

How to Start Seeds

A Complete Guide



Cherokee Purple

Family: Solanaceae. Nightshade family, includes tomatoes, potatoes, perennials, hoodlums, Chinese lantern, and eggplant.

Native: Andes

Hardiness: Annual, very frost sensitive

Plant Dimensions: vines up to 6' or longer

Variety Information: 10-12 oz. thin-skinned round purple fruits with thick red-colored interior. Cherokee Purple is an indeterminate type tomato. It was developed in the late 1930s. Native to American Cherokee, give seeds to the labor. One hundred years later, the tomato was renewed, and the seeds became available to the public through local sales.

General Information: Tomatoes are grouped into three main types according to growth habit and production. DETERMINATE tomatoes grow in a compact, bush form. Fruit remains little or no staking. Fruit grows on the ends of the branches, and most of the crop ripens at the same time, which is great for preserving. One or more successive plantings will ensure an extended harvest period.

INDETERMINATE tomatoes bear fruit clusters along a trailing stem, usually reaching 6' or longer growing seasons, plants may grow to 10' or more. The plants continue to grow and produce fruit all season until your first frost. In all seasons, these plants will grow DETERMINATE. These plants will grow larger than determinate varieties, but not as large as indeterminate. They produce a main crop that ripens at once, but will also continue to produce up until frost.

Optimal GROWING

different plants by covering roots, mulching, and transplanting.

leaving one to two feet of space above ground. The top of the seedling above ground will naturally reach toward the sun and right fruit.

When using a support, place the stake in position at transplanting time to avoid root damage. **SOIL:** Well-drained and rich in organic matter. **WATER:** Tomatoes need about 1"-2" of water per week, depending on the type of soil they are growing in. 1 or 2 deep soakings per week are sufficient for most tomatoes. The main cause of drought stress followed by excessive moisture, this fluctuation reduces the plant's uptake of calcium. Avoid blossom and rot by watering deeply on a regular basis, and mulching after the weather warms and plants are well established.

BLOSSOM END ROT is a common problem and appears as a dark area at the blossom end (bottom) of the tomato. The main cause is drought stress followed by excessive moisture, this fluctuation reduces the plant's uptake of calcium. Avoid blossom and rot by watering deeply on a regular basis, and mulching after the weather warms and plants are well established.

EXPOSURE: Full sun, at least 6 hours per day. Temperatures above 90°F at night are required for fruit set. Nighttime temperatures above 75°F in the summer inhibit fruit set. **FERTILIZER:** Tomatoes are medium feeders and may benefit from fertilizer during the growing season if soil is deficient. When plants are small, use a balanced, or nitrogen-rich fertilizer,

TOMATO POLE Cherokee Purple

Solanum lycopersicum



FROST SENSITIVE
80 DAYS from transplanting
Sow after last chance of spring frost
INDETERMINATE TYPE

HEIRLOOM
This old-fashioned variety from Tennessee has a rich flavor and striking color that sets it apart from the rest. Very productive plants.



PEEL BACK FLAPS MORE INFO INSIDE

TOMATO Cherokee Purple

Cherokee Purple is said to have been given to a Tennessee family by the Cherokees over 100 years ago. This treasured tomato has just the right balance of sweetness and a hint of smoke, making it a winner in taste tests. From summer through 10-12 oz. tomatoes from this well-regarded heirloom variety that reach 6' or more. This packet provides support for vigorous vines when started indoors.

When to sow outside: For mild climates only 14-2 weeks after your average last frost date, and when soil temperature is at least 60°F.

When to start inside: RECOMMENDED
Transplant when air temperature is 45°F or warmer, usually 10-2 weeks after your last average frost date. Ideal soil temperature for germination is 70-90°F.

OPEN POLLINATED AND UNSELECTED

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By the Colorado Dept. of Agriculture

In the Kitchen

How to Store: Store tomatoes at room temperature in a single layer for a week or two, depending on if they are set, picked, ripe or bushy. Refrigeration changes the texture of fruit and can make them mealy.

Illustrated by Donna Clement

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HIGH-QUALITY SEED

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Top 5 Reasons to Garden From Seed

by Judy Seaborn, Co-owner

Gardening from seed has big advantages.

The experience of taking what looks like a tiny stone, sowing it, and watching it grow, seems magical; it is faith realized, and it nurtures us as we nurture it. While sometimes that inspiration is all we need to garden from seed, there are some other very important reasons, too.

1. Know what you grow.

Did you know that many of the conventionally-grown vegetables at the grocery store test positive for pesticide residue even after washing and peeling? Some of the worst offenders are spinach, tomatoes, celery, and peppers. The choice of organic foods and goods is a lifestyle path that many have adopted. Growing your own allows you to choose what goes into your family's food, where it came from, and how fresh and nutritious it is; you simply can't get more local! When goodness and love go in, goodness and love come out in the harvest.

2. Save money.

Growing from seed is much less expensive than buying plants or produce, especially organic choices. For example, most food gardeners I know grow green beans because the quality is so much better than the grocery store and they are a pretty easy crop (they also add nitrogen to the soil!). A seed packet of bush beans sows about 16 feet of bean plants which will yield about 7 lbs. of beans.



The cost of the packet is \$2.69. A six pack of plants will run you \$4 and only plants 2 feet (psst...green beans don't transplant well so expect lower yields). Five pounds of (less than fresh) green beans at the grocery store will cost around \$15. Did we mention the seeds in our example are certified organic?

3. More choices.

Grocery stores and garden centers offer only a fraction of available selections. Gardening from seed gives you the option to grow something unique, exotic, or rare. We frequently hear from gardeners that they never knew they liked tomatoes until they grew a variety bred for flavor and not shelf life. This is why we are always scouting and trying new varieties to add to the over 600 proven varieties we already carry; so you can sow and grow exactly what you are looking for.

Top 5 Reasons to Garden From Seed cont.

4. Reduce plant stress.

Nature direct-sows, and in many cases sowing seeds in place versus transplanting from greenhouse-started plants leads to quick, stress-free growth, meaning faster, and often more flowers and fruit, particularly in the case of plants that are sensitive to root disturbance. This is especially true of quick-to-mature crops like mesclun and cilantro, or root crops, sunflowers, and those in the Cucurbit (cucumbers, squash), bean and pea families to name a few.

5. Perfect timing.

There are advantages to starting some crops early indoors; usually vegetables that tolerate transplanting and take a long time to mature, like peppers, onions, or tomatoes. Starting these indoors gives me a head start in my

shorter growing season, as I would never see a pepper produce fruit if I sowed it directly outdoors.

I can't tell you how many times I have wandered out to the garden saying, "Let's see what's for dinner." I slow down from my busy day when I stroll out to the garden with a glass of wine and my favorite wooden bowl to see what piques my culinary interest that evening; a personal reward for all my time spent nurturing the garden!



Seed Starting Guide

Botanical Interests makes seed gardening easy!

Every Botanical Interests seed packet is rich with information on both the outside and inside to guide you through each step of growing from seed, to ensure your gardening success.

We use your average last frost date to determine when to sow because it is based on your own garden's climate. The front of each packet highlights the variety's best qualities, while the back has more in-depth information to help you choose what is right for you and your garden. On the inside of every packet you will find the best growing conditions for the variety along with information about special care, organic gardening methods, and tips to improve your garden throughout the seasons. With hundreds of varieties of flower, herb, and vegetable seeds that are untreated and Non-GMO Project Verified, Botanical Interests will inspire and educate the gardener in you!

Should I start my seeds indoors or outdoors?

back of packet

When to sow outside: 2 to 4 weeks before your average last frost date, and as late as 2 months before your average first fall frost date.

When to start inside: 8 to 10 weeks before your average last frost date. If started inside early enough, may bloom first year.

There are benefits to both methods. Sowing outdoors is often the way to get the best results, and you'll save time sowing directly in the garden. Usually, plants sown directly outdoors are more vigorous and healthier



than transplants. Large-seeded crops such as beans, corn, and squash germinate quickly when sown directly into warm soil, often within a few days. Root crops such as carrots, beets, turnips, and radishes should always be sown where they are going to grow so their roots develop undisturbed.

The advantage of starting certain seeds indoors is that you get a head start on the season, and you have more control over the growing conditions. For crops like tomatoes and peppers that take a long time to produce fruit, starting indoors is usually preferred. Also,

Seed Starting Guide cont.

annual flowers started indoors will flower earlier in the season, and perennial flowers may flower in their first year. Many varieties need warm soil temperature to germinate, so if you don't start them inside, you may have to wait to sow outdoors until 2 to 4 weeks after your average last frost date.

Each packet gives you indoor and outdoor sowing instructions and often a recommendation to which is preferred for that variety.

Optimal Growing Conditions

SOIL: Poor to rich, well-drain soil. **WATER:** Fairly drought to once established, but perform with regular watering. **EXPOSURE:** Full sun. In hot climates, afternoon shade can be helpful. **FERTILIZER:** Not usually necessary in rich soil. **SPECIAL CARE:** Deadhead (remove spent blossoms) to extend the blooming period. Mulch heavily after plant has gone dormant. Every 2 or 3 years, divide plants and the root clumps in the spring.

Recommended growing conditions found inside packet

When is the correct time to sow seed in my garden?

Botanical Interests uses the average last frost date as a guideline for when to sow seed. This is identified as the first day in spring when there is less than a 50% chance a frost will occur (see page 9).

If you don't already know your average last frost date, contact your local, independent garden center or local Cooperative Extension. There are also websites that provide maps and charts with frost dates specific to your city or zip code. Use that date as a guideline to sow seed at the correct time for your location.

It's also helpful to know your average first fall frost date so you can determine the number of frost-free days in your growing season, helping you to better plan your garden.

See pages 15-18 for a helpful guide for when to sow crops.

Starting Your Garden Outdoors

Soil: Your soil can be very different even from soil that's in a neighboring yard. A soil test can help you determine what type of soil you have and provide suggestions for improving it. Contact your local Cooperative Extension for information about soil testing.

Temperature: Use a soil thermometer to determine the temperature of the soil right before sowing, as optimal seed germination temperatures may vary by variety.

See page 10 for more information on soil temperatures.

Seed Starting Guide cont.

Moisture: After sowing seed, make sure the thin top layer of soil where the seed is growing stays moist, but not soggy. Depending on your garden's climate, you may need to water more than once a day to keep the seed and soil moist. Too little moisture can prevent the seed from germinating, while too much water can contribute to seeds rotting.

Light: Most flowers and vegetables need at least 6 hours of direct sun each day, which is considered "full sun". Some plants will grow in "part shade", 3 to 6 hours of direct sun each day, and filtered sunlight through trees or structures the rest of the day. A few types of plants will be happy in complete shade, or filtered or indirect sun.

Starting Seeds Indoors

Containers and trays: Almost any container can be used to start seeds including milk or egg cartons, yogurt cups, or berry containers. When reusing any container, it should be cleaned, sanitized, and have holes in the bottom for drainage. For easy transplanting, sow in a biodegradable pot that can be planted directly into the garden. This saves you time and minimizes root disturbance to your seedling. Try Botanical Interests eco-friendly, pop-open Recycled Paper Pots.

Medium: High-quality seed-starting mix is loose and lightweight yet holds moisture and is free from sticks and bark. Avoid potting mixes, which can be heavy and contain large chunks, or soil from your garden that may have pests, weeds, or diseases. It is a good idea to moisten medium before filling your container.

Temperature: Optimal medium temperatures for seeds to germinate will vary for each

variety. Once the seeds germinate, though, room temperature (70°–75°F) will help most seedlings grow best. Warm-weather-loving plants such as tomatoes, eggplants, and peppers appreciate warmer soil conditions and may benefit from the use of a special heat mat when sown indoors.

Moisture: Covering your containers with a clear lid or clear plastic wrap helps retain moisture and increase humidity during germination. After your seedlings emerge, remove the cover. A spray bottle or mister is a great way to keep growing medium moist without damage to seeds and young seedlings. Check soil regularly to prevent seeds and seedlings from drying out; moist, but not soggy is ideal.



Seed Starting Guide cont.

Light: For best growth, seedlings need at least 14 hours of light per day. Even your sunniest window may not supply enough light to grow strong plants. To provide adequate light, we recommend using a shop light with cool white or a mix of cool and warm white fluorescent bulbs placed 1"-2" above the seedlings. You could also purchase special grow lights. To make it easier, plug your lights into a timer that is set to turn on and off automatically.

Circulation: Air circulation around seedlings can help prevent disease problems while strengthening seedlings. A fan on low setting, not pointed at the soil, provides airflow without drying the soil.

Fertilizer: If your medium does not contain nutrients, you can use a water-soluble fertilizer when seedlings have at least two sets of leaves. Check the label for the recommended rate to mix for seedlings.

Hardening off: This is the final step before planting your seedlings into the garden. It is a 7 to 14-day transition period that helps the tender seedlings adjust to outdoor conditions, including exposure to direct sunlight, wind, and changes in temperature.

On the first day, put seedlings in a protected location out of direct sun and wind. Leave them outdoors for 1 to 2 hours then bring them back indoors. Each day, leave them outdoors longer, and gradually move them into more exposed areas, while checking the soil moisture frequently.

Enjoying Your Garden

Now you're ready for a successful gardening season! Read the inside of the seed packet for harvesting tips, how to store vegetables and herbs, delicious recipes, and how to use flowers in your landscape and arrangements.

Gardening from seed is very rewarding. We hope that every packet of Botanical Interests seed will further inspire and educate the gardener in you.

In the Kitchen

How to Store: Rinse radishes in cold water, remove tops (store separately) and store both in sealed containers in the refrigerator. Greens store up to a week, and roots store for up to 3 weeks.

Recipes: RADISH CONFETTI SALAD
INGREDIENTS: 2 c. radishes, washed and trimmed, 1 medium carrot, 1 celery stalk, 2 tbsp. chives cut into one-inch pieces, 1/4 c. olive oil, 1/4 c. rice

Look for recipe and craft suggestions inside each packet.

Stratification and Scarification

Have you seen special germination instructions on the back of our seed packets? Don't worry! These extra steps are easier than you may think.

Scarification

Seeds with a hard, almost impenetrable seed coat ("testa") need some help breaching the seed coat to allow the seed to absorb ("imbibe") water so it can germinate. In nature, these seeds would go through a process of freezing and thawing that would naturally break this seed coat. Here are a few easy ways to mimic the natural process (with most seeds you can choose any one of these three).

Roll seeds over sandpaper or a file. Once you see a color change in the seed coat, they are ready; you don't want to damage the inside of the seed. You can also line a container (like a film canister or tin can) with sandpaper and shake the seeds inside the container for about one minute.

Nick the seed coat with a nail clipper or knife on the opposite end of the area that looks like an "eye spot" (or the pointed end in some cases), which is where the first root ("radicle") will emerge, always being careful not to damage any tissue inside of the seed.

Soak seeds in tepid water for 12 to 24 hours (not longer; seeds need air too).

Scarification should be done just before sowing, since this treatment leaves seeds vulnerable to decay.



Stratification and Scarification cont.

Stratification

Stratification is a cold, moist period that breaks seed dormancy. In nature, this process occurs in winter, keeping seeds from germinating until conditions are more ideal in the spring. Perennials (plants that live for several years) are more likely to require stratification.

You can promote natural stratification by sowing in the fall for spring germination. You may experience a little seed loss due to critters, but because this is an easy method, most gardeners feel it is worth it.

Stratify using your refrigerator.

Sow seeds into a sanitized container of moistened seed-starting mix, following instructions on the packet for seed depth.

Cover the container with plastic wrap.

Place the container in the refrigerator for 3 to 8 weeks, checking moisture regularly. Refer to the seed packet for the ideal number of weeks to stratify.

Remove the container and place in a warm (some packets list an ideal temperature range), indoor area, leaving the plastic wrap in place until seeds have germinated. Refer to the seed packet for any special light or darkness requirements for best germination. Keep seeds and seedlings moist.



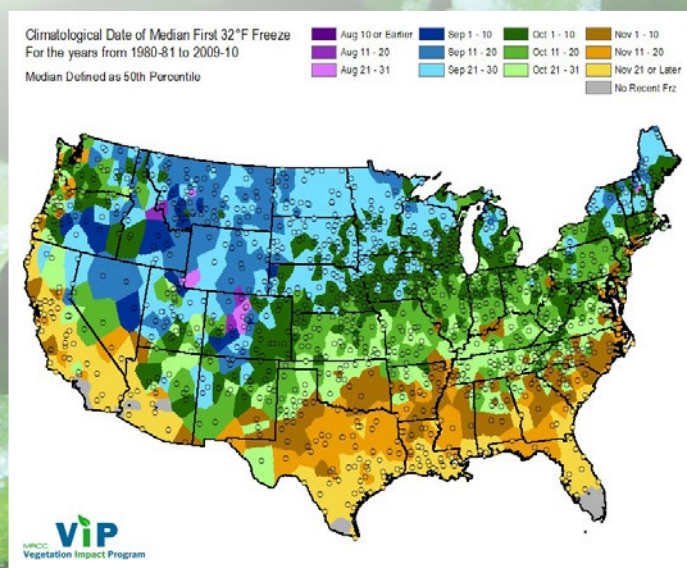
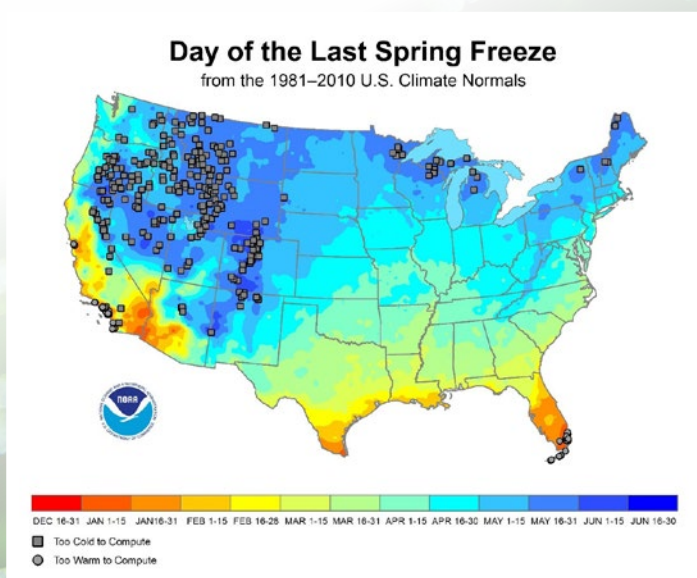
Average Last Frost Dates and Maps

How do I use my average first and last frost dates?

Helping home gardeners grow their best garden is our mission. To do that, we suggest using your average last frost date to help determine the best time to sow your seeds. Using your average last frost dates is different from referencing your USDA Hardiness Zone. While the hardiness zone does tell you your average coldest winter temperature, it doesn't tell you much more about your climate or growing season. Your average last frost date is the date that there is a 50% chance that frost is over until the end of your season. This date guides your sowing calendar, and in short-season areas, it may guide your variety choices. Check your seed packets or our Indoor and Outdoor Sowing Guides to fill in your sowing calendar.

How do my average last and first frost dates help me choose varieties?

Once you know your average last frost date, you can count days until your average first frost date to see if your growing season is long enough to grow the variety, using the days to maturity. Our vegetable packets list the "days to maturity" which means the number of days it will take to produce fruit with ideal conditions.



Soil Temperature for Higher Germination

Soil temperature is just as important as proper moisture to quickly achieve optimal germination rate. Without the right soil temperature range, germination can be delayed or prevented, and the germination rate will decrease. Temperatures below minimum can leave seed vulnerable to mold or hungry wildlife.

Soil temperature generally lags behind air temperature in spring, which may require you to wait longer to sow, consequently eliminating direct-sowing of some longer-season varieties from your garden. For example, some pumpkins take 120 days to mature, but also require soil temperatures of 70°–90°F for germination. If your soil doesn't typically warm in time for a variety to mature, you can start those seeds indoors, essentially extending your growing season by giving plants a head start. Even inside, however, some plants will need additional heating to maintain that ideal soil temperature; for those plants, use a waterproof seedling heat mat. Using a soil

thermometer will also give you an advantage towards successful germination, as you can monitor and adjust the indoor environment to reach the optimal temperature. Germination temperature requirements are often higher than what the plant needs to grow, so once germinated, most varieties can be transplanted into cooler soils (after hardening off, and your average last frost dates).

How to use your soil thermometer

A soil thermometer is an easy-to-use, indispensable tool that can make gardening from seed more successful, helping you achieve a great germination rate. Here are some tips for using a soil thermometer to accurately measure soil temperature.

Take soil temperature measurements twice a day for an average, in the early morning and in the afternoon/evening. Taking and recording readings over a couple of days will give you an even more accurate average of your current soil temperature.



Soil Temperature for Higher Germination cont.

Tips:

- Place the thermometer 1"-2" in the soil for seeds, and as deep as the pot in the case of transplants.
- Shade the thermometer if it is in direct sun.
- Thermometers may read slowly, so wait until the temperature holds steady.
- Store your soil thermometer indoors, away from moisture.
- Reference our soil temperature chart below!

Note: A soil thermometer with a metal probe is sturdiest and safest. If your thermometer's probe is glass, create a pilot hole with a tool like a screwdriver that is slightly narrower than the thermometer probe. The slightly smaller hole will ensure the thermometer is still getting good soil contact.

Ideal Soil Temperatures for Vegetables

Variety	Ideal Soil Temperature Range for Germination (°F)	Variety	Ideal Soil Temperature Range for Germination (°F)
Amaranth	68-75	Leek	60-85
Artichoke	70-80	Lettuce	60-70
Arugula	50-70	Mache	40-68
Bean	70-85	Melon	70-90
Bean, Fava	40-75	Mustard	60-75
Beet	60-85	Okra	80-90
Bok Choy	75-85	Onion	60-85
Broccoli	60-85	Parsnip	50-70
Broccoli Romanesco	70-85	Peas	60-80
Brussel Sprouts	60-85	Pepper	70-90
Cabbage	75-85	Pumpkin	70-90
Carrots	60-85	Quinoa	45-50
Cauliflower	70-85	Radicchio	60-75
Celery	70-75	Radish	65-85
Collards	75-85	Rutabaga	60-80
Corn	65-90	Sorrel	68-86
Cucumber	70-90	Spinach	50-75
Edamame	70-85	Squash	70-85
Eggplant	80-90	Swiss Chard	75-90
Endive	60-70	Tomatillo	80-85
Fennel	60-75	Tomato	70-90
Kale	65-85	Turnip	65-80
Kohlrabi	65-85	Watermelon	70-90

10 TIPS

for Beginning Seed Gardeners

Even though it's one of our favorite things to do, at first, seed gardening can feel overwhelming. As with any new endeavor, a few tips from an expert can put your efforts way ahead, making the overwhelming seem very doable. Here's some of our best tips we've learned over the many collective years of seed gardening we have at Botanical Interests.

1. Focus.

What are your favorite flowers or vegetables? Make a short list and start with those, to ensure you will want to eat and enjoy what comes up in the garden.

2. Create a sowing calendar.

Find your average first and average last frost dates, which vary by area ([see page 9](#)). Use an internet search or contact your local Cooperative Extension. This will go a long way to guiding you as to the correct time to sow seeds of different varieties. Once you know your dates, use our Sowing Guides ([pages 15-16](#)) to create a garden specific to your growing season.

3. Sow outside.

If you don't already have grow lights and an indoor growing space, then start with seeds you can sow directly outdoors. The outdoors is a seed's natural habitat, making sowing simple, and in many cases it is the best option for the plant.



4. Keep it clean.

If you start seed indoors or outdoors in containers, always sanitize the containers and use seed-starting mix rather than garden soil, which can introduce pests and disease. [Read more about growing in containers.](#)

5. Test the soil.

Like humans, plants need particular nutrients for healthy, green growth and fruits. When those nutrients are out of balance, the result can be a beautiful, large tomato plant with no fruit or in the case of over-fertilization, it can leave plants susceptible to pests and disease and even cause pollution. A soil test from your local Cooperative Extension or private company can save you that frustration. Because there are so many fertilizer and soil amendment options, a soil test will tell you exactly what to add to make your soil ideal for what you are growing. If your results don't show major issues, great, no need to test annually. However, it is pretty safe

10 Tips for Beginning Seed Gardeners cont.

to assume that in a food garden you will likely want to add organic material annually because plants use up the soil nutrients, and once plants or fruits are harvested, those nutrients leave the garden (and go into your food), so they need to be replenished for a future successful garden.

6. Exposure.

Find where you get the most sun. Full sun means 6 or more hours of unshaded exposure, which is ideal for most vegetable plants. Some varieties will grow well in part sun/part shade, which means 3 to 6 hours of sunlight per day.

7. Water.

In the beginning of a plant's life it will need frequent, shallow waterings, but as it grows, watering more deeply and less frequently will promote deep, strong roots. If you aren't sure if your plants need more water, don't be afraid to poke a finger into the soil. The vast majority of roots will be in the top 6" of soil. Most established plants can handle the first 1" drying out temporarily, and drought-tolerant plants can handle even more.



8. Ask a friend.

Ask gardeners! Garden centers (and us!) are great resources for questions and concerns. If you're lucky enough to have a gardener friend, have them come visit. They may see opportunities and tips that you didn't think to ask about. Don't worry! All "expert" gardeners started at the beginning.

9. Keep a journal.

Growth as a gardener can really be helped along if you have a good record of when and what you grew, what excelled in your garden, what flavors you preferred, etc. This habit will help you to continue to move forward year to year, and it also gives you time to simply reflect in your garden. Our [Garden Journal template](#) can help keep your notes organized.

10. Stay positive.

Starting something new can always be a challenge. But as gardeners know, Mother Nature can dampen all your efforts, so it's important to look forward.

Gardening is part science experiment and part creative outlet. Seeds are designed to grow with soil and sun to feed them, and while they may not be originally adapted to our area, like peppers, we can learn a few tricks to help them along. If you ask almost any gardener, part of the fun of gardening is the learning, so let's get started! Learn more about seed starting with our seed starting articles.

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Indoor Sowing Guide

FLOWERS & ORNAMENTALS



10–12 weeks before your average last frost date

Columbine
Echinacea
Eucalyptus
Grass (Blue Grama)
Lavender
Petunia
Sea Holly
Verbena

8–10 weeks before your average last frost date

Bee Balm
Black-Eyed Susan
Cape Daisy
Carnation
Cottage Pinks
Dahlia
Dusty Miller
Feverfew
Lily Blackberry
Lobelia
Ornamental Pepper
Pansy
Salpiglossis
Salvia
Snapdragon
Statice
Stock
Sweet William
Viola
Yarrow

6–8 weeks before your average last frost date

African Daisy
Ageratum
Aster
Balsam
Bells of Ireland
Black-eyed Susan Vine
Bluebells (California)
Bluebonnet
Canterbury Bells
Castor Bean
Celosia
Chocolate Flower
Cleome
Coleus
Coreopsis
Craspedia
Cup and Saucer Vine
Cypress Vine
Delphinium
Four O'Clock
Foxglove
Gaillardia
Gazania
Gomphrena
Grass ('Bunny Tails')
Hollyhock
Hyacinth Bean
Hyssop ('Apache Sunset', True)
Iceplant
Impatiens

Larkspur
Linaria
Lupine (Russell Blend)
Mexican Sunflower
Milkweed
Nicotiana
Painted Daisy
Penstemon
Phlox
Poppy (Iceland, Oriental)
Portulaca
Pumpkin on a Stick
Scabiosa
Shasta Daisy
Strawflower
Sweet Annie
Verbascum

4–6 weeks before your average last frost date

Alyssum
Amaranth
Ammi
Bachelor's Button
Calendula
Cardinal Climber
Chinese Lantern
Cosmos
Flax ('Scarlet')
Forget-Me-Not
Grass ('Frosted Explosion')
Honeywort
Hyssop (Anise)
Marigold

Moonflower
Morning Glory
Orlaya
Sweet Pea
Zinnia

2–4 weeks before your average last frost date

Gourd
Money Plant
Nasturtium
Ornamental Millet
Sunflower

Can also be started indoors in late summer to early fall or winter in mild climates. See packet for specific information.

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Indoor Sowing Guide


VEGETABLES & HERBS




14–16 weeks before
your average last frost date

Strawberry


10–12 weeks before
your average last frost date

Artichoke 
Celery
Eggplant
Onion (Bulb, Shallot)
Rosemary




8–10 weeks before
your average last frost date

Dill
Endive
Leek
Onion (Bunching)
Pepper 
Savory
Stevia
Wild Bergamot

6–8 weeks before
your average last frost date

Borage
Cabbage (Head) 
Catnip
Chives
Lemon Balm
Marjoram
Mint
Oregano
Parsley
Sage
Tarragon
Thyme

4–6 weeks before
your average last frost date

Amaranth
Basil
Broccoli
Cabbage (Napa) 
Cauliflower 
Chamomile
Collards
Fennel
Ground Cherry
Kale 
Kohlrabi 
Lettuce
Okra
Potato
Shiso
Sorrel
Swiss Chard
Tomatillo
Tomato
Watercress

2–4 weeks before
your average last frost date

Bitter Melon
Broccoli Raab
Cucumber
Melon
Pumpkin
Spinach (New Zealand)
Squash (Summer, Winter)
Watermelon

1–2 weeks before
your average last frost date


Quinoa

2–3 months before
your average first fall frost date

Cabbage (Head, Napa)
Celery
Kale
Kohlrabi
Onion (Short-day bulbs—*Mild climates only*)
Potato (*Mild climates only*)
Radicchio

4 months before
your average first fall frost date

Brussels Sprouts 
Cauliflower 

 Can also be started indoors in late summer to fall or winter in mild climates. See packet for specific information.

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Botanical INTERESTS®

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Outdoor Sowing Guide

FLOWERS & ORNAMENTALS

6-8 weeks before your average last frost date

Gazania
Penstemon 🌿

4-6 weeks before your average last frost date, or as soon as the soil can be worked

Bluebonnet 🌿
Columbine
Feverfew
Flax (Blue and Breezy)
Gaillardia
Larkspur
Lavender
Lupine (Pixie Delight) 🌿
Pansy 🌿
Poppy 🌿
Snapdragon
Sweet Pea 🌿
Viola 🌿

2-4 weeks before your average last frost date

Bee Balm
Bells of Ireland
Black-Eyed Susan
Bluebells (California) 🌿
Calendula 🌿
Cleome
Echinacea
Flower Mix 🌿
Grass (Blue Grama) 🌿

Lily Blackberry
Love-in-A-Mist 🌿
Milkweed 🌿
Phlox 🌿
Shasta Daisy
Verbascum 🌿
Verbena
Wheat

1-2 weeks before your average last frost date

African Daisy 🌿
Alyssum 🌿
Ammi
Bachelor's Button 🌿
Carnation
Chinese Lantern
Chocolate Flower
Coreopsis
Flax (Scarlet) 🌿
Forget-Me-Not 🌿
Iceplant 🌿
Linaria 🌿
Painted Daisy 🌿
Salpiglossis 🌿

1-2 weeks after your average last frost date

Amaranth
Aster 🌿
Balsam
Black-Eyed Susan Vine
Broom Corn
Cape Daisy

Cardinal Climber
Castor Bean
Celosia
Coleus
Corn (Ornamental)
Cosmos
Cottage Pinks
Cup and Saucer Vine
Cypress Vine
Delphinium
Dusty Miller
Four O'Clock
Foxglove
Hollyhock
Hyacinth Bean
Hyssop (Apache Sunset, Anise)
Impatiens
Lobelia 🌿
Lupine (Russell Blend) 🌿
Marigold
Mexican Sunflower
Money Plant
Moonflower
Morning Glory
Nasturtium 🌿
Nicotiana
Orlaya
Portulaca
Salvia
Scabiosa
Stock 🌿
Sunflower
Sweet Annie
Sweet William
Zinnia

2-4 weeks after your average last frost date

Ageratum (Mild climates only)
Canterbury Bells
Craspedia
Dahlia
Eucalyptus
Gazania
Gomphrena
Gourd
Grass ('Bunny Tails', 'Frosted
Explosion')
Honeywort
Hyssop (True)
Ornamental Millet
Pumpkin on a Stick
Statice
Strawflower
Wheat
Yarrow 🌿

Late Fall - Early Winter

Forget-Me-Not
Hyssop (Apache Sunset)
Lupine (Pixie Delight)

🌿 Can also be sown in late summer to early fall or winter in mild climates. See packet for specific information.
v062422

Outdoor Sowing Guide

VEGETABLES & HERBS



8–12 weeks before

your average last frost date

Strawberry

6–8 weeks before

your average last frost date

Bean (Fava)

Cover Crop (Fava Bean, Soil Builder)

4–6 weeks before

your average last frost date

Baby Greens (Pea Shoots, Spinach)

Broccoli

Broccoli Raab

Cabbage (Head)

Chamomile

Chervil

Chives

Endive

Kohlrabi

Mâche

Mustard

Mustard Spinach

Onion (Bulb—except in mild climates)

Onion (Bunching)

Onion (Shallot)

Parsley

Pea

Can also be sown in late summer to early fall or winter in mild climates. See packet for specific information.

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Radish (Summer)

Rutabaga

Spinach (except New Zealand)

2–4 weeks before

your average last frost date

Arugula

Baby Greens (Swiss Chard, Arugula, Lettuce Mesclun, Mustard, Kale, Smoothie, Snappy, Superfoods)

Beet

Bok Choy (Baby Choy, 'Toy Choy')

Carrot

Catnip

Collards

Cover Crop (Crimson Clover)

Leek

Lettuce

Swiss Chard

Turnip

Watercress

Wild Bergamot

1–2 weeks before

your average last frost date

Borage

Cauliflower

Celery (Mild climates only)

Chinese Broccoli | Kailaan

Cilantro

Dill

Kale

Marjoram

Sorrel

1–2 weeks after

your average last frost date

Amaranth

Basil

Bean

Bitter Melon

Bok Choy (Tatsoi)

Cabbage (Napa)

Corn

Cucumber

Edamame

Fennel

Lemon Balm

Mint

Melon

Okra

Quinoa

Rosemary

Sage

Savory

Shiso

Spinach (New Zealand)

Squash (Summer, Winter)

Tarragon

Thyme

Tomato (Mild climates only)

Watermelon

2–4 weeks after

your average last frost date

Cover Crop (Common Buckwheat)

Eggplant

Ground Cherry

Oregano

Pepper (Mild climates only)

Pumpkin

Tomatillo

3–4 months before

your average first fall frost date

Brussels Sprouts

Cauliflower

Celery

Collards

Endive

Kale

Parsnip

Pea

Rutabaga

1–2 months before

your average first fall frost date

Cover Crop (Crimson Clover, Soil Builder, Fava Bean, Hairy Vetch)

Radicchio

Radish (Winter)

Late Summer - Early Fall

Artichoke (Mild climates only)

Chinese Broccoli | Kailaan

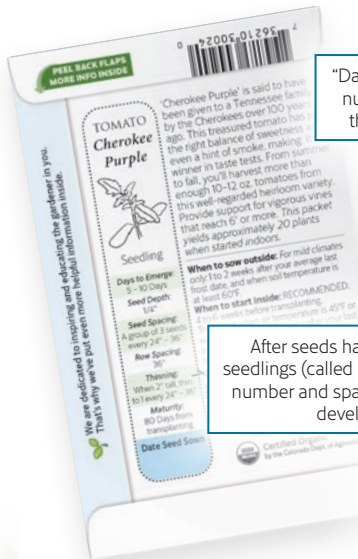
Onion (Short-day bulbs—Mild climates only)

Sorrel

Wild Bergamot

Botanical Interests' Seed Packet Plant Tag

Each packet of Botanical Interests' seed has a plant tag that details how to sow the seed for best germination and growth. You can also cut out the tag and use it to identify your seedlings and plants.



"Days to Emerge" refers to the approximate number of days from sowing a seed until the seedling emerges from the ground.

Use this spacing when sowing seed to avoid crowding and seed waste.

After seeds have germinated, remove extra seedlings (called "thinning") to the recommended number and spacing so seedlings can grow and develop to their potential.

Use this space to record when you've sown your seeds.

TOMATO
Cherokee Purple

Seedling

Days to Emerge:
5 - 10 Days

Seed Depth:
1/4"

Seed Spacing:
A group of 3 seeds every 24" - 36"

Row Spacing:
36"

Thinning:
When 2" tall, thin to 1 every 24" - 36"

Maturity:
80 Days from transplanting

Date Seed Sown

Every Botanical Interests' plant tag provides the variety or cultivar name for quick, at-a-glance accurate identification right in your garden.

Seedling illustration demonstrates what the seedling should look like after the leaves develop so you can distinguish the seed you sowed from undesirable weeds.

Sow seed at this depth for both inside and outside sowings to get the best germination.

"Row Spacing" refers to the distance needed between multiple rows of the same variety so plants have enough room to grow, as well as proper sunlight exposure and air circulation.

An estimate of when your vegetable or fruit will be ready for harvest.

Seed Depth Diagram

In most cases, the larger the seed, the deeper it should be sown. As a general rule, seed depth should be two to three times the width of a seed, with the exception of seeds that benefit from light.

