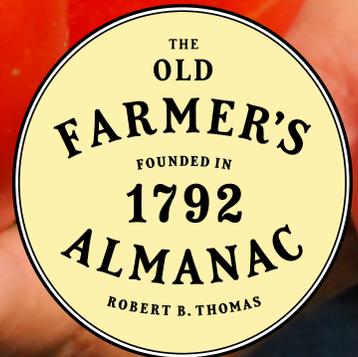
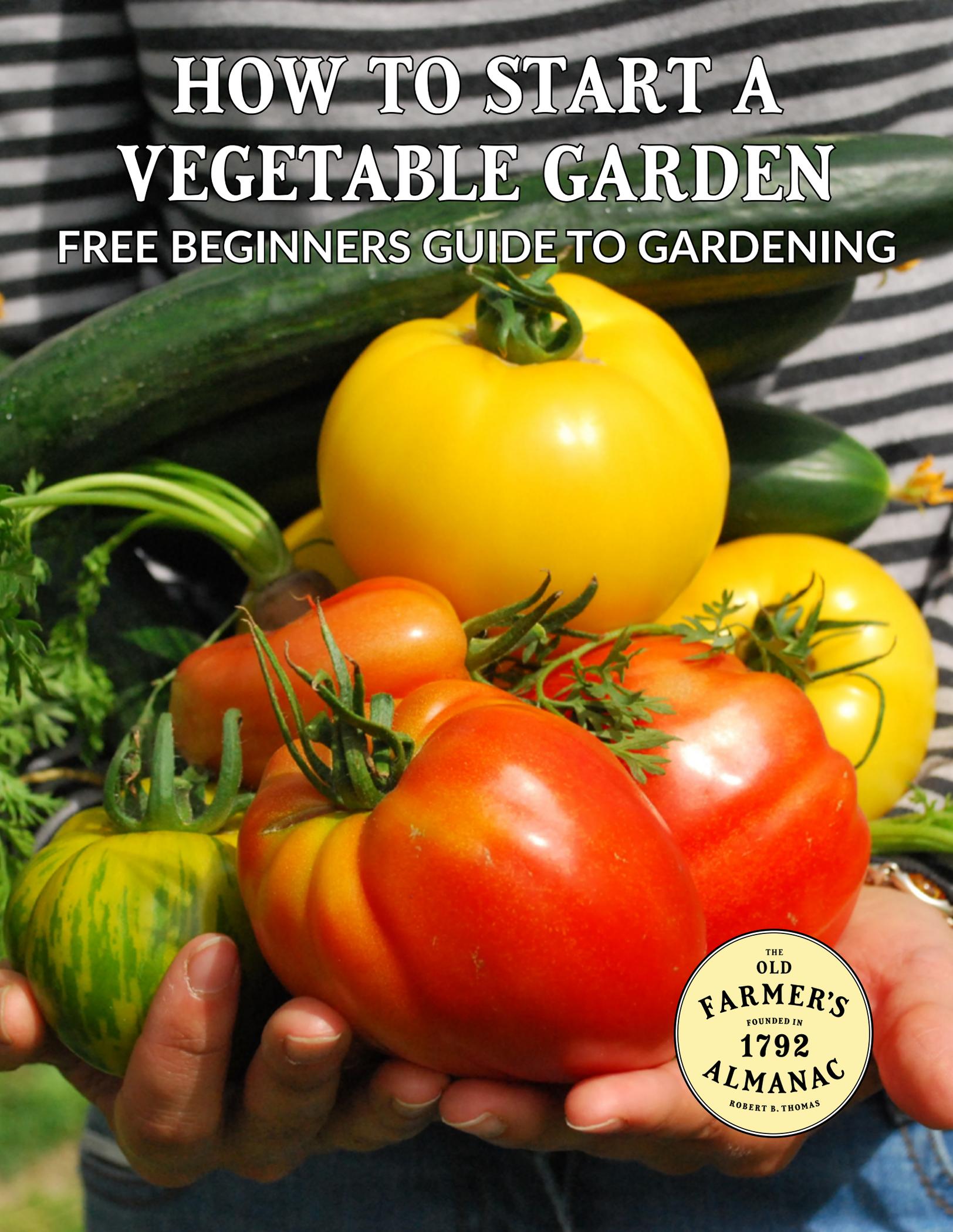


# HOW TO START A VEGETABLE GARDEN

FREE BEGINNERS GUIDE TO GARDENING



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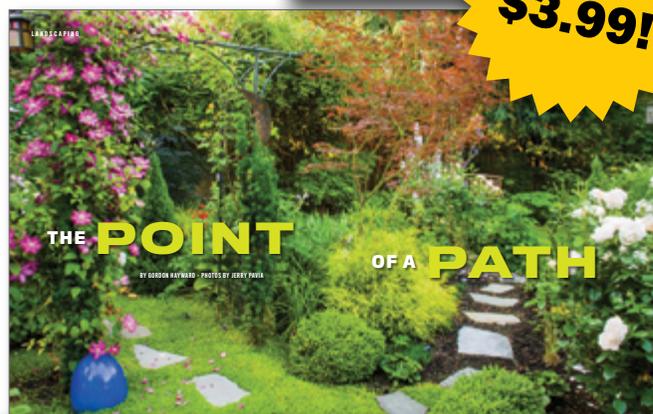
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# HOW TO START A VEGETABLE GARDEN

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Are you wondering how to fit gardening into your life? Start small! With a bit of planning, you can master the basics—and then go beyond. In this guide, you will find everything you need to know to make a garden grow. So, roll up your sleeves and read on!

## 5 GARDEN PLANNING TIPS

### WHERE TO START? HERE ARE 5 TIPS TO CONSIDER:

1. Space is often the biggest limitation. Think about how much space you have for growing. Once you select your vegetables, you will notice that some plants take more room to grow than others, and you will need to make some choices. For example, corn needs a lot of space and can over-shadow shorter vegetables. Plants set too close together compete for sunlight, water, and nutrition and fail to mature. If you are tight on room, remember you can always grow vegetables in containers.
2. Length of the growing season in your region is very important. If you live in the far North, some vegetables may not mature during your growing season. The Almanac lists the first and last frost dates for your season: [Almanac.com/frostdates](http://Almanac.com/frostdates) View [Almanac.com/plantingdates](http://Almanac.com/plantingdates) calculator for sowing and planting dates by location and frost dates.
3. Seriously think about how much time you have to devote to your garden. For example, bush beans grow prolifically with little care. Radishes almost grow themselves. However, tomatoes will require staking and pruning. (We have more information on easy-to-grow crops below!)
4. Understand the timing of harvest. For example, warm-season vegetables such as peppers will start later than cool-season vegetables such as lettuce and broccoli. (More on which vegetables to choose later.)
5. Test out the Almanac Garden Planner software. We've done the research for you. The planner calculates how many vegetables fit in a space, as well as the planting and harvesting dates for every vegetable! It will save you a lot of headaches (and money) and yield bigger harvests. Go here to try the Garden Planner for free for 7 days: [Almanac.com/gardenplanner](http://Almanac.com/gardenplanner)

## CHOOSING WHICH VEGETABLES TO GROW

Only grow things that you like to eat. There's no sense in cultivating veggies destined for the compost heap.

The vegetables suggested below are common, productive plants, but you'll also want to contact your local cooperative extension to determine what plants grow best in your local area. Think about what you like to eat as well as what's difficult to find in a grocery store or farmers' market.

- Tomatoes—5 plants staked
- Zucchini squash—4 plants
- Peppers—6 plants
- Cabbage
- Bush beans
- Lettuce, leaf and/or Bibb
- Beets
- Carrots
- Chard
- Radishes
- Marigolds to discourage rabbits!



(Note: If this garden is too large for your needs, you do not have to plant all 11 rows, and you can also make the rows shorter.)

## FREE SAMPLE GARDEN PLANS

Here's a tip: A good-size beginner vegetable garden is about 16x10 feet. A plot this size, based on the easy vegetables suggested above, can feed a family of four for one summer, with a little extra for canning and freezing (or giving away). Make your garden 11 rows wide, with each row 10 feet long. The rows should run north and south to take full advantage of the sun.

### SAMPLE PLANS FROM ALMANAC GARDENERS!

#### 1. Backyard Garden Plan: Traditional Rows

- Garden Size: 29' 11" x 29' 11"
- Garden Type: Backyard / back garden
- Garden Layout: Traditional layout - rows etc
- Sun or Shade: Sunny
- See plant lists and more details about this garden here.

#### 2. Backyard Garden Plan: Raised Beds

- Garden Size: 23' 11" x 23' 11"
- Garden Type: Backyard / back garden
- Garden Layout: Raised Beds
- Sun or Shade: Sunny
- Garden Soil Type: Good soil
- See plant list and more details about this garden here.

#### 3. Backyard Garden Plan: Traditional Rows

- Garden Size: 25' 0" x 15' 11"
- Garden Type: Home garden
- Garden Layout: Traditional layout—rows
- Sun or Shade: Sunny
- Garden Soil Type: Heavy / Clay soil
- See full plant list and more details about this garden here.

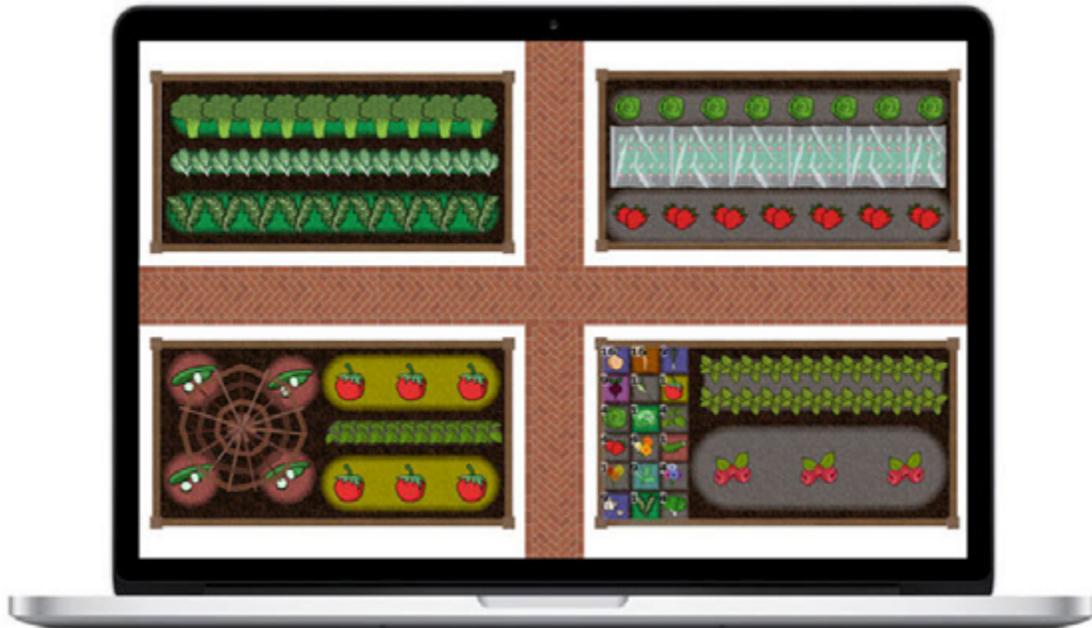
#### 4. Small Garden Plan: Raised Beds

- Garden Size: 50' 0" x 21' 11"
- Garden Type: Home garden
- Garden Layout: Raised Beds
- Sun or Shade: Sunny
- Garden Soil Type: Good soil
- See full plant list and more details about this garden here.

You will find hundreds of free garden plans using our Almanac Garden Planner!

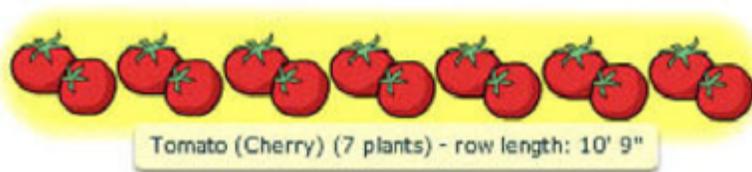
## BENEFITS OF GARDEN PLANNING SOFTWARE

The above plans were created using the Almanac Garden Planner software. We can't emphasize enough the importance of planning for a more productive garden.



The Garden Planner will:

- Help you plan where each plant goes. With over 250 plants and 100 structures, you can easily identify the best positions for each plant and move them around until you get the perfect layout.
- Make the most of your available space. See how many plants will fit and which crops can occupy the same space in your garden at different times of the year.



- Make sure you plant at the right times. You'll receive reminders by email when it's time to start planting, specifically for your garden and your climate.

Plant	Number	Plants	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Artichoke (Globe)	1	1		■	■	■	■	■	■	■	■	■	■	■
Basil	12	4			■	■	■	■	■	■	■	■	■	■
Beans (Dry)	9	9				■	■	■	■	■	■	■	■	■
Beans (Lima)	9	9				■	■	■	■	■	■	■	■	■
Beans (Pole)	8	8			■	■	■	■	■	■	■	■	■	■
Cabbage (Summer)	4	1		■	■	■	■	■	■	■	■	■	■	■

We're offering a free 7-day trial—ample time to play around and plan your first garden. Go here: [Almanac.com/gardenplanner](http://Almanac.com/gardenplanner)

## CHOOSING A LOCATION FOR YOUR GARDEN

Whether you're starting a new garden or extending an existing one, give careful consideration to where to site it. The right location gives your crops the best chance of success. When choosing a site, note the following environmental conditions:

### Sun

Pick the right site. Most vegetables need at least 6 hours of sunlight a day, although some crops, such as broccoli, lettuce, spinach, and other greens will grow well in less sunny spots.

In general, the more sunlight they receive, the greater the harvest and the better the taste.

*Tip:* In cooler climates, a suntrap is ideal for tender crops. In hot climates, growing under shade cloth or in the shadow of taller climbing plants, such as pole beans, helps to expand the choice of what you can grow in these conditions.

Also, avoid planting crops near large trees which will not only cast shade, but compete with your vegetables for nutrients and water.

### Air Circulation

Good airflow will encourage sturdy growth in your plants and help keep fungal diseases at bay. It also makes the garden less hospitable to insect pests such as whitefly that prefer a stagnant, humid environment.

Bear in mind that solid walls or fences may provide shelter but they can also cause the wind to form destructive turbulence on the leeward side, so don't plant too close to them. Hedges and open or woven fences are more effective, as they filter wind rather than deflect it.

Shelter from winds is helpful for most crops, especially peppers, eggplant, peas, beans, and any climbing vegetables.

### Moisture

Be sure water is readily available. Nothing burns out a beginning gardener faster than having to lug water to thirsty plants during a heat wave.

Extra water is likely to be necessary during dry weather, so locate new beds close to an outdoor water source. The soil near walls, fences, and under overhanging trees tends to be too dry for good plant growth, which is why an open area is best.

### Frost

Cold air is heavier than warm air so it settles in low points in the garden and near structures such as walls and fences. Avoid planting in these potential frost pockets; they can delay the time when you can start sowing seeds and they can damage young growth.

## SOIL PREPARATION: BUILDING THE SOIL

Good soil is the key to a successful garden. Soil may be the most overlooked aspect of gardening—and the most important. Good-quality soil provides plants with essential nutrients necessary to reap a good harvest.

In general, the goal is to enrich soil with compost to provide needed nutrients. Compost, leaf-mould, or well-aged manure will increase the ability of your soil to both drain well and hold moisture—the “sponge factor.” Never use fresh manure! It can harbor dangerous pathogens and will burn tender plant roots. Compost it for at least 6 to 12 months.

Here are some guidelines to help ensure your soil is tip-top:

- Test your soil. Results will reveal its pH, phosphorus, lime, potassium, soluble salts, and texture. For accurate results, contact your local cooperative extension service office for a free (or low-fee) soil test. They will provide recommendations for any needed amendments.
- Start with well-drained, sandy loam and add as much organic matter as possible. Plant roots penetrate soft, loamy soil more easily.
- If you have sandy soil, add humus or aged manure, peat moss, or sawdust. Heavy, clay-rich soil can also be added to improve the soil.
- If you have silt soil, add coarse sand (not beach sand) or gravel and compost, or well-aged horse manure mixed with fresh straw.
- If you have clay soil, add coarse sand (not beach sand), compost, and peat moss.
- If you have impossibly rocky soil or solid clay, consider building some raised beds that you can fill with good soil. Growing vegetables in containers or grow bags are also options.
- Proper drainage is essential; water-logged plant roots will negatively impact plant health.



### Soil Amendments

If your soil needs replenishing, these materials can be of help:

- Bark, ground: made from various tree barks; improves soil structure
- Compost: excellent conditioner
- Leaf mold: decomposed leaves that add nutrients and improve soil structure
- Lime: raises the pH of acid soil and helps loosen clay soil
- Manure: best if composted; good conditioner
- Peat moss: conditioner that helps soil retain water
- Sand: improves drainage in clay soil
- Topsoil: usually used in combination with another amendment for added soil

Remember: You should build your soil, but also you have to work with nature. If you have cold, clay soil, it takes longer to warm up in the spring. Consider raised beds, plastic mulch, and indoor seed-starting to get started earlier. If you have light soil, your early crops will thrive but you may struggle with later crops which dry out; consider building trenches alongside plants and irrigate more often to keep soil from drying out.

## SOWING SEEDS

Seeds or plants? Most garden vegetables can be directly seeded where they are to grow, including: lettuce, beans, carrots, beets, chard, spinach, peas, cukes, and squash. Starting with small plants rather than seeds is a good idea for crops that take longer to mature.

View [Almanac.com/plantingdates](https://www.almanac.com/plantingdates) calculator for sowing and planting dates for each vegetable.

Purchase transplants for tomatoes, peppers, eggplant, and melons (or start your own indoors 6 to 8 weeks before planting them outside). Also, if you wish to speed up the season, consider a raised bed garden as the soil will warm up more quickly.

If you decide to grow from seed (versus young plants), be sure to buy high-quality seeds. If seeds don't germinate, that's time and money wasted. A few extra cents spent in spring for that year's seeds will pay off at harvest time with higher yields.

### Selecting Seeds

- Buy from a reliable source. For a list of garden seed catalogs and mail-order sources, go to [Almanac.com/seedcatalogs](https://www.almanac.com/seedcatalogs)
- Choose quality seed. It will be true to cultivar/variety name, and will not contain contaminants, such as weed seed, insect casings, soil particles, or plant pulp.
- Choose varieties suitable for your area that will reach maturity before frost, survive heat, and tolerate your growing conditions.
- Purchase only enough seed for use in the current season (viability decreases with stored seed).

### Germinating Seeds

Germination is affected by four environmental factors: water, oxygen, light, and temperature. Manage them correctly and your seeds are sure to sprout. Read your seed packets to know the requirements of each crop.

#### Water:

It's important to know how much water to give your seedlings; they will remain dormant if they are too dry and can rot if too wet. Adequate and consistent moisture is ideal. A gentle daily misting with a spray bottle should do the trick. Covering seeds with a thin layer of vermiculite or peat moss also helps.

#### Oxygen:

For seeds to get enough oxygen, your soilless growing medium needs to drain well. Heavy, wet media cause anaerobic conditions, which inhibit germination.

#### Light:

Plants' light requirements vary from crop to crop; where you locate your seeds will determine how much light they receive per day.

#### Temperature:

Temperature affects the number of seeds that germinate and how quickly they germinate. Some seeds have a very specific temperature range for germination, while others will germinate over a broad range of temperatures. A 65° to 75°F range is typical for most seeds.

## SOWING SEEDS

### Potting Soil for Starting Seeds

When it comes time to start seeds, plan to use a sterile, soilless potting medium. Sterile mixes have been treated to be free of weed seeds and disease organisms. Do not use garden soil—it's much too heavy and holds too much water for germination. A fine, uniform texture is what's needed. If you are up for a little experiment, you can even make your own . . .

For a basic mix, use:

- 1 bucket (2½ gallons) peat moss
- 1 bucket (2½ gallons) vermiculite or perlite
- A half bucket (1¼ gallons) screened compost or composted cow manure
- 2 cups fine sand
- 2 cups pelleted time-release fertilizer
- ½ cup lime (to counter the acid of peat and keep the pH level near neutral)

Mix thoroughly. Makes enough to fill two 14-inch tubs. Double or triple recipe for bigger containers.

## TRANSPLANTING IN THE GROUND

If you started vegetable plants indoors from seeds or you purchased small plants—sometimes called “plugs”—here is advice on transplanting them into your beds:

- Check our Planting by the Moon's Phase calendar.
- During your seedlings' last week indoors, withhold fertilizer and water less often—this helps toughen them up.
- 7 to 10 days before transplanting, set the seedlings outdoors in dappled shade, protected from wind for a few hours each day, gradually increasing their exposure to full sun and windy conditions—this hardens them off in preparation for transplanting into the ground.
- Keep the soil moist at all times during the hardening-off period. Dry air and spring breezes can result in rapid transpiration.
- If possible, transplant on overcast days or in the early morning.
- Set transplants into loose, well-aerated soil that will capture and retain moisture, drain well, and allow easy penetration by young roots.
- Soak the soil around new seedlings immediately after transplanting.
- Spread mulch to reduce soil-moisture loss.
- To ensure that phosphorus, which promotes strong root development, is available in the root zone of new transplants, mix 2 tablespoons of a 15-30-15 starter fertilizer into a gallon of water (1 tablespoon for vining crops, such as melons and cucumbers), and give each seedling a cup of the solution after transplanting.

## FERTILIZING

The three primary nutrients plants need are nitrogen (N), phosphorus (P), and potassium (K). These are available in chemical/synthetic (nonorganic) fertilizers. The numbers of each nutrient indicate the percentage of net weight contained. For example, a 100-pound bag of 10-10-10 contains ten pounds of each element.

**Nitrogen** promotes strong leaf and stem growth and dark green color, such as desired in broccoli, cabbage, lettuce, and herbs. Add aged manure to the soil and apply alfalfa meal or fish or blood meal to increase available nitrogen.

**Phosphorus** promotes root and plant growth, including setting blossoms and developing fruit, and seed formation; it's important for cucumbers, peppers, squash, and tomatoes—any edible that develops after a flower has been pollinated. Add (fast-acting) bonemeal or (slow-release) rock phosphate to increase phosphorus.

**Potassium** promotes plant root vigor and disease and stress resistance and enhances flavor; it's vital for carrots, radishes, turnips, and onions and garlic. Add green sand, wood ashes, gypsum, or kelp to increase potassium.

### What to Know About pH

It's important that garden soil has the proper soil pH. A very high or very low soil pH may result in plant toxicity or nutrient deficiency. A pH value of 7 is neutral; microbial activity is greatest and plant roots absorb/access nutrients best when the pH is in the 5.5 to 7 range.

### When to Fertilize

Woody plants and perennials absorb nutrients from the soil during the growing season; they require few nutrients while dormant. Therefore, apply fertilizer as soon as the plants begin breaking dormancy in the spring. Follow instructions on the label as to how often to apply (this depends on the type of fertilizer used). Stop applications after the first fall frost.

Food crops also benefit from an early-start fertilizing schedule. Some “feed” on fertilizers lightly, others are considered heavy feeders, and require more regular applications throughout the growing season.

### Choosing Fertilizer: Granular Vs. Soluble

Granular fertilizers are solids that must be worked into the soil and given time (and water) before they dissolve and become available to plants.

Slow-release fertilizers are a subset of granular formulations. A portion of the fertilizer is not immediately available to the plant. Nutrients are metered out over several weeks. Therefore, they are applied less frequently.

Sometimes called “liquid feed,” soluble fertilizers are sold as either ready-to-use solutions or as packaged dry-milled materials that need to be dissolved in water. These tend to be quick-release fertilizers high in nitrogen that result in fast green growth.

# FERTILIZING

## How to Apply Granular Fertilizers

Apply granular fertilizer by broadcasting it either by hand or with a spreader. Using a hoe, spade fork, or rake work it into the top 4 to 6 inches of soil. You can also add small amounts to planting holes (be sure to mix it in with backfill soil) or to rows as you sow seeds or plant plugs. It's a good idea to water after you have applied fertilizer to help it leach down toward the plants' root zones.

During the growing season, add supplemental fertilizer to the top inch of soil in crop rows, perennial beds, and around the drip line of trees or shrubs. (Read the label to find out how often applications should be made.)

## How to Apply Liquid Fertilizers

Fast-acting liquid fertilizers are typically applied biweekly during the growing season. They are best used for container plantings and annuals.

With flowering and fruiting plants, foliar sprays are most useful during critical periods, such as after transplanting or during fruit set, or periods of drought or extreme temperatures. For leaf crops, some suppliers recommend biweekly spraying.

## Foliar Spraying

Plants can absorb liquid fertilizers through both their roots and through leaf pores. Foliar feeding can supply nutrients when they are lacking or unavailable in the soil, or when roots are stressed. It is especially effective for giving fast-growing plants like vegetables an extra boost during the growing season. Some foliar fertilizers, such as liquid seaweed (kelp), are rich in micronutrients and growth hormones. These foliar sprays improve nutrient uptake by plants. Compost tea and seaweed extract are two common examples of organic foliar fertilizers.

To apply, simply mix the foliar spray in the tank of a backpack sprayer or hand mister set to emit a fine spray, and spray all your plants at the same time. (Never use a sprayer that has been used to apply herbicides.)

Spray until the liquid drips off the leaves. Concentrate the spray on leaf undersides, where leaf pores are more likely to be open. You can also water in liquid fertilizers around the root zone. A drip irrigation system can carry liquid fertilizers to your plants. Kelp is a better product for this use, as fish emulsion can clog the irrigation emitters.

*Tip:* The best times to spray are early morning and early evening, when the liquids will be absorbed most quickly and won't burn foliage. Choose a day when no rain is forecast and temperatures aren't extreme.

# FERTILIZING

## COMPOST TEA

Some gardeners prefer to use compost tea for fertilizing. Compost tea is a liquid produced by extracting beneficial microorganisms (microbes)—bacteria, fungi, protozoa, nematodes, and micro arthropods—from compost using a brewing process. A true compost tea contains all of the organisms that were present in the compost before brewing.

### How to Make Compost Tea

Compost tea can be made with or without aeration, and with or without adding supplemental nutrient sources like molasses to feed microbes. For best results, aeration and supplements are recommended, and the right compost is critical.

To learn how to make compost, visit <http://www.almanac.com/video/perfect-compost-recipe-how-get-your-compost-heap-cooking>.

This sample recipe is good for vegetable crops:

#### Materials

- 5-gallon bucket, filled with water (let it sit for 24 hours to allow chlorine to evaporate)
- 1 fish tank aerator
- 1 compost tea brewing bag (either purchase one online or make one from a scrap of meshed material such as row covering, tied with twine—it should be large enough to hold 5 to 6 pounds of dry ingredients)
- 1 aquarium thermometer

#### Ingredients

- 1 large handful of compost
- 1 handful of garden soil
- 2 handfuls of straw
- 1 cup fish hydrolysate (pulverized fish, available at most garden centers)
- 1 cup seaweed extract (available at most garden centers)

#### Instructions

Put the first three ingredients into the tea bag, tie the bag tightly and submerge it in the bucket of water. Add the fish hydrolysate and seaweed extract liquids directly to the water. Place the aerator in the bucket and turn it on. Brew the tea for about 36 hours, monitoring temperature—the optimal temperature is between 68° and 72°F. Dilute it to a 3 parts tea to 1 part water ratio before spraying. Fill a backpack sprayer. Spray early in the morning or late in the evening to avoid burning leaves in the midday sun.

*Tip:* If you do not have a backpack sprayer, apply tea to the soil using a gallon jug, and a spray bottle to mist the foliage.

## PLANT GROWING GUIDES

Here are vegetable growing guides for five popular crops, including three popular vegetables (beets, carrots, and tomatoes) and three popular herbs (basil, thyme, and rosemary).

For over 100 plant growing guides, go to [Almanac.com/plants](https://almanac.com/plants).

### How to Grow Beets

Beets are delicious, whether grated into salads, roasted in oil, boiled, or made into soup (borscht). They're also really easy and quick to grow from seed.

For best results grow beets in rich, fertile soil in full sun. (They can also be grown in containers.)

### Sowing Seeds

- Sow seeds outdoors from mid-spring until the middle of summer. (You can sow a couple of weeks earlier using a hoop house or row cover for protection.) Our Garden Planner will recommend ideal sowing times for your location.
- Mark out seed drills into prepared soil 1 inch deep and 1 foot apart.
- Pop a beet seed into the drill every 1 to 2 inches.
- Cover the drill over with soil and pat down.
- Alternatively, sow seeds into plug trays, which are great for early crops started under cover. Sow two or three seeds into each cell.

Note: Beet seeds are actually capsules that contain several seeds, so you may get two or three sprouts from each one.

### After Germination

- Thin out rows of direct-sown seedlings to 4 inches apart.
- Plant clusters of plug tray-grown seedlings 8 to 10 inches apart in each direction. The plants will naturally push each other apart as they grow, and don't need to be thinned.
- Keep plants watered in dry weather. This will promote good, even growth and reduce the risk of bolting, or flowering, which renders the root inedible.
- Keep beets weeded by hand, or by carefully hoeing between rows.

### Harvesting and Storing

Harvest beets when they're between the size of a golf ball and the size of a tennis ball. Dig them out, or just gather the base of the stems and twist the root out of the soil.

*Tip:* If you experience mild winters you can leave beets that were sown later in the season in the ground longer, harvesting as you need them. Or, store roots in boxes of dry sand in a cool, dry, frost-free place.



## PLANT GROWING GUIDES

### How to Grow Carrots

Carrots are a popular root vegetable that are easy to grow in sandy soil. They are resistant to most pests and diseases, and are a good late-season crop that tolerates frost.

#### Planting

- Plant seeds outdoors 3 to 5 weeks before the last spring frost date.
- Make sure your soil is free of large rocks; carrots need deeply tilled soil that they can root down deep.
- Soil should be well drained and loose to prevent forked and stunted growth.
- Plant seeds 3 to 4 inches apart in rows. Rows should be at least a foot apart.

*Tip:* Do not add fresh manure before sowing seed; it can cause carrots to fork and send out little side roots.

#### Caring

- Gently mulch to retain moisture, speed germination, and block the sun from scorching the roots.
- Once plants are an inch tall, thin so they stand 3 inches apart. Snip them with scissors instead of pulling them out to prevent damage to the roots of remaining plants.
- Water at least 1 inch per week.
- Weed diligently.
- Fertilize 5 to 6 weeks after sowing.

*Tip:* Carrots taste much better after a couple of frosts. Following the first hard frost in the fall, cover your rows with an 18-inch layer of shredded leaves to preserve them for harvesting later.

#### Harvesting and Storing

- Carrots are mature at around 2 ½ months and ½ inch in diameter—that's the time to start harvesting.
- You can leave mature carrots in the soil for storage if there is no threat of the ground freezing.
- To store freshly harvested carrots, twist off the tops, scrub off the dirt under cold running water, let dry, seal in airtight plastic bags, and refrigerate. If you simply put fresh carrots in the refrigerator, they'll go limp in a few hours.

*Tip:* Carrots can be stored in tubs of moist sand for winter use.



# PLANT GROWING GUIDES

## How to Grow Tomatoes

Tomatoes are America's favorite garden vegetable. (Technically, we eat the fruit of the tomato plant, but it's used as a vegetable in eating and cooking and, thus, usually categorized in vegetables.)



### Planting

- If you're planting seeds (versus purchasing transplants), you'll want to start your seeds indoors 6 to 8 weeks before the average last spring frost date. See our post on "Tomatoes From Seed the Easy Way."
- Select a site with full sun and well-drained soil. For northern regions, it is very important that your site receives at least 6 hours of sun. For southern regions, light afternoon shade will help tomatoes survive and thrive.
- Two weeks before transplanting seedlings outdoors, till soil to about a foot and mix in aged manure, compost, or fertilizer.
- Harden off transplants for a week before moving outdoors.
- Transplant after last spring frost when the soil is warm. See our Best Planting Dates for Transplants for your region.
- Plant seedlings two feet apart, pinching off a few of the lower leaves and planting the root ball deep enough so that the remaining lowest leaves are just above the surface of the soil.
- Water well to reduce shock to the roots.

*Tip:* Establish tomato stakes or cages in the soil at the time of planting. Staking keeps fruit off the ground, while caging keeps the plant growing upright. Some sort of support system is recommended.

### Caring

- Water generously for the first few days.
- Water well throughout the growing season, about 2 inches per week during the hottest part of the summer.
- Mulch 5 weeks after transplanting to retain moisture.
- To help tomatoes through periods of drought, place a few flat rocks next to each plant; the rocks will pull water up from under the ground and keep it from evaporating.
- Fertilize 2 weeks prior to the first harvest and again 2 weeks after the first harvest.
- If using stakes, prune plants by pinching off suckers so that only a couple stems are growing per stake.

### Harvesting and Storing

- Leave your tomatoes on the vine as long as possible. If any fall off before they are ripe, place them in a paper bag with the stem up and store them in a cool, dark place.
- Mature, ready-to-harvest tomatoes are firm and very red, regardless of size, with perhaps some yellow remaining around the stem. A ripe tomato will be only slightly soft. Pick tomatoes continuously as they redden.
- If your tomato plant still has fruit when the first hard frost threatens, pull up the entire plant and hang it upside down in the basement or garage.
- To freeze, core fresh, unblemished tomatoes and place them whole in freezer bags or containers. Seal, label, and freeze. The skins will slip off when they defrost.

*Tip:* Never place tomatoes on a sunny windowsill to ripen; they may rot before they are ripe.

Also, never refrigerate fresh tomatoes. Doing so spoils the flavor and texture.

## PLANT GROWING GUIDES

### 3 Easy-To-Grow Herbs

Basil, thyme, and rosemary are among the most popular homegrown herbs. Here are some growing tips for each:

#### Basil

- Start seeds indoors 6 weeks before the predicted last spring frost date.
- Ensure your outdoor site gets 6 to 8 hours of sun daily.
- Plan to transplant seedlings into moist, well-drained soil. (If you are going to cook with your basil—or any herb—be sure to plant into clean soil; and don't use fertilizers that leave toxic residues. Also grow it away from driveways and streets so that exhaust won't settle on your plants.)
- After the last spring frost date, plant seedlings in the ground about ¼ inch deep and 10 to 12 inches apart. (The soil should be around 70°F for best results.)
- During the dry periods in summer, water your plants freely.
- Pinch off the flower heads as soon as they appear to make sure that all of the plant's energy is going into leaf production.



#### Thyme

- Thyme is best grown from either cuttings or transplants, rather than seed, as it is slow to germinate.
- For a head start, plant cuttings indoors 6 to 10 weeks before the predicted last spring frost date.
- In early spring, transplant them outside into well-drained soil, spacing them about 9 inches apart. (For best growth, the soil should be about 70°F.)
- Water regularly and give the plants an occasional trim to stimulate new growth.
- Thyme is a perennial herb, meaning it will overwinter in cold climates; add a layer of mulch around the plants after the ground freezes.

#### Rosemary

- Plant seeds or cuttings indoors 8 to 10 weeks before the predicted last spring frost date.
- Plant seedlings outdoors in well-drained soil. (The soil should be around 70°F for best results.)
- If left unchecked, rosemary can become a very large, gangly shrub, so prune it regularly to keep it a manageable size. And give it a light trim after it flowers to encourage tender new leaf growth.
- Water the plants evenly throughout the growing season.
- For fresh rosemary in the winter, grow the plant indoors in a pot. Be sure to put it in a cool place where it will receive bright light.

## GARDEN PESTS

When it comes to addressing pests in the garden, the first step is determining the problem. Look for signs of insect damage and symptoms of disease and note any distinguishing characteristics—key indicators of what is plaguing your plants. Bear in mind that 95 percent of garden guests are either helpful or harmless. You want to protect beneficial insects while eradicating pests. Keep an eye out for ladybugs, bees, moths, butterflies, wasps, and beetles—just a few of the “good guys.”

For a list of common pests and diseases and how to control them, visit The Old Farmer’s Almanac Garden Plant Pest and Disease Control Library at [Almanac.com/pests](http://Almanac.com/pests)

## RAISED BED GARDENING

Many gardeners swear by raised beds for their ease and effectiveness. In raised beds, which are essentially large planter boxes, you are able to concentrate your energy in a small area, meaning you can work, water, weed, and fertilize as economically as possible. Additionally, raised beds . . .

- Prevent soil compaction (you are not stepping in the beds)
- Produce a higher yield for the area, due to better drainage and deep rooting
- Keep a barrier between your crops and pests, such as slugs and snails, as well as weeds
- Stop garden soil from washing away with heavy rains
- Allow for a longer growing season, since you can work the soil more quickly in the spring in frost-hardened regions where the ground takes longer to thaw

Raised garden beds are fairly easy to construct. Here is advice on how to build a raised garden bed for your backyard:

### Choosing Materials

Common pressure-treated lumber that’s sold today has been treated with chemicals to prevent moisture from rotting it. If you have reservations about using it, there are various eco-friendly alternatives, such as cedar, which contains natural oils that prevent rotting. (It’s more expensive but will last for years.) Also, choosing thicker boards can help to make the wood hold up longer. For example, 2-inch-thick locally-sourced larch should last 10 years, even without treatment. You can also use concrete blocks or bricks, but bear in mind they will increase the soil pH over time.

### How to Build a Raised Bed

#### Materials

- 3 boards, 2x12 inches, 8 feet long
- 1 board, 2 x4 inches, 8 feet long
- 28 galvanized deck screws, 2 ½ inches

## RAISED BED GARDENING

### How to Build a Raised Bed (continued)

#### Instructions

1. Cut one of the 2x12-inch boards in half to make two 4-foot lengths; these will be the two end pieces.
2. Cut the 2x4-inch board into one 4-foot length (for the center brace, which will prevent the sides from bowing outward when the bed is filled with soil) and four 1-foot lengths (for the corner supports). The two uncut boards will become the sides of the raised bed.
3. Attach one of the side boards to an end board with three evenly spaced screws.
4. Place a corner support in the right angle formed by the boards and attach it to the side board with three screws. Repeat until all four sides are attached.
5. Position the center brace at a right angle to the side boards at their midpoints and attach.

#### Soil for Raised Beds

Fill the beds with a mix of 1/3 topsoil, 1/3 compost, and 1/3 other organic material, such as manure, to give your plants a nutrient-rich environment. Note that the soil in a raised bed will dry out more quickly. During the spring and fall, that's okay, but during the summer water more often and add straw, mulch, or hay on top of the soil to keep moisture from evaporating.

#### Plants for Raised Beds

Almost any crop can be grown in a raised bed. Vegetables are most common, but fruit and flowers are also options. Think about the growing habits of your crops and plant them where they will have room to grow and optimal sunlight. Some plants, such as cucumbers and summer squash will hang over the edge, where they might get trampled, so consider planting them toward the middle of the bed.



## CONTAINER GARDENING

For those of you who don't have a lot of space with which to work, consider planting your veggies in containers. This method also keeps time and cost to a minimum.

### Tips for Growing Veggies in Containers

- Avoid small containers, as they often can't store enough water to get through hot days. Larger pots hold moisture better . . . plus, the bigger your container, the more plants you can grow.
- Clay pots are usually more attractive than plastic ones, but plastic retains moisture better than unglazed terra-cotta. To get the best of both, slip a plastic pot into a slightly larger clay pot.
- You can also use barrels, buckets, baskets, boxes, tubs, and troughs—anything that holds soil. Just be sure that it has drainage holes in the bottom.
- Hanging baskets make good use of space, and plants grown at eye level can be easily tended and harvested.
- Place containers where they will receive maximum sunlight and good air circulation.
- Vegetables that can be easily transplanted, such as peppers and cherry tomatoes are best suited for containers. Transplants can be purchased from local nurseries or started from seed at home.
- Before planting, add about 1 inch of coarse gravel in the bottom of the container to improve drainage.
- To keep plants adequately cool and moist during hot summer days, double-pot them: Place a small pot inside a larger one and fill the space between them with sphagnum moss or crumpled newspaper. When watering the plant, also soak the filler between the pots.
- Feed container plants at least twice a month with liquid fertilizer, following the instructions on the label. (An occasional application of fish emulsion or compost will add trace elements to container soil.)
- Watch for and control insect pests.

## PREPARING YOUR GARDEN FOR WINTER

- Once temperatures start to dip toward the frost point, cover your vegetables with old sheets or light blankets on cold nights to extend the season a wee bit longer.
- Leave root crops such as beets, parsnips, carrots, and garlic for harvesting through early winter. Cover them with a heavy layer of mulch and mark the rows with tall stakes so that you can find them in snow.
- Pull up tomato, squash, pea, and bean plants. If they're disease-free, compost them. If any are diseased, either burn them or discard separately. Pull up and put away the stakes.
- Before the ground gets too hard, remove all weeds and debris to eliminate overwintering sites for insects and disease.
- Once the garden soil is exposed, add a layer of compost, leaves, manure (if you have it), and lime (if you need it). Gently till into the soil.
- Another option is to sow cover crops such as winter rye to improve your soil quality and prevent weed seeds from taking root.
- If some areas have hopelessly gone to weeds, cover them with black plastic and leave it in place over the winter and into the spring to kill sprouting seeds.

So there you have it—the ABCs of how to toil in the soil. In addition to having fresh veggies from your own backyard, tending a garden offers opportunities to make exciting discoveries every season. So relax, think small, and—with a little help from your green thumb—let nature take its course!

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