cover or floating row cover just be sure to remove it so the flowers can be pollinated.

In late summer, your pumpkins should be getting larger and nearing harvest.

To prevent rot at the base of your pumpkins, place dry straw underneath each one.

This will keep the bottom half of the pumpkins off the damp earth thus eliminating the possibility of the bottom of the pumpkin rotting.

When the pumpkins turn orange, it is time to harvest them.

Do not leave them in the field.

Cut the pumpkins from the vines instead of twisting them off and store them in a cool, well-ventilated area until you are ready to use them.

If you like pumpkin pie, be sure to can some for use later in the year unless you have a place to keep the pumpkins stored where they will not rot.

90 | Grow Odd Color Vegetables

Getting kids to eat their vegetables can be trying at times.

One way to get them to eat their vegetables is to convince them that eating vegetables is cool.

Imagine purple green beans, peas or carrots.

Yes, they do exist!

While many of these colored vegetables lose their unusual coloring when cooked, raw they look like something right out a sci-fi movie!

Give black corn, turnips or radish a try.

Look for purple tomatoes or spotted lettuce.

Some of these vegetables you will have to grow yourself as they are not available on the grocers' shelf but there is no better way to get your kids involved in gardening then telling them they will be growing the coolest colored vegetables on the block!

Another advantage of odd colored vegetables is that they contain different health promoting properties.

For example, everyone knows carrots are good for you but did you know red colored carrots contain lycopene?

This is the same carotene that is found in tomatoes that is thought to prevent some cancers and guard against heart disease.

Purple carrots are considered to be powerful antioxidants' because of the anthocyanin pigments that give them their purple color.

91 | Extend the End of Season Harvest

The first frost is over in many areas.

While most of the garden is done once frost hits it, there are still some plants that can be harvested and are actually better after they have been hit by a light frost.

Kale, Brussels sprouts, Jerusalem artichokes and rose hips are just a few of the items that can still be harvested.

Rose hips are high in vitamin C.

They can be eaten fresh, used to make wine, flavored honey or jelly which can be canned and used throughout the winter months.

If you prefer not to eat rose hips, you can leave them on the roses for the birds or harvest and dry them for potpourri.

Kale and Brussels sprouts will last in the garden at least until a hard freeze.

With protection, they may last longer.

This gives you the advantage of picking them as you need them or picking them all at once and preserving them for use throughout the winter.

If you still have spinach or lettuce growing in your garden, before the first frost cover it with frost cover and put a cold frame around it.

This will allow you to continue to harvest fresh spinach and lettuce throughout most of the winter.

Remember that just because most of the gardening season is over does not mean you cannot continue to grow things.

Cool weather plants and even potatoes can be grown throughout the winter without heat.

Many root crops will also store in the ground with a bit of protection.

The Complete Idiot's Guide to Year-Round Gardening by Delilah Smittle and Sheri Ann Richerson is a great resource for in-depth information on extending the harvest or even getting an early start on the upcoming gardening season.

92 | Reduce, Re-Use and Recycle

From garden tools to hardscape materials, there are many ways gardeners can reduce, reuse, and recycle.

The most common way to do this is to compost.

Green and brown materials such as leaves, weeds, kitchen scraps, and livestock manure are added to a pile.

This pile eventually breaks down and becomes “black gold” that’s ready to put on your garden to improve the soil and feed the plants.

Other items can be reused or repurposed as well.

New gardeners or local charity organizations might appreciate old garden tools.

Have a hand tool with a broken handle?

Replace the handle rather than replacing the tool itself.

Not only is this less expensive, but it keeps materials out of landfills.

That broken handle could even have a new use as a plant support.

If you have old bricks, pavers, or stones, some gardeners might be happy to come and take them.

If not, look for new ways to use them in your garden—you could work on a new walkway or create stepping paths inside your flower beds.

Many plant supply stores and nurseries will accept flower pots and flats once the plants are removed; in fact, some will even give you merchandise credit for returning them.

They can also be used in your garden to pot up extra plants that can be sold or given away.

93 | Make Your Garden Plant Supports and Trellises

Plant supports do not need to be fancy to be effective.

Small branches off of trees work quite well.

If you know someone who grows bamboo, ask them if you can cut it back in the fall once the stems die.

Metal stakes work too.

Almost anything that is sturdy and can be put into the ground deep enough to support a plant will work as a plant support.

For vines, you can run deer netting, trellis netting, string or yarn between two posts and let the vines grow up that.

If you are looking for a more permanent trellis system, you can build one out of branches, one by twos or lattice.

Lattice is available in wood and plastic.

The advantage of the plastic lattice is it is pre-painted and will last for years.

If you can weave, you can make all kinds of neat plant supports from grape vines, twigs and other discarded plant material.

Not only is this stuff free, but it will give your garden a unique, one of a kind look.

Garden teepees can be made by pushing three large branches into the ground, allowing them to touch at the top and then tying them together.

These simple supports will work great for pole beans, peas or ornamental flowers.

If you tie the plant to the support make sure the ties are loose enough that they do not cut into the plant.

The ties should be checked several times a year.

With a bit of imagination, you will find that making plant supports or trellises is not hard.

Many of these can be made with items that would otherwise end up in the landfill.

94 | Hand Tools

When it comes to garden chores, using hand tools is about the greenest thing you can do.

Weeding by hand, digging with a shovel, using a hoe, etc. does not require petroleum-based products.

Yes, these chores are easier when performed with power tools, but you'll feel better knowing that you're not polluting the air.

When pulling weeds, don't burn them or send them to the landfill.

Instead, add them to the compost pile. Same thing goes for leaves.

If you're feeling really energetic, try using a push lawn mower.

They have no motor and the only maintenance is to keep the blades sharp.

In addition to doing something good for the environment, you'll get a good workout.

Using a shovel to dig your garden will also give it a better start.

Double digging, which means digging a row, setting the dirt aside, then digging deeper to make the hole two shovel-lengths deep, is a great way to start a garden.

This method is also better for the soil than using a roto-tiller, but it is much more labor-intensive.

95 | Propane-Powered Tools

Propane-powered tools are becoming very popular among people who have bigger yards and want to use power tools without harming the environment.

Propane is cleaner and five times more efficient than traditional fuels.

It has been shown to emit fewer greenhouse gasses as well.

It's also non-toxic, so it won't harm the soil or water like gasoline does.

The Lehr Eco Trimmer is quieter and easier to maintain than traditional gas or electric weed eaters—all you have to do is attach a propane canister and go.

These trimmers use standard 16.4-ounce canisters, which are designed for camp stoves (and therefore readily available).

One canister will run the device for about two hours.

Compared to traditional weed eater, there's no difference in performance.

Have a look at Lehr's entire line of eco-friendly gardening power tools is using power tools in the garden is your personal preference.

One of the easiest ways to green your garden is to convert to solar power.

These days, you can find solar powered lights, fountains, and a slew of lawn ornaments.

While solar powered items can be pricy, reasonably priced ones are out there, and of course, don't forget to check the clearance aisle—some items may have been on the shelf before solar became popular and just need new batteries or simply need the batteries in them charged.

Some solar-powered items have built-in panels, while others have panels that can be situated several feet away.

Also, not all solar-powered items contain batteries.

If this is the case, they'll only work when the sun is hitting them directly.

If you're adding solar powered lights to your landscape, make sure they run on batteries; this way, the sun will charge the battery during the day (while the sun shines on the panel), and the lights will come on at night and run on battery power.

Small, solar-powered fountains are a popular way to move water in troughs, ponds, bird baths, and other bodies of water too small for a larger fountain.

Be aware, however, that most of them require direct sunlight and they typically do not create as strong a splash as larger fountains do.

97 | Conserve Water

The best way to conserve water is to use rain barrels.

All you have to do is situate them underneath rain gutters.

Once they're full, you'll have to figure out how to get the water out of them.

Some rain barrels have spouts near the bottom that make accessing the water easy, some have hose hookups, and others require that water be removed from the top of the barrel.

If your barrel doesn't have a spout, you can purchase one and install it yourself.

No matter what kind of barrel you have, cover the top with a screen to keep debris, animals, and mosquitos out.

If you find that rainwater isn't sufficient, try soaker hoses.

They're designed to lie on the ground and deliver water close to the plants' roots.

If possible, run them in the morning to cut down on evaporation—this will conserve water and help your plants deal with intense heat during the day.

98 | Reduce Your Lawn

Grass requires a lot of care in order to look good.

It requires fertilizer, weed control products, lots of water, and frequent mowing, making it one of the most high maintenance items in a yard.

To make your home (environmentally) greener, eliminate some or all of the grass.

In its place, try planting low-growing herbs, a wildflower meadow, or an edible garden (more on that later).

Another option is to replace your grass with a water feature or woodland landscape.

Depending on how your lawn was cared for in the past, you might want to use raised beds or heavily amend the soil.

Don't forget that plants take up whatever's in the soil.

99 | Grow Edible Plants

A great way to reduce your lawn is to plant an edible garden.

Currently, more and more people are getting involved in the local food movement by growing their own fruits, herbs and vegetables.

Not only is this environmentally responsible, but it's also fun, and growing your own food means choosing varieties that *you* like.

Also, some heirloom varieties of both flowers and vegetables aren't available commercially, many times because they can't withstand shipping.

When you grow them yourself, you can preserve them immediately, share them with friends and family, eat them, or sell them at your local farmers' market.

Growing vegetables is fun for kids, too, and is a great way to get them to eat food that's good for them.

Try growing green, purple, or yellow cauliflower instead of the expected white.

Corn is another plant you can have fun with.

Choose from black, red, green, white, or traditional yellow.

Even green beans (despite their name) come in a variety of colors, including purple, green, and yellow (there's even a spotted variety).

Most of the vegetables will lose their color when cooked, but growing them is fun and, even better, pests seem to leave odd-colored varieties of vegetables alone.

If you'd like your edible garden to be ornamental as well, mix in a variety of flowers.

Not only will this make your vegetable garden more interesting, but it will also aid pollination.

Plant flowers for cutting so that you can bring in a bouquet of flowers with your harvest, or choose edible flowers that can be added to salads, main dishes, and deserts.

Whatever you choose, the point is to make your garden pleasing to you.

100 | Native Plants

Native plants are great for the environment for a number of reasons.

First of all, they're already adapted to your local climate, so they don't require much water (except during establishment).

Native plants also provide food, shelter, and nectar to a variety of wildlife and insects, including birds, bees, and butterflies.

Nectar keeps both native bees and beneficial insects around, and native bees can pollinate better than honey bees plus they live in the wild so maintaining a bee hive is not necessary.

Butterflies need native plants for nectar, to lay their eggs on, and to use as host plants for the caterpillars to eat once they hatch.

Birds also eat the seeds and berries of native plants.

Native plants don't have to be boring.

A hybridized native plant is still a native plant.

For example, Echinacea, the plain purple cornflower, is native to much of the United States.

There have been many new Echinacea introductions over the last few years, including different colors and different blooms, and all of them are still classified as native plants.

If you want to include native plants in your garden, start by identifying which plants are native to your area and learning their botanical names.

Once you know that, all you have to do is ask about available hybrids and get started adding color and variety to your garden.

101 | Plant Trees and Shrubs

Shrubs and trees make great replacements for a lawn.

For one thing, they take in carbon dioxide, which means they help combat global warming.

In addition to being carbon sinks, they absorb various pollutants such as carbon monoxide.

Your garden will benefit from the shade created by trees and shrubs.

As they grow, their shade will provide a wildlife-friendly habitat that's perfect for woodland native plants, many of which bloom in late fall and early spring.

You can benefit from trees and shrubs as well—if placed properly near the home, they can cut down on your heating and air conditioning costs by acting as insulators and sources of shade.

Shrubs are great wind breaks. They often help keep the soil and plants around them from drying out due to environmental factors such as high winds.

Trees and shrubs also offer shelter for wildlife.

For this reason, native trees and shrubs are even better choices, as many of them provide berries that are essential to the winter survival of native wildlife.

Also, the flowers of native trees and shrubs provide nectar for local insects.

When choosing trees and shrubs, look for ones that are drought-tolerant.

Until they're well-established, water them deeply every week. When planting, remember that, the deeper the roots, the better the chances of the plant's survival.