

• TRUE LEAF MARKET •



VEGETABLE GROWING GUIDE



*Roots, Remedies & Routines
for a Flavorful Life*



**WELCOME TO YOUR
TRUE LEAF MARKET
VEGETABLE PLANTING GUIDE!
IN THIS BOOKLET, YOU'LL FIND
HANDY AND CONCISE
INSTRUCTIONS ON HOW TO BEST
SPROUT, GROW, AND HARVEST
YOUR VERY OWN HOME GARDEN.
WHETHER NEW TO GARDENING
OR JUST IN NEED OF A QUICK
GARDEN REFERENCE, THIS
BOOKLET IS YOUR GO-TO GUIDE
FOR STARTING AND
MAINTAINING YOUR BEST
VEGETABLE GARDEN.**

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KNOW YOUR SEED

We know it can be overwhelming looking at all the varieties of seeds and their types, reading terms like “treated”, “untreated seeds”, and “heirloom” and “open pollinated”—you just hope that you’ll pick the right ones for you. We hope that the following will help you understand seed identifiers and how it can help you purchase the best seed for you and your style of gardening.

TREATED SEED

There are several kinds of seed treatments in the seed business. While treatments can vary, the most common treated seed we offer is a fungicide treated seed which helps to keep the seed from rotting in the ground in unstable spring weather when soil conditions are less than ideal—usually too moist. All treated seed is clearly marked as being treated in the title of the seed, i.e. Treated Blue Lake Bush Beans. Treated seed is typically purchased by our larger commercial customers.

PELLETED & MULTI-PELLETED SEED

When using a mechanism of some kind to plant their seeds, farmers and gardeners will turn to pelleted seeds, which are seeds usually coated in an inert clay. Very small seeds that are difficult to handle are coated to make them more manageable by machines and people for accurate and easy seed sowing. For example, some gardeners prefer working with pelleted carrot seeds because carrot seeds are so tiny and difficult to plant accurately. Often, some flower seeds are pelleted and multi-pelleted because of their microscopic size, such as Lobelia seeds.

Multi-pelleted seeds are multiple seeds bound together and coated in inert clay. With several seeds in one pellet, gardeners can expect germination. The clay will dissolve away, leaving the seeds in ideal conditions to sprout.

OPEN POLLINATED

Simply, open pollinated seeds are seeds produced from crops that are allowed to pollinate naturally by means of insects, birds, wind, and other natural mechanisms. Some seeds self-pollinate and don't require pollinators.



HEIRLOOM

There is no officially accepted definition of “heirloom”. In common use, the term is universally used to indicate an open pollinated seed which has remained consistent for several decades. In our product line, we use the term Heirloom for open pollinated cultivars with which we have had experience for 30 or more of our 45 years in the seed business. Some people claim heirloom seeds are the “original” variety of a plant, but that’s not necessarily true. If you trace a plant’s genetics back far enough you will find that these now heirloom varieties likely came from an intentional or natural crossing of two different plants, which leads us to our next term Hybrid.



HYBRID

The term “hybrid” indicates the crossing of two plants whether intentional or not. Hybrids are frequently frowned upon online, usually because they are confused with GMOs, but also frequently because some claim that the seed companies who sell them have engineered the seed to be “sterile” or unable to reproduce so that one cannot save their seed. This argument takes on the form of a conspiracy to control the world’s seed supply. Again, not true, especially for us, who pride ourselves on our sustainable practices.

It is true that saving your seed from a hybrid is not advisable, but saved seed will grow, it is just unlikely that your second-generation plant will produce similar results to the original plant. The reason is based in genetics not a board room (which after 43 years we have yet to acquire). Let’s look at dog breeding as an example of hybridization to see what is actually happening.

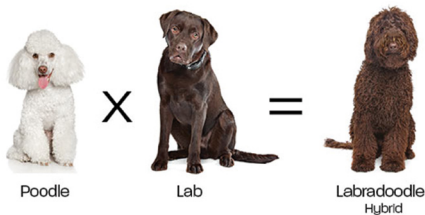


Figure 1.

When breeding a Poodle with a Labrador, the outcome is a Labradoodle, as seen in **Figure 1**. The Labradoodle is the hybrid. If we take our “hybrid” puppy and breed him with another dog, even if it also is a Labradoodle, the outcome is unlikely to result in a Labradoodle that looks identical to our first puppy. Still considered labradoodles, but aesthetically these hybrids look very different from each other, as seen in **Figure 2**.



Figure 2.

The new 2nd generation puppy may take on more of the Poodle or more of the Labrador line. That is the same with hybrid seeds. It is not that they won't produce, it is just that there is no way to guarantee that the plant won't revert back to more of one of its parental lines. Like most of the dog breeds we have today, hybrid seeds will become stable as continued generations create a “stable and consistent” population and eventually these seeds may become our grandkids' heirlooms.

Hybrid plants work the same way—they require

several generations of selective crossing to become stable enough to produce uniformly. Planting the seeds produced from a first-generation hybrid (marked as “F1”) plant won’t produce the same crop; it will likely revert back to one of its parents or cross breed with another plant nearby producing something other than the expected production of the previous season. People tend to label these seeds “sterile” because they don’t produce the same results a second time; however, that is only because they don’t have the genetic history behind them like heirloom seeds to be tenacious and to produce a reliable crop year after year. For example, the bicolor corn seen in **Figure 3** may revert back to yellow or white corn if it’s saved seeds are planted again next season.

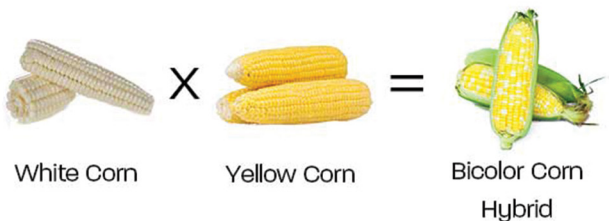


Figure 3.

LIFE CYCLE TERMS

Annual - Plants that go through a full life cycle over the course of one season or year, meaning the seed grows into a plant to seed again. Annuals will grow differently depending on the climate. For example, some annuals can bolt and go to seed very quickly in very hot climates, thus, ending its life cycle.

Biennial - A plant that requires two years to complete its life cycle. Biennials take a period of dormancy to complete its life cycle, which may be fruiting or going to seed. Usually the first year, the plants produce a root system, stems, and leaves. The second year is when the plant flowers or fruits.

Perennial - Plants that live for three years or more, where top foliage will die during the cold season each year, but then regrowing from the root system left behind. Some perennials have extensive lifespans, such as trees.



WHAT IS GMO SEED?

The term GMO is a term that is feared, misunderstood, and misused, leading to confusion about what a GMO seed really means. Genetically Modified Organisms (GMO) are living things, including seeds, whose DNA has been engineered outside the natural process of cross pollination to inherit desirable traits.

When we see anti-GMO social media posts or speak with people about what GMO means to them we find that most people don't really know why GMO is bad they just *know it is*. We are a little concerned that the lack of understanding of GMO is frequently dragging non-GMO seeds, such as Hybrids, into the discussion. We do have a concern with GMO but like most people who spend time really understanding the topic our concern is that the science is moving faster than the protections, labeling laws, and crop protocols. Many of the GMO products being grown today have used very impressive technologies to introduce NON-PLANT BASED genetics into plants. It is this "crossing" of two living organisms that nature would otherwise NOT allow that has us, and many others so concerned.

For us, we reiterate that we don't carry any type of GMO seed here at True Leaf Market.

KNOW YOUR GROW ZONE

Also known as hardiness zones, grow zones are USDA recommendations that track each region's Average Annual Extreme Minimum Temperature, allowing gardeners to know the coldest their garden may experience during the year. Grow zones don't determine whether a plant is suitable for a region, but merely enable you to know the average lowest temperature to determine whether a particular crop may do well in your garden. Understanding grow zones is generally most important for outdoor perennial gardening because most vegetable and flower crops will grow as a seasonal annual here in the United States.

As mentioned, the USDA Hardiness Zone map does not provide any summer data including humidity, precipitation, urban heating mapping, or maximum temperature averages. However, understanding which summer crops prefer cooler conditions helps growers plan their sowing dates around the final frost of the spring and the first hard autumn frost. Frost hardy vegetables such as broccoli, cabbage, and kale will bolt to seed in the middle of summer if not grown in cool, temperate gardens. Growers can adjust their sowing dates so that the mature vegetable greens will experience the chill of an early spring or the light frost at the beginning of fall.

KNOW YOUR SITE AND SUNLIGHT

The next question you want to ask yourself is “How much space do I realistically have to garden?” Second question is “How much light does that area receive throughout the day and where is the sun’s position?” Be aware of its trajectory. As the sun moves during the growing season, so do the conditions of that space. Be sure to pick a spot that will be consistent and beneficial to your garden throughout the growing season. It may be easier for you to find a spot if you have a yard, but don’t be discouraged if you live in a place with only a patio or less.



Urban gardening is much easier to accomplish than you might think. Just build your garden around the available space. Opt for vegetables and herbs that are known to grow well in containers and the amount of sunlight available. Determine the kind of light that space will see over the season. If you live in an apartment flat with a deck, but without direct sunlight, choose shade tolerant plants such as lettuce, chard,

beet, and carrot. If you have a small patio, consider growing crops that have an upright trailing habit, such as pole beans and peas, to best utilize space. If you only have roof access, or live in south-facing places that receive the heaviest sunlight, consider planting heat tolerant plants, such as dill, fennel, tomato, and pepper.

KNOW DIRECT SOWING VS. INDOOR SOWING

When and how you choose to sow your seeds is a critical factor when it comes to a successful garden. Look at the climate of where you live and determine the length of your grow season. The idea here is to let your environment inform you of when and how you sow your seeds for the coming season. You can directly sow them outside when temperatures are right if the length of your season permits, or sow them in plug trays indoors. Much of this is determined by the seed variety itself.

When growing indoors, a grow light is necessary if you don't have a window that receives direct sunlight for eight hours of the day—and even then, with certain varieties more light exposure is required for optimal growth. Start seeds several weeks before your last frost date of the year. The number of weeks

is usually stated on the seed packet.

All seeds started indoors will require a process known as “hardening off”, which is when you acclimate the seedlings to outdoor conditions, by placing them outside in increasing increments each day until they spend the whole day outside. This can take anywhere from one week to a month depending on the plant. Be wary of setting them out overnight as a sudden drop in temperatures can kill your seedlings. After you harden off your seedlings, you can transplant them in soil that is loose and moist.



KNOW YOUR SOIL AND ITS DRAINAGE RATE

Soil Types and Textures

The make-up of your soil will determine the success of your plant growth. It is rare for soils to go unamended in a garden. Most are treated using fertilizers, cover crops, mulch, and other texture additives. We recommend all-natural cover crops. Understanding soil textures also helps you choose the best soil to purchase for the varieties of plants you wish to grow in planters or containers. Understanding the elements that make up each soil type will help you to know what to add to your soil to accommodate each plant.

Clay Soil

When wet, this soil is lumpy and sticky. When dry, soil is rocky and hard. Poor drainage and low oxygen levels. Lack of drainage usually needs to be remedied, using sand and/or small pebbles. Suitable for perennial shrubs, early vegetable crops, aster and bergamot flower plants.

Sandy Soil

A gritty, sandy texture that dries out fast and drains quickly. Holds fewer nutrients than other soils. Requires soil amendments to bolster nutrient content. Suitable for vegetable root crops, such as carrot, parsnip, beet, pepper, corn, squash, and salad crops.

Silty Soil

A soft and fluffy texture that holds moisture very well. Nutrient content is plentiful as well. Less than adequate drainage, but otherwise a healthy soil. Manure and organic biomass can help with drainage. Suitable for most vegetable and fruit crops, grasses, and trees.

Peaty Soil

An acidic soil that is spongy, fluffy, and feels damp, due to the high levels of peat moss. Soil heats up quickly but retains moisture well—may need drainage help. Suitable for root crops, lettuces, legumes, and brassicas.

Chalky Soil

The stoniest texture of all soils being very pebbly and gravelly. Low nutrient content and very alkaline. Needs nutrients additives such as

manure, mulch, and organic biomass. Suitable for spinach, sweet corn, and cabbage.

Loamy Soil

The ideal garden soil texture with an even mixture of sand silt, and clay. A fine texture full of nutrients with good drainage. Requires nutrient replenishing after each grow season. Suitable for most garden crops.

pH Balance of Soil

pH is simply the acidity or alkaline levels of a substance. When it comes to soil, it is important because certain plant diseases or fungi thrive in highly acidic or basic conditions. Most plants need slightly acidic soil to grow so they can properly absorb iron. Some soil amendments, such as organic worm castings offer a neutral 7.0 pH to help balance the acidity or alkalinity in soils. The right pH level allows microorganisms to convert nitrogen into a form plants can absorb. If the soil's pH is too low, your plant can become poisoned by too much manganese.



KNOW HOW TO WATER EACH PLANT

Don't overwater—Water consistently yet consciously

Lightly press your finger into the soil and feel for an ideal moisture. It should feel moist to the touch, but not soggy. Use this touch method accordingly as your seeds germinate and subsequently grow. Know that plants in containers will dry out quicker than those planted in garden beds. So, close attention needs to be paid to the soil's moisture content. Same with raised beds; since they are elevated beds, the soil does dry out quicker than plants growing directly in the ground. Adding mulch, vermiculite, or peat moss to your raised beds is another great additive that can help your soil retain moisture without overwatering.

Root Watering

Remember to aim your water stream toward the roots. Avoid getting any water on the leaves or foliage of your plants, as moist leaves can lead to diseases.

Morning Watering

The first drink of water in the morning is usually the most important, and it's no truer than with your garden plants. It gives your plant a headstart on the day by allowing it to consume the water without having to fight against evaporation. Also, if leaves or foliage

of the plant get wet, they have time to dry over the course of the day. Whereas, if the leaves and foliage were to remain moist overnight, it may be detrimental to the plant's health.

Mulch

Mulches and or straw can be a great option for preserving moisture. They help reduce surface runoff and slow evaporation.

KNOW ABOUT COMPANION PLANTING

Sometimes known as crop rotation, intercropping, or even cover cropping, companion planting follows an age-old belief that some plants may be mutually beneficial for each other. Although the idea of companion planting is not a hard science and still leaves much up for debate and conjecture, there are some proven situations of plants thriving with the help of other plants. For example, cover crops are a variety of legumes and cereal grains that are able to grow over winter or during the warm season to provide all-natural weed suppression and pest control, while replenishing depleted soils of vital nitrogen. Pea, clover, fava bean, mustard, rye, and wheat are just some examples of cover crops either grown alongside a seasonal crop or during the winter months to ensure a garden is as healthy as possible.

Marigolds are also popularly intercropped throughout larger farms because they emit a chemical into the soil known as limonene, which is sold as a store-bought concentrate pesticide.

In simplest terms, companion planting aims to create diversity in the garden while fighting against monoculture, which is known to foster disease and pests. Whether a simple crop rotation or intercropping with cover crops, diversity will invite beneficial insects and pollinators to help turn your seasonal garden into a healthy and vibrant little ecosystem.

THE VEGETABLES



ARTICHOKE

Cynara cardunculus var. scolymus
perennial



Artichoke is a flower in the sunflower family that has been harvested before being allowed to bloom, remaining tender and edible to the human palate. And as a relative to the invasive and weed-like cardoon, culinary artichoke thrives in as many difficult grow spaces. Artichoke is left to flower as a garden ornamental just as popularly as being harvested and, just like flowering kale and cabbage, will produce decorative silvery purple, blue, and green leaves and stalks.

SOWING AND GROWING:

Artichoke can be started indoors for transplanting 4 weeks before final spring frost. Plants prefer cooler conditions, but will perform well if shaded in warmer climates. Sow 1/4" deep per cell or 48" apart in the garden in a sandy, organically composted, and mulch-covered bed with a soil pH of 6.5-7.0. Artichoke germinates in about 10-21 days and requires consistent watering and sunlight. Plants may become top heavy during fruiting and will require some staking. Add a top layer of mulch and shade to keep soil cool in warmer climates. Artichoke is a heavy feeder and thrives from fertilizing

HARDINESS ZONE: Annual (Perennial 3-9)

DAYS TO MATURITY: 3 years

DAY TO GERMINATION: 1/4-1/2"

SEEDING DEPTH: 1/2"

PLANT SPACING: 48"

PLANT HEIGHT: 36-48"

ROW SPACING: 72"

GROWTH HABIT: Weedy and bushy upright

SOIL TYPE: Sandy, composted, loamy, well-drained

TEMP PREFERENCE: 50-80 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Avoid overwatering, causing slimy mold and rot. Monitor regularly for aphids, mites, earwigs.

every two weeks during the season.

HARVESTING:

Regardless of color or variety, artichoke is ready to harvest when the buds' bracts (outer protective leaves) begin to slightly open. Some varieties will mature a consistent green color while some varieties mature when a deep purple. Artichoke stems are thick and can only be harvested with pruning shears or a knife. Unharvested artichoke buds will bloom into a stunning 3-5" wide violet head, though no longer being edible. Lower buds on the stalk will not mature to be as large as the top buds and can be harvested when about 3" in diameter.

ASPARAGUS

Asparagus officinalis
Perennial



Asparagus is a long-term perennial vegetable that requires planning, patience, and dedication yet is always worth the wait. Asparagus is notorious for not being ready for harvest until its third year but, once established, will produce seasonal spears for several decades. At any time while growing asparagus, spears can be whitened or “blanched” by limiting sun exposure, creating a uniquely flavorful variety devoid of the grassy, earthy chlorophyll notes of a green crop.

SOWING AND GROWING:

Asparagus is a perennial crop that requires three years before a harvest but, like a fruit tree, will produce for several decades. Seeds are best started indoors 8-10 weeks before the final spring frost. Sow 2-3 seeds 1/2” deep per cell or peat pot into light, loamy, well-drained soil with a pH of 6.5-7.0. Transplant after 10-12 weeks once all danger of frost has passed. In the garden, dig a 6-12” deep and 18” wide trench for transplants. Spread a 1” layer of compost at the bottom of the trench before filling with soil. As mentioned, asparagus requires three

HARDINESS ZONE: Perennial 3-9

DAYS TO MATURITY: 3 years

DAY TO GERMINATION: 7-21

SEEDING DEPTH: 1/2”

PLANT SPACING: 12-18”

PLANT HEIGHT: 7-9”

ROW SPACING: 36”

GROWTH HABIT: Upright

SOIL TYPE: Sandy, light, organically rich, well-drained

TEMP PREFERENCE: 65-85 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Allow soil to dry between waterings, as asparagus is highly susceptible to fungus and mold.

years until harvest but will produce for more than twenty years when established.

HARVESTING:

In the third year, harvest young asparagus spears with a sharp knife at the base once they have reached 7-9” tall and about the thickness of a pencil. Harvest often to encourage further growth. More established plants will have a harvest season of about 8 weeks while younger plants may have a window of 4 weeks. After the harvest, plants will sprout asparagus greens to restore lost energy to the roots. These asparagus greens are widely used by florists as an ornamental filler.

BUSH BEAN

Phaseolus vulgaris

Annual



Bush bean, also known as snap bean, is one of the most popular annual vegetables grown in home gardens. Germinating in just under a week, bush bean is harvestable as soon as 50-60 days and is an ideal introductory crop for children and beginners. Unlike the prolific and vining pole bean, bush bean matures at about 18-24" tall without need for trellis support. Persistent bush bean features fruiting pods of every color including red, purple, black, white, and yellow.

SOWING AND GROWING:

Bush bean can be started indoors, but performs best if sown directly after the final spring frost. Sow 2-3 seeds 1" deep and 2-3" apart in moist, organically rich, well-drained soil with a pH of 6.0-6.8. Whether direct sowing or transplanting, thin out strongest starts to every 18-24" in the garden as true leaves establish. Beans need light and consistent watering but, when doing so, water as close to the root as possible to avoid saturating greens known to cause root rot and mildew. Plants thrive from a top layer of mulch to help cool soil and roots. Avoid nitrogen-rich fertilizers which will cause

HARDINESS ZONE: Annual

DAYS TO MATURITY: 50-60

DAY TO GERMINATION: 5-8

SEEDING DEPTH: 1"

PLANT SPACING: 18"

PLANT HEIGHT: 12-24"

ROW SPACING: 24"

GROWTH HABIT: Bushy upright

SOIL TYPE: Organically fertilized, moist, well-drained

TEMP PREFERENCE: 65-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Water soil directly to avoid leaf saturation, causing rot and mildew. Monitor for thrips, aphids, leaf beetles.

excessive vegetative growth with minimal bean pod production.

SOWING AND HARVESTING:

Most varieties of bush bean are ready to harvest at about 50-60 days from sowing or once the pods are 3-5" long. Harvest often to encourage fruiting and to ensure pods do not dehydrate on the vine. Although some pods may pull cleanly from the vine, use a knife or shears for more fibrous pods to avoid accidental damage to the plant. Like many crops in the garden, it is widely believed that beans are best harvested in the morning for optimal sugar content.

POLE BEAN

Phaseolus vulgaris

Annual



Like bush bean, the vining [pole bean](#), is another familiar summer annual found in many home gardens. Pole bean is quick to mature and ready to harvest in about 70 days and, if given plenty of climbing space, will vine taller than 20 feet. Although not as convenient as the bush varieties, pole beans popularly boast sweeter, bigger, and more abundant fruits with a much wider harvest window. Try growing pole beans as a quickly vining, yet deliciously edible, privacy wall or cover.

SOWING AND GROWING:

Pole bean can be started indoors, but performs best if sown directly after the final spring frost. Sow 2-3 seeds 1" deep and 2-3" apart in moist, organically rich, well-drained soil with a pH of 6.0-6.8. Whether direct sowing or transplanting, thin out strongest starts to every 6-8" in the garden as true leaves establish. Pole bean requires immediate trellis support as seedlings will be looking to vine as soon as true leaves emerge. Plants thrive from a top layer of mulch to help cool soil and roots. Avoid nitrogen-rich fertilizers which will cause excessive

HARDINESS ZONE: Annual, (Short Perennial 3-10)

DAYS TO MATURITY: 65-80

DAY TO GERMINATION: 5-8

SEEDING DEPTH: 1/2"

PLANT SPACING: 6-8"

PLANT HEIGHT: 10-20 ft

ROW SPACING: 18"

GROWTH HABIT: Vining

SOIL TYPE: Organically fertile, moist, well-drained

TEMP PREFERENCE: 65-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Water soil directly to avoid leaf saturation, causing rot and mildew. Watch for thrips, aphids, leaf beetles.

vegetative growth with minimal bean pod production.

HARVESTING:

Most varieties of pole bean are ready to harvest at about 70-80 days from sowing or once the pods are 3-5" long. Harvest often to encourage fruiting and to ensure pods do not dehydrate on the vine. Although some pods may pull cleanly from the vine, use a knife or shears for more fibrous pods to avoid accidental damage to the plant. Like many crops in the garden, it is widely believed that pole beans are best harvested in the morning for optimal sugar content.



BEET

Beta vulgaris

Annual

Beets are a sweet, sugary, and short-term cool weather favorite able to be sown multiple times during the year for quick and successive harvests. Just like carrot, radish, and many other root vegetables, beet is quick to maturity and thrives when sown directly outside in the garden bed. Although widely known for being a deep burgundy color, the hardy beetroot is available in many shapes and colors including heirloom classics White Detroit, Golden Detroit, and Chioggia.

SOWING AND GROWING:

Beet is a cool weather favorite best sown directly outdoors 4-5 weeks prior to final spring frost or 4-5 weeks before the first autumn frost. Sow 3-4 seeds 1/2" deep and 1-2" apart in fertile, organically rich, well-drained soil with a pH of 6.0-7.0. Seeds germinate in 5-10 days, thinning best starts to every 3-4" as true leaves establish. Beet seeds may be pre-soaked for 24 hours to encourage germination. Beets can be sown every 2-3 weeks for replete season-long harvests. Avoid using fertilizers high in nitrogen causing plants to produce plentiful vegetation, but smaller roots. A top layer of mulch will

HARDINESS ZONE: Annual [Biennial 6-11]

DAYS TO MATURITY: 45-65

DAY TO GERMINATION: 5-14

SEEDING DEPTH: 1/2"

PLANT SPACING: 3-4"

PLANT HEIGHT: 36-48"

ROW SPACING: 12"

GROWTH HABIT: Rooted and leafy upright

SOIL TYPE: Loose, sandy, loamy, well-drained

TEMP PREFERENCE: 55-70 °F

LIGHT PREFERENCE: Full sun - partial shade

TROUBLESHOOTING: Monitor for aphids and leafhoppers which may lead to any number of yellowing and leaf-spotting diseases.

help roots cool and retain moisture.

SOWING AND HARVESTING:

Most varieties of beet are ready to harvest in about 50-60 days from sowing or when showing 1" in diameter above soil, but will remain tender even up to 3-4" in diameter. In compacted soils, carefully loosen soil around roots before harvesting with help of a gardening fork. Beet greens can be harvested like lettuce or any culinary herb when 2-3" tall. Small tender greens can be enjoyed fresh in a salad mix while larger, coarser greens taste best when lightly sautéed.

BROCCOLI

Brassica oleracea var. italica

Annual



Broccoli is a timeless annual staple of the home garden found just as often growing in the garden bed as on the kitchen counter. Broccoli has always been a tolerant frost hardy favorite, but is currently in its renaissance as a vitamin-rich crop popularly used in indoor gardening such as microgreens, sprouts, and hydroponics. Like other annual Brassicas such as cabbage, kale, and cauliflower, broccoli requires very similar growing conditions with similar harvest windows.

SOWING AND GROWING:

Broccoli is a cool weather full-sun crop able to be sown directly but, for earliest starts, begin indoors 6-8 weeks prior to final spring frost or in mid-summer about 3 months from autumn frost. Plant 2-3 seeds 1/2" deep per cell or 4-6" apart in the garden in organic, fertile, and well-drained soil with a pH of 6.0-7.0. Seeds germinate in 3-14 days, thinning out best starts every 12-18" in the garden once true leaves establish. Broccoli heads grow fullest with full sun but, for warmer regions, plants will benefit from mid-summer shade. For warmer grow zones,

HARDINESS ZONE: Annual

DAYS TO MATURITY: 85-90

DAY TO GERMINATION: 3-14

SEEDING DEPTH: 1/2"

PLANT SPACING: 18"

PLANT HEIGHT: 24-30"

ROW SPACING: 24-36"

GROWTH HABIT: Upright

SOIL TYPE: Moist, organically fertilized, well-drained

TEMP PREFERENCE: 40-70 °F

LIGHT PREFERENCE: Full sun - partial shade

TROUBLESHOOTING: Broccoli has no serious diseases but watch for cabbage worms, flea beetles, thrips, slugs, and aphids.

try a cultivar with a quicker harvest and maturity date to best accommodate for a shortened cool spring season.

HARVESTING:

Most varieties of broccoli are ready to harvest in about 85 days from sowing. Using a small knife, remove the main head above the smaller florets once reaching a diameter of about 5-6", allowing secondary side shoots to continue maturing. Heads will taste bitter if no longer compact and have begun to flower. Like other Brassicas, the entire broccoli plant is harvestable and edible and considered to taste best after a light frosts.

BRUSSELS SPROUTS

Brassica oleracea var. gemmifera

Annual



Brussels sprouts look, taste, and grow like a mini cabbage and, like other Brassicas, are tolerant to northern climates and light winter frost. Although it may take up to three months for a harvest, sturdy and decorative 36" tall Brussels sprouts stalks will produce long after the warm season. These plants are grown as an annual vegetable if harvested for its edible first-year sprouts but, if grown for reseedling, will require full overwintering in the garden to produce flowers.

SOWING AND GROWING:

Brussels sprouts are a cool weather crop able to be sown directly but, for earliest starts, begin indoors 6-8 weeks prior to final spring frost. Plant 2-3 seeds 1/2" deep per cell or 4-6" apart in the garden in organic, fertile, and well-drained soil with a pH of 6.0-7.0. Seeds germinate in 7-14 days, thinning out or transplanting best starts 24-30" apart in the garden once true leaves establish. Brussels sprouts mature into a sturdy 30-36" tall stalk without the need for staking or support, but require consistent moisture and routine fertilizing. As sprouts emerge on the stalk, prune back yellowing leaves

HARDINESS ZONE: Annual (Biennial 5-10)

DAYS TO MATURITY: 80-100

DAY TO GERMINATION: 7-14

SEEDING DEPTH: 1/2"

PLANT SPACING: 24-30"

PLANT HEIGHT: 30-36"

ROW SPACING: 24"

GROWTH HABIT: Upright stalk

SOIL TYPE: Moist, organically fertilized, well-drained

TEMP PREFERENCE: 45-75 °F

LIGHT PREFERENCE: Full sun - partial shade

TROUBLESHOOTING: Monitor regularly for cabbage worms, flea beetles, thrips, slugs, and aphids.

and lower half leaves for most robust sprout production.

HARVESTING:

Most varieties of Brussels sprouts can be harvested about 90 days from sowing or when firm and 1-2" in diameter. Individual Brussels sprouts mature from the bottom-up, meaning the ripest and most mature sprouts will always be lower on the stalk until harvested. To harvest, simply cut with a knife or twist sprouts from the base, detaching them from the rest of the stalk. Stalks may be cut and harvested whole by cutting the entire plant off at the base when all sprouts are firm.

CABBAGE

Brassica oleracea var. capitata

Annual



Cabbage is often mistakenly thought to be one of the more intimidating, difficult vegetable crops to try as a home gardener because of its preference for colder, more northern gardens. Despite the slander, cabbage is a Brassica no more challenging to grow than kale, broccoli, or collards. Whether as a garden crop or flowering ornamental variety, cabbage is available anywhere from rich burgundy to a familiar pale green and easy enough to grow for anyone willing to try.

SOWING AND GROWING:

Cabbage is a cool weather crop able to be planted multiple times throughout the season for successive year-round harvests. Cabbage performs best when started indoors 6-8 weeks prior to final spring frost or 6-8 weeks before first autumn frost. Plant 2-3 seeds 1/4" deep per cell or peat pot in organically rich, well-drained soil with a pH of 6.0-7.0. Seeds germinate in 5-12 days, transplanting strongest starts every 18-24" in the garden once true leaves establish. Cabbage requires regular moisture during vegetative growth to keep heads from splitting before harvest. Plants are heavy feeders and thrive from

HARDINESS ZONE: Annual

DAYS TO MATURITY: 90-150

DAY TO GERMINATION: 5-12

SEEDING DEPTH: 1/4"

PLANT SPACING: 18-24"

PLANT HEIGHT: 12-30"

ROW SPACING: 18"

GROWTH HABIT: Leafy mound

SOIL TYPE: Moist, fertile, composted, well-drained

TEMP PREFERENCE: 55-75 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: No serious diseases but monitor regularly for cabbage worms, flea beetles, thrips, slugs, and aphids.

rich garden composting and routine fertilizing.

HARVESTING:

Depending on the specific cultivar and when sown in the season, most varieties of cabbage are ready to harvest at about 100 days from sowing or when heads are firm with a diameter of about 5-7". Some varieties may overwinter, requiring more than 120 days for harvesting. Using a knife, cut heads at the base and remove yellow leaves from the cut head, keeping healthy loose green leaves attached to help protect cabbage heads during storage.



CARROT

Daucus carota subsp. Sativus

Annual

Carrot is a sugary sweet root vegetable second only to the beet in overall sugar content. Carrot is one of the easiest, quickest, and most satisfying garden crops and lends itself to as many savory dishes as it does sweet. Although considered a predominantly orange vegetable, the carrot is available in a wide selection of exquisite heirloom colors such as red, purple, yellow, and white. Carrots can be sown every couple weeks for successive season-long harvesting.

SOWING AND GROWING:

Carrot is a cool weather crop best sown directly 2-3 weeks before final spring frost and every 2 weeks after for successive harvests. Like many root vegetables, carrot does not transplant well and should be sown directly. Plant 2-3 seeds 1/2" deep and 1-2" apart in loamy, loose, and well-drained soil with a pH of 6.0-7.0. Seeds germinate in 14-21 days, thinning back to 1 plant every 2-4" as true leaves establish. Carrots require a deep well-tilled garden for straight taproot growth. Avoid using nitrogen-rich fertilizers which are known to cause root abnormalities as well as excessive greens

HARDINESS ZONE: Annual

DAYS TO MATURITY: 60-80

DAY TO GERMINATION: 14-21

SEEDING DEPTH: 1/2"

PLANT SPACING: 2-4"

PLANT HEIGHT: 6-18"

ROW SPACING: 16-24"

GROWTH HABIT: Taproot upright

SOIL TYPE: Loose, loamy, composted, well-drained

TEMP PREFERENCE: 55-75 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: No serious pests or diseases, but can be susceptible to aster yellows. Watch for carrot rust fly and wireworm.

and weak root development.

HARVESTING:

Most varieties of carrot are ready for harvest about 70-80 days from sowing, while smaller varieties such as Parisian are ready a few weeks sooner. Regardless of color, carrots are usually ripe for harvest when the root begins to show above soil. A sandy and well-tilled garden will help in harvesting, providing a loose soil to safely uproot the carrot crop without the need for tools. For more hardened soils, use a specialized hand cultivator or garden hori-hori knife.

CAULIFLOWER

Brassica oleracea var. botrytis
Annual



Cauliflower is one of the more challenging Brassicas in the home garden because it does not perform well in either hot or cold climates, yet excels in moderate regions with full sun. Although cauliflower heads (curds) are thought to be white, they naturally develop green or purple and only become white through a labor-intensive process called “blanching” in which the outer leaves are bound together to keep the young heads from developing color from sun exposure.

SOWING AND GROWING:

Cauliflower is a temperamental and challenging cool season favorite best planted in early spring or fall. Begin indoors 4-6 weeks prior to final spring frost or 6-8 weeks before first autumn frost. Plant 2-3 seeds 1/2” deep per cell or 3-4” apart in the garden in organic, fertile, and well-drained soil with a pH of 6.0-7.0. Germinates in 4-10 days, transplanting or thinning out outdoor starts 18-24” apart in the garden as true leaves establish. Although some varieties are self-blanching, cauliflower is not naturally white and requires a labor-intensive effort to achieve the familiar white heads. Cauliflower

HARDINESS ZONE: Annual

DAYS TO MATURITY: 70-120

DAY TO GERMINATION: 7-14

SEEDING DEPTH: 1/2”

PLANT SPACING: 18”

PLANT HEIGHT: 36-48”

ROW SPACING: 36-48”

GROWTH HABIT: Leafy mound

SOIL TYPE: Moist, organically fertilized, well-drained

TEMP PREFERENCE: 55-75 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Monitor regularly for cabbage worms, flea beetles, thrips, slugs, and aphids.

thrives from a nitrogen-rich fertilizer.

HARVESTING:

Similar to cabbage, cauliflower is ready to harvest when compact, firm, and has reached the desired color. Use a harvesting knife to gently cut the head loose from the stem and base, while leaving the large surrounding leaves intact to the head. It is natural for some heads to develop undersize and underweight, yet still fully mature in color. Harvest these smaller heads sooner because they will not increase in size.

CELERICAC

Apium graveolens var. rapaceum

Biennial Grown as Annual



Celeriac, also widely known as celery root, is one of the more unfamiliar and understated root vegetables found in the home garden. Despite its familiar celery-like greens above soil, celeriac is cultivated for its large, bulbous root that looks similar to kohlrabi or turnip. Garden celeriac not only tolerates a light frost, but actually thrives in it as flavor improves with some seasonal chill. Grow celeriac as an exclusive Mediterranean substitute for any traditional culinary root crop.

SOWING AND GROWING:

Celeriac is a cool weather crop able to be sown directly in 3-4 weeks before final spring frost but, for best starts, begin indoors 8-10 weeks sooner. Plant 2-3 seeds 1/8" deep per cell or peat pot in organically rich, moist, well-drained soil with a pH of 6.0-7.0. Seeds germinate in 14-21 days, transplanting best starts 12-18" apart in the garden as true leaves establish. Leave only 3-5 top shoots to encourage root development. Celeriac benefits from compost and consistent moisture throughout the season with proper drainage and ventilation.

HARDINESS ZONE: Annual (Biennial 6-10)

DAYS TO MATURITY: 90-120

DAY TO GERMINATION: 14-21

SEEDING DEPTH: 1/8"

PLANT SPACING: 12-18"

PLANT HEIGHT: 24-36"

ROW SPACING: 24-30"

GROWTH HABIT: Bulbous upright

SOIL TYPE: Fertile, consistently moist, well-drained

TEMP PREFERENCE: 60-65 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Susceptible to root rot from poorly drained soils. Watch for aphids, slugs, and any kind of worms.

HARVESTING:

During the season, remove any lateral shoots to ensure that roots remain smooth for harvest. Between 90-120 days celeriac is ready to harvest as roots become visible above ground and develop green celery-like shoots of about 3-4". Celeriac is a shallow-rooted vegetable and can be safely pulled from the soil when harvesting. The flavor of celeriac can be enhanced by a light frost, but be sure to harvest these plants before the first hard autumn freeze.

CELERY

Apium graveolens var. dulce

Biennial



Celery is one of the most popular vegetable crops in the entire world yet still seldom grown by many home gardeners. Much like lettuce, broccoli, and kale, garden celery can be harvested repeatedly throughout the season as a “cut and come again” variety able to be pushed up until the frost. Once established, celery is one of the most productive and low-maintenance grows of the season, certain to find its way back into the garden bed year after year.

SOWING AND GROWING:

Celery is a cool weather favorite best started in early spring or late summer. Begin indoors 10-12 weeks prior to final frost or 8-10 to first autumn frost. Press without covering 2-3 seeds per cell in organic, moist, well-drained potting mix with a pH of 6-7. Seeds germinate in 14-21 days, transplant best starts 9-12” apart in the garden as true leaves establish. Requires steady watering and a cooling top layer of mulch to keep from bolting. Benefits from additional compost throughout the season with properly

HARDINESS ZONE: Annual [Biennial 6-10]

DAYS TO MATURITY: 110-130

DAY TO GERMINATION: 14-21

SEEDING DEPTH: Press without covering

PLANT SPACING: 9-12”

PLANT HEIGHT: 12-24”

ROW SPACING: 24”

GROWTH HABIT: Leafy upright

SOIL TYPE: Moist, fertile, composted, well-drained

TEMP PREFERENCE: 60-70 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to root rot from poorly drained soils. Watch for aphids, slugs, and any kind of worms.

drained and ventilated soil.

HARVESTING:

Celery is known to have a longer harvest date but, once established, can offer repeat harvests like leafy greens. Celery can be traditionally harvested whole or in “cut and come again” fashion. Harvest outer stalks when at least 6-8” tall by cutting from the base, allowing inner stalks to continue producing. Be careful of shallow roots cutting above ground. Darker green stalks will yield more nutrition but will also have a more coarse texture.

CHARD

Beta vulgaris var. cicla

Biennial



Chard is a leafy, colorful, and quickly maturing relative to the sweet garden beet. Tolerant to both light frost and summer heat, chard is often recommended as an easy, yet rewarding, crop for children or novice gardeners. Chard seeds can be sown nearly anytime of season for either a midsummer harvest or even a late fall crop. Available in a variety of assorted colors, try growing chard as a bright and vibrant addition to any ornamental garden or flower patch.

SOWING AND GROWING:

Chard grows best in cool gardens yet is quite tolerant to heat. Chard is best if sown directly 2-3 before final spring frost or 5-6 weeks before first autumn frost. Chard may sown outdoors nearly anytime from spring to fall for quick and successive harvests. Sow 2-3 seeds 1/2" deep and 2-3" apart in loose, organic, and well-drained soil with a pH of 6-7. Chard seeds are often pre-soaked for 4-6 hours to accelerate germination to 5-14 days. Thin back starts to 12" apart in the garden as true leaves establish. For best flavor and texture, keep plants under 12" tall.

HARDINESS ZONE: Annual (Biennial 6-10)

DAYS TO MATURITY: 50-60

DAY TO GERMINATION: 5-14

SEEDING DEPTH: 1/2"

PLANT SPACING: 12"

PLANT HEIGHT: 12-18"

ROW SPACING: 18-24"

GROWTH HABIT: Upright

SOIL TYPE: Loose, moist, organic, well-drained

TEMP PREFERENCE: 60-80 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Susceptible to fungal leaf spotting, mildews, and mold from oversaturation. Watch for aphids and flea beetles.

HARVESTING:

Most varieties are ready to harvest about 50-60 days from sowing while the first and youngest leaves can be harvested at about 30 days. For "cut and come again" harvesting, cut the stalks carefully 1-2" above the ground so as not to harm the center of the plant. Harvest larger outer leaves for continual seasonal growth, or cut stalks 3-4" from the base, allowing plants to grow again. Chard plants may also be harvested entirely whole from the base like celery.

COLLARDS

Brassica oleracea var. viridis

Biennial



Collard greens are a broadleaf Brassica, relative to the similar-tasting broccoli, cabbage, and kale. And its nutrient-dense relatives, collard greens are cold hardy and even thought to taste best after a light frost or two. Collards grow a similar look and texture to kale and cabbage leaves, yet boast a far more tender, silkier, and leafier green. Like broccoli and kale, collards are a “cut and come again” crop that will continue to deliver well into the fall.

SOWING AND GROWING:

Collard greens are a cool-hardy crop best if sown in early spring or late summer. For early starts, begin indoors 4-6 weeks prior to final frost or, for a fall harvest, sow 3-4 weeks before first frost. Sow 2-3 seeds 1/4” deep per cell or 4” apart in the garden in organic, well-drained soil with a pH of 6.0-6.5. Germinates in 5-12 days, thinning out best starts every 12-18” once true leaves establish. Water regularly to keep collard greens from drying and becoming bitter, but do not oversaturate causing mold, mildew, and rot. Collards thrive from a composted soil bed and require little fertilizing

HARDINESS ZONE: Annual 2-10 [Biennial 6-10]

DAYS TO MATURITY: 75-85

DAY TO GERMINATION: 5-12

SEEDING DEPTH: 1/4”

PLANT SPACING: 12-18”

PLANT HEIGHT: 10-12”

ROW SPACING: 30”

GROWTH HABIT: Upright greens

SOIL TYPE: Moist, organic, composted, well-drained

TEMP PREFERENCE: 50-70 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: No serious diseases but monitor regularly for cabbage worms, flea beetles, thrips, aphids, and harlequin bugs.

throughout the season unless leaves begin to yellow.

HARVESTING:

About 8-10 weeks after transplanting, collards are ready for harvest. Like with many “cut and come again” crops, harvest frequently to boost production. Collard leaves can be harvested at any size based on preference, but larger leaves become more coarse and bitter. Entire plants may be harvested whole, or simply pick the leaves from the bottom as needed to allow further production. For best flavor, allow greens a frost or two before harvesting.

CORN

Zea mays

Annual



Corn is an ancient wild grass and effortless, nearly foolproof summertime staple. Often known as the “cob” or “ear”, the edible portion is actually the ripened flower, with the individual kernels in the husk each containing a seed for future propagation. Although sweet corn is the most popular variety, garden corn comes in a variety of flavors and colors including stunning and unique ornamental varieties such as Glass Gem, Blue Hopi, and Earth Tones Dent.

SOWING AND GROWING:

Corn is a hardy full sun grass performing best when sown directly outdoors after the final spring frost. Plant 2-3 seeds 1-2” deep and 3-4” apart in loose, organically rich, well-drained soil with a pH of 5.8-6.2. Germinates in 7-14 days, thinning out best starts to every 12” once true leaves establish. Avoid overhead watering by watering soil directly. To prevent cross-pollination from altering a corn crop, keep like varieties with like varieties (SU with SU, SE with SE, SH2 with SH2, and ORNAMENTAL with ORNAMENTAL). Check individual seed packet to

HARDINESS ZONE: Annual

DAYS TO MATURITY: 60-90

DAY TO GERMINATION: 7-14

PLANT SPACING: 12”

PLANT HEIGHT: 5-8ft

ROW SPACING: 30-36”

GROWTH HABIT: Upright stalk

SOIL TYPE: Sandy, composted, loamy, well-drained

TEMP PREFERENCE: 75-90 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: No serious pests but watch for corn leaf aphids, flea beetles, and thrips. Water soil directly to avoid saturating stalks.

know whether a variety is Sugary (SU), Sugary Enhanced (SE), Supersweet (SH2), or Ornamental.

HARVESTING:

Most varieties of corn are ready to harvest about 75 days from sowing. Unlike other garden favorites, corn only fruits once. Ears are ripe once they turn dark green, silks become brown, and kernels are plump. Test ripeness by squeezing kernels for a milk-like juice. To harvest, firmly pull the ear downwards while twisting.

CUCUMBER

Cucumis sativus

Annual



Cucumber is one of the easiest and most productive summertime favorites suited for just about any home garden. Grown similarly to summer melons, cucumbers are heat and drought tolerant and, once matured, will produce vigorously well into fall. Whether small pickling cucumbers or a larger, more familiar slicing variety, cucumbers are available as either short convenient bush types or long, vining climbers that will produce well into fall.

SOWING AND GROWING:

Cucumber is a warm weather crop best if begun indoors 4-6 weeks prior to final spring frost. Plant 3-4 seeds 1" deep per individual cell in loamy, sandy, well-drained soil with a pH of 6-6.5. Seeds germinate in 3-10 days, transplanting best starts 36-48" apart in the garden once true leaves establish. Cucumbers perform best when grown on 8" tall mounds and provided a trellis to minimize crowding. Shallow roots will benefit from regular watering and top layer of mulch. Bush varieties perform well in pots and containers.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 55-70

DAY TO GERMINATION: 3-10"

SEEDING DEPTH: 1"

PLANT SPACING: 36-48"

PLANT HEIGHT: 6-12"

ROW SPACING: 36"

GROWTH HABIT: Vining or bush

SOIL TYPE: Loamy, sandy, fertilized, well drained

TEMP PREFERENCE: 65-75 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Watch for cucumber beetles, squash bugs, and aphids. Mildew and leaf spotting may occur in poorly drained soils.

HARVESTING:

Many varieties of cucumber are ready for harvest about 60 days from sowing while smaller pickling varieties may be ready sooner. Ripe cucumbers are solid green and firm, becoming bitter and yellow if left on the vine too long. Classic slicing cucumbers are sweetest when 7-9" long, becoming starchy and grainy when reaching 12" or more. Remove fruits with scissors or a knife rather than twisting or plucking to prevent damaging the vine.

EGGPLANT

Solanum melongena

Annual



Eggplant is a short and compact fruiting vegetable that is often likened to a “small tree” growing in the garden box. Eggplant matures at a convenient and sturdy 24-36” tall and, although related to the tomato, fruits very similarly to a pepper. Eggplant perennially overwinters in warm enough climates, making it an ideal vegetable for indoor container gardening. Try heirloom selections featuring unique shapes, sizes, and variegated and multi-colored varieties.

SOWING AND GROWING:

Eggplant is a full sun favorite often sown directly after the final spring frost but, for earliest starts, begin indoors 8-10 weeks prior. Plant 2-3 seeds 1/4” deep per cell or 4-6” apart in the garden in sandy, loamy, and well-drained soil with a pH of 5.5-7.2. Germinates in 7-14 days, thin out best starts to 1 plant per pot or every 18-24” in the garden as true leaves establish. Cover soil with a layer of organic mulch and fertilize at least twice during growth stage. Stabilize plants with a pole or support, as they can become top-heavy during fruiting.

HARDINESS ZONE: Annual (Perennial 10-11)

DAYS TO MATURITY: 100-120

DAY TO GERMINATION: 7-14

SEEDING DEPTH: 1/4”

PLANT SPACING: 18-24”

PLANT HEIGHT: 24-36”

ROW SPACING: 24-36”

GROWTH HABIT: Dwarfed upright

SOIL TYPE: Sandy, loamy, fertilized, well-drained

TEMP PREFERENCE: 70-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to bacterial spotting, verticillium and fusarium wilt, and aphids. Watch for small pests or leaf hoppers.

HARVESTING:

Due to the protective and toxic solanine produced by members of the nightshade family, avoid consuming eggplant before completely ripened. Most eggplant varieties are ready for harvest about 70-90 days after transplanting. Harvest fruits before wrinkling and going to seed. Carefully snip each eggplant from the branch with scissors or a garden knife while leaving 1” of the stem on the fruit. Avoid pulling or twisting off eggplants by hand.

ENDIVE

Cichorium endivia

Biennial Grown as Annual



One of the lesser known leafy greens in the garden box, [endive](#) is a bright and tangy chicory that looks and grows very similar to green leaf lettuce. Endive is generally sold as one of three types including Curly, Belgian, or Broadleaf and is one of the most popular culinary greens in all of Europe. As a type of chicory, endive boasts an improved tolerance to pests and disease while having a weed-like hardiness, even known to be invasive in some regions.

SOWING AND GROWING:

Endive tastes and performs best in cool gardens. Sow directly 4-6 weeks before final frost or, for earliest starts, begin indoors 8-10 weeks prior. Plant 2-3 seeds 1/4" deep per cell or 3-4" apart in the garden in loose, organically rich, well-drained soil with a pH of 5.0-6.0. Seeds germinate in 10-21 days, transplanting or thinning best starts to 9-12" apart in the garden. Although longer to maturity, endive and chicory have similar requirements to leaf lettuce. Once endive has gone to seed, keep in the garden as a vibrant purple ornamental or leave for reseeded for next season.

HARDINESS ZONE: Annual (Biennial 8-11)

DAYS TO MATURITY: 85-100

DAY TO GERMINATION: 10-21

SEEDING DEPTH: 1/4"

PLANT SPACING: 9-12"

PLANT HEIGHT: 5-6"

ROW SPACING: 18-24"

GROWTH HABIT: Leafy mound

SOIL TYPE: Loose, fertile, composted, well-drained

TEMP PREFERENCE: 60-70 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Very tolerant to pests and disease.

Monitor for slugs and snails. Do not water overhead.

HARVESTING:

Curly and broadleaf endive is harvested similarly to leaf lettuce by either harvesting the whole plant at once or saving as a "cut and come again" crop. Carefully cut leaves from the base with a knife once they've grown 5-6" tall. For continuous regrowth, leave 1" of the stem intact. Specific grow and harvest instructions for Belgian endive and Witloof have not been included because it includes a labor-intensive process of growing the endive crop entirely in the dark.



GOURDS

Cucurbitaceae
Perennial

Gourds have got to be the most diverse, showy, and unique crop growing in any home garden. Available in countless shapes, sizes, colors, and textures, ornamental gourds have become as synonymous with autumn as falling leaves or apple cider. Unlike soft melons or squash, gourds have an unusually thick skin and will not be bothered by critters in the garden.

SOWING AND GROWING:

Gourds are a full sun crop sown direct after the final frost but, for earliest starts, begin indoors 4-6 weeks prior. Plant 3-4 seeds 1-2" deep per cell or every 48-60" in the garden in an organic and nutrient-dense soil with a pH of 6.5-7.5. Gourd seeds may take 7-35 days to germinate, but are commonly pre-soaked for 24 hours to accelerate germination. Gourds perform best when grown on 8-10" tall mounds to accommodate long, trailing vines and given plenty of trellis support. For longneck varieties, trellis and allow gourds to hang straight for a bottling effect. Gourds are a heavy feeder and benefit from regular fertilizing.

HARDINESS ZONE: Annual (Perennial 8-10)

DAYS TO MATURITY: 100-140

DAY TO GERMINATION: 7-35

SEEDING DEPTH: 1/2"

PLANT SPACING: 9-12"

PLANT HEIGHT: 36-48"

ROW SPACING: 8 ft

GROWTH HABIT: Climbing and spreading vine

SOIL TYPE: Moist, organically composted, well-drained

TEMP PREFERENCE: 70-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Monitor for aphids, squash bugs, and cucumber beetle known to cause bacterial wilt. Do not water overhead.

HARVESTING:

Most varieties of gourds are ready to harvest about 100 days from sowing while larger shell types require an extra month. Harvest gourds once they have hardened in the fall and stems have turned brown. Gourds will rot if left on the vine too long and also if harvested too soon. Similar to squash, harvest gourds by snipping fruits off the vine rather than twisting or pulling, leaving about 1" of stem attached to prolong shelf life, storage, and decorative ornamental use.

KALE

Brassica oleracea var. acephala

Annual



Kale has recently become one of the most popular vegetables both in and out of the garden. Whether because of unparalleled health benefits, ease of growing, or showy decorative color, there is almost no reason not to have a place for kale in the garden box. Kale is one of the most hardy Brassicas, boasting a tolerance to both heat and cold extremes and even overwintering in moderate climates. Kale is more diverse than you think, available in a variety of unique colors, shapes, sizes, and textures.

SOWING AND GROWING:

Kale is a cool hardy crop able to be sown directly in early spring or late fall. For best starts, begin indoors 3-4 weeks before final spring frost or 6-8 before the first autumn frost. Plant 3-4 seeds 1/4" deep per cell and 3-4" apart in the garden in nitrogen-rich, organic, well-drained soil with a pH of 6.0-7.5. Germinates in 3-10 days, thinning out best starts to 1 plant per pot or every 12-18" in the garden as true leaves establish. Kale benefits from fertilizer every 4 weeks. Extended summer heat will cause plants to bolt and become bitter.

HARDINESS ZONE: Annual (Biennial 7-10)

DAYS TO MATURITY: 55-75

DAY TO GERMINATION: 3-10

SEEDING DEPTH: 1/4"

PLANT SPACING: 12-18"

PLANT HEIGHT: 12-18"

ROW SPACING: 24"

GROWTH HABIT: Leafy upright

SOIL TYPE: Nitrogen-rich, loamy, well-drained

TEMP PREFERENCE: 55-70 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: No serious diseases but monitor regularly for aphids, cabbage worms, flea beetles, and thrips.

HARVESTING:

Most kale is ready to begin harvesting about 60 days from sowing. Kale is a "cut and come again" crop and continuously harvesting younger, outer leaves will encourage growth. Carefully cut back any yellowing leaves that may appear at the base. In warm enough climates, kale can produce over winter but, in colder regions, lay a tarp or row cover to further a winter harvest.



KOHLRABI

Brassica oleracea var. gongylodes
Annual

Kohlrabi is a unique variety of Brassica which, like celeriac, is grown specifically for its wide and bulbous stem rather than its leafy greens or roots. Kohlrabi boasts all the same tolerances for disease and cold as broccoli, cabbage, and kale, and is believed to always taste best after a few light frosts. Translated from German kohl (“cabbage”) and rabe (“turnip”), kohlrabi can truly best be described in both flavor and appearance as some turnip-like cabbage or cabbage-like turnip.

SOWING AND GROWING:

Kohlrabi is a cool season crop grown similarly to cabbage able to be sown direct in early spring or early fall. For earliest starts, begin indoors 3-4 weeks prior to frost dates. Plant 3-4 seeds 1/2” deep per cell or 3-4” apart in the garden in organically rich, loamy, and well-drained soil with a pH of 6.0-7.5. Seeds germinate in 3-10 days, thinning out best starts to 1 plant every 12-15” in the garden as true leaves establish. Kohlrabi does not do well in containers. A thin layer of top mulch helps retain moisture and cool roots during warm summer months.

HARDINESS ZONE: Annual (Biennial 9-11)

DAYS TO MATURITY: 55-70

DAY TO GERMINATION: 3-10

SEEDING DEPTH: 1/2”

PLANT SPACING: 12-15”

PLANT HEIGHT: 9-12”

ROW SPACING: 18-24”

GROWTH HABIT: Growth Habit:

SOIL TYPE: Moist, organically fertilized, well-drained

TEMP PREFERENCE: 50-70 °F

LIGHT PREFERENCE: Full sun - partial shade

TROUBLESHOOTING: Monitor for aphids and cabbage

worms. Water soil directly to avoid leaf saturation known to cause mildew and rot.

HARVESTING:

Harvest kohlrabi at about 60 days or once the stem is 2-3” in diameter. Kohlrabi is best enjoyed as a young plant because, if allowed to grow larger than 3”, the bulb will taste woody, bitter, and unpalatable. Harvest kohlrabi from cutting at the base with a knife and trimming the leaves off before eating. Kohlrabi greens can be harvested and enjoyed just like kale, mustard, or collards.

LEEK

Allium porrum

Biennial



Leeks are an overwintering biennial that boast a milder and less pungent variation of the onion, while having all the same tolerances to frost, disease, and pests. Above the soil, leeks appear to be a thicker, broader onion plant without growing the bulbous root. Leek matures up to 24" tall and takes up only a few inches width in the garden. Grow leeks alongside other winter favorites such as scallions, garlic, shallots, and onion for similar growing and harvesting times.

SOWING AND GROWING:

Leeks are a cool hardy crop able to be sown directly in early spring or late fall. Begin indoors 10-12 weeks before final spring frost or 6-8 before the first autumn frost. Plant 2-3 seeds 1/4" deep per cell and 2-3" apart in the garden in deeply tilled, organic, well-drained soil with a pH of 6.0-7.0. Germinates in 7-14 days, thinning back to 1 plant every 4-6" in the garden. Leeks have a shallow root system and require regular watering and a top layer of cooling mulch.

HARDINESS ZONE: Annual (Biennial 7-11)

DAYS TO MATURITY: 90-130

DAY TO GERMINATION: 7-14

SEEDING DEPTH: 1/4"

PLANT SPACING: 4-6"

PLANT HEIGHT: 18-24"

ROW SPACING: 8-16"

GROWTH HABIT: Sturdy upright

SOIL TYPE: Loose, lighty, fertile, well-drained

TEMP PREFERENCE: 55-75 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to mildew, leaf spotting, and bulb rot from oversaturated and poorly drained soils. Watch for thrips and onion maggots.

HARVESTING:

Many varieties have a longer harvest time but some may be ready as soon as 80 days. Like asparagus spears, harvest leek stalks from beneath the soil by carefully prying them up from the roots with a gardening fork. As a relative of the onion, leeks are also eaten somewhat similarly, with the white portion of the stalk being the most flavorful and prized part of the vegetable.

LETTUCE

Lactuca sativa

Annual



Lettuce is one of the most versatile seeds in the world as it is a choice variety for sprouting, microgreens, hydroponics, aquaponics, and indoor container gardening. Quick to maturity and easy to grow anywhere, countless varieties of lettuce have been specifically cultivated to thrive from cold northern gardens all the way down to the desolate Arizona heat. Whether romaine, iceberg, butter, or leaf head, lettuce is available in savory redleaf or classic tender greenleaf.

SOWING AND GROWING:

Lettuce is a cool weather crop performing just as vigorously when sown directly as when transplanted. Begin indoors 4-6 weeks before final spring frost or about 6-8 weeks before the first autumn frost. Sow 2-3 seeds 1/4" deep per cell and 2-3" apart in organically composted, well-drained soil with a pH of 6.0-7.0. Seeds germinate in 3-10 days, transplanting or thinning back to 1 plant every 9-12" as leafy heads establish. Thrives in moist soils supplemented with nitrogen-rich fertilizer and can be sown every two weeks for successive, season-long harvests.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 45-60

DAY TO GERMINATION: 3-10

SEEDING DEPTH: 1/4"

PLANT SPACING: 9-12"

PLANT HEIGHT: 6-12"

ROW SPACING: 12-15"

GROWTH HABIT: Leafy mound

SOIL TYPE: Nitrogen-rich, composted, well-drained

TEMP PREFERENCE: 60-70 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to mildew, rot, and leaf spotting from soils if not properly drained and ventilated. Watch for aphids, whiteflies, and leafminers.

HARVESTING:

Harvest lettuce once the leaves have reached 3-6" long. Be sure to pick the leaves once they're grown large enough, but before they reach maturity. Harvesting mature lettuce will result in bitter-tasting plants. Pick the outer leaves of the lettuce plant so the smaller leaves in the center will continue to establish. Other varieties of lettuce such as butterhead or romaine, can also be harvested by digging up the entire plant or cutting them while leaving an inch of the stem behind. You can store harvested lettuce in a plastic bag in the fridge for 7-10 days.

MELON

Cucumis melon

Annual



Melons come in a wide variety of shapes, sizes, and colors including the timeless cantaloupe, muskmelon, honeydew, and canary, but also feature unique heirlooms such as the casaba, galia, santa claus, and “winter” melon. Regardless of variety, melons are full sun performers that thrive with a little trellis support and plenty of space to spread. Melons may not be as productive as tomatoes or cucumbers, but nothing will ever beat the flavor of a homegrown summer melon.

SOWING AND GROWING:

Melons are a full sun favorite able to be sown direct after the final frost date but, for earliest starts, begin indoors 4-6 weeks prior. Plant 2-3 seeds 1/2” deep per peat pot or every 9-12” in the garden in sandy, composted, and well-drained soil with a pH of 6.0-6.5. Seeds germinate in 4-10 days, transplanting or thinning best starts 36-60” apart. Melons perform best when grown on 8-10” tall mounds to accommodate long trailing vines and can be easily trellised for tighter grow spaces. Thrives from regular watering during fruiting and slight drought when ripening.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 80-100

DAY TO GERMINATION: 4-10

SEEDING DEPTH: 1”

PLANT SPACING: 36-60”

PLANT HEIGHT: 6-12”

ROW SPACING: 36-60”

GROWTH HABIT: Trailing vine

SOIL TYPE: Sandy, loamy, fertilized, well-drained

TEMP PREFERENCE: 70-90 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Water soil directly at the roots to minimize mildew. Watch regularly for aphids, spider mites, and cucumber beetles.

HARVESTING:

Most varieties of melon can be harvested 80-100 days from sowing or when the fruit begins to show signs of ripening. Regardless of variety or color, all melons will emit a wildly sweet, fruity aroma and fall off the vine when ripe. Melons can also be snipped from the vine with about 1” of stem left attached to the fruit. Cantaloupe and muskmelon will turn evenly tan when ripe and honeydew should turn creamy yellow instead of green. Yellow canary and thicker skin melons may not fall off the vine or perfume when ripe.

MUSTARD

Brassica or Sinapis

Annual



Mustard is currently in its renaissance as a vital sprouting, microgreens, and cover crop variety grown just as popularly on the kitchen counter as in the garden bed. Mustard leaf features a wide selection of color, flavor, and leaf types such as classic broadleaf, curly, and mizuna. As a cover crop, mustard is sown in the fall to repair and replenish depleted and hardened soils, only to be mulched back into the spring garden as an all-natural organic “green” fertilizer.

SOWING AND GROWING:

Mustard is a tenacious cool weather favorite with a weed-like hardiness best sown directly outdoors 4-6 weeks before the final spring frost or in late fall 2-4 weeks before the first frost. Sow 3-4 seeds 1/2” deep and 4” apart in organically rich, moist, well-drained soil with a pH of 6.0-7.5. Seeds germinate in 3-7 days, thinning best starts every 12-18” in the garden once true leaves establish. Mustard is a popular overwintering cover crop specifically grown to help repair poor, malnourished soils and is able to thrive in a variety of gardens.

HARDINESS ZONE: Annual Biennial 8-10)

DAYS TO MATURITY: 80-95

DAY TO GERMINATION: 3-7

SEEDING DEPTH: 1/2”

PLANT SPACING: 12-18”

PLANT HEIGHT: 12-18”

ROW SPACING: 12-24”

GROWTH HABIT: Well-stemmed upright

SOIL TYPE: Fertile, organically rich, well-drained

TEMP PREFERENCE: 50-70 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Watch for aphids, flea beetles, and slugs.

HARVESTING:

Most varieties of mustard are ready for harvest about 80 days from sowing. Like other Brassicas such as kale, broccoli, and collards, mustard leaf is a “cut and come again” crop able to produce well into the frost. Carefully cut outermost leaves from the stem while leaving rest of the plant intact. Mustard can be left in the garden to easily reseed for next season. Sow mustard in the fall to overwinter and till back into the soil for a springtime nitrogen-rich organic fertilizer.

OKRA

Abelmoschus esculentus

Annual



Okra is a heat-loving summertime favorite synonymous with some of the hottest, most humid regions in the country. Okra is a fruiting crop that produces tender 2-3" edible pods all the way through the warmest months of the year. Related to both hibiscus and hollyhock, okra is also celebrated for its huge, gorgeous flowers that bloom in shades of orange, pink, red, and white. Okra thrives alongside other full sun staples such as melon, cucumber, and eggplant.

SOWING AND GROWING:

Okra is a full sun crop that does not perform well in cold soils. Seeds can be sown direct after the final frost date but, for earliest starts, begin indoors 3-4 weeks prior. Plant 2-3 seeds 1/2" deep per peat pot or 4-6" apart in the garden in sandy, organically fertile, and well-drained soil with a pH of 5.8-7.0. Okra germinates in 4-10 days, transplanting or thinning your best starts to 18-24" apart in the garden. Seeds may pre-soak 12-18 hours to accelerate germination, but is not required. Okra thrives from regular watering and fertilizing.

HARDINESS ZONE: Annual

DAY TO GERMINATION: 4-14

SEEDING DEPTH: 1/2"

PLANT SPACING: 18-24"

PLANT HEIGHT: 36-60"

ROW SPACING: 36"

GROWTH HABIT: Bushy upright

SOIL TYPE: Rich, loamy, composted, well-drained

TEMP PREFERENCE: 75-90 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to rot in poorly drained soil. Monitor for aphids, whiteflies, spider mites, and corn earworms.

HARVESTING:

Okra is most flavorful when harvested at 2-3" long or about 60 days after sowing. Harvest often to keep up with fruiting while encouraging production. Wear gloves when handling okra plants because the fine hairs are known to cause skin irritation. Using a knife, simply cut okra pods from the plant while leaving some stem attached to the fruit. Garden fresh okra does not store well and should be enjoyed the day it is picked.

ONION

Allium cepa

Annual



Onion is a cold hardy favorite able to be sown in either spring or fall for an effortless biannual harvest. Onions are often started in the garden from store-bought bulbs, but growing from seed allows for a greater variety of selection among the red, yellow, white, and sweet cultivars. When planting, look to see if a “long-day” or a “short-day” onion variety is best suited for the summers in your region. Try an onion crop in the garden bed alongside similar garlic, shallots, or leeks.

SOWING AND GROWING:

Onion is a cool hardy vegetable that can be sown directly 6-8 weeks prior to final spring frost or about 4-6 weeks before the first autumn frost. Seeds may also be begun indoors for early starts. Soil should be well-tilled, nitrogen-rich, with a pH of 6.0-7.0. For outdoor sowing, create a shallow 1” deep trench for a minimum of 12”. Onion seed is very small, so sprinkle generously into the trench and lightly cover with about 1/4” of soil. As seedlings begin to sprout from the row, trim back to favor the strongest starts every 4-6” apart. “Long-day” onions

HARDINESS ZONE: Annual

DAYS TO MATURITY: 90-110

DAY TO GERMINATION: 4-10

SEEDING DEPTH: 1/2”

PLANT SPACING: 4-6”

PLANT HEIGHT: 12-18”

ROW SPACING: 18-24”

GROWTH HABIT: Bulbous-rooted upright

SOIL TYPE: Sandy, loose, composted, well-drained

TEMP PREFERENCE: 55-75 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Watch for thrips and onion maggots.

Susceptible to onion yellows virus which may stunt and infect nearby onions.

grow best in the northern half of the country while “short-day” thrives in the southern half.

HARVESTING:

Most onions sown in the spring are ready for harvest about 90 days from sowing and seeds planted in the fall can mature as early as May or June the following year. Onions are ready to harvest once the plants’ greens have dried out, yellowed, and begun to bow over. Loosen the soil from the bulb to check for consistent coloring while allowing the bulb to further dry. Sweet onions do not store as well as more pungent yellow and brown varieties.

ORACH

Atriplex hortensis

Annual



Orach is often called “mountain spinach” and widely cultivated as a warm-weather substitute to traditional garden spinach. Tolerant to drought and both heat and cold extremes, orach is still plenty tender and flavorful, maturing into a far more vibrant and complex crop than spinach. Try orach as a delicious “cut and come again” leafy vegetable while keeping it in the garden bed as a bold and vibrant ornamental available in bright greens and magentas.

SOWING AND GROWING:

Orach is a full sun crop best sown directly 2-3 weeks after final spring frost but, for best starts, begin indoors 4-6 weeks prior. Plant 2-3 seeds 1/4” deep per cell or 3-4” apart in the garden in organic, fertile, well-drained soil with a pH of 6.5-7.5. Seeds germinate in 14-21 days, thinning back or transplanting 12-18” apart in the garden as true leaves establish. orach thrives annually in a wide variety of regions, reseeding itself in the garden for as long as you’ll have it around. Plants can be clipped for shorter and more vigorous growth.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 40-60

DAY TO GERMINATION: 7-14

SEEDING DEPTH: 1/4”

PLANT SPACING: 12-18”

PLANT HEIGHT: 36-60”

ROW SPACING: 24-36”

GROWTH HABIT: Bushy upright

SOIL TYPE: Fertile, organic, moist, well-drained

TEMP PREFERENCE: 60-70 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Although heat and drought tolerant, can still bolt somewhat easily. Watch for aphids and whiteflies.

HARVESTING:

Orach is ready to harvest at about 50 days from sowing or when leaves have reached 4-6” tall. Smaller leaves will be more tender and flavorful than larger ones. Orach comes in many colors, so gauge ripeness based on size rather than color. Often compared to spinach, orach is also a leafy “cut and come again” variety able to be harvested repeatedly throughout the season to be used in the kitchen exactly like any other garden fresh leafy green.



PARSNIP

Pastinaca sativa

Annual

Parsnip is one of the lesser known root vegetables, growing very similar to carrot and Hamburg rooted parsley. While looking like a bleached carrot, parsnip also produces rich leafy greens that look, taste, and behave just like a large-leaf parsley. Garden parsnip is an overwintering classic able to be sown in either spring or fall and, like many root vegetables, is believed to get sweeter after a few light frosts. Grow parsnip to naturally aerate tough soils with its penetrating taproot.

SOWING AND GROWING:

Parsnip is a cool weather crop able to be sown directly 3 weeks before final spring frost or 3-4 weeks before first autumn frost for an early spring harvest. Like many root vegetables, parsnip does not transplant well and should always be sown direct. Plant 2-3 seeds 1/2" deep and 1-2" apart in very loose, well-tilled, and well-drained soil with a pH of 6.0-7.0. Seeds germinate in 10-28 days, thinning out strongest starts to 6-9" apart in the garden. Parsnips grow best with some drought, becoming wider and longer in search of moisture.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 100-120

DAY TO GERMINATION: 10-28

SEEDING DEPTH: 1/2"

PLANT SPACING: 6-9"

PLANT HEIGHT: 18-24"

ROW SPACING: 24"

GROWTH HABIT: Leafy taproot

SOIL TYPE: Loose, organic, composted, well-drained

TEMP PREFERENCE: 45-75 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Few known pests and diseases.

Watch for carrot rust fly known to infect plants with parsnip root canker.

HARVESTING:

Most varieties of parsnip may be harvested about 100 days after sowing but, for sweetest flavor, allow parsnip to experience a frost or two before harvesting. Parsnips are ready to harvest once their foliage has died back, dried, and bowed over. Like carrots, parsnip can be safely removed from the ground with a gardening fork. If sowing in the fall for a spring harvest, cover parsnip seeds with a top layer of mulch and harvest crop once the ground thaws.

PEA

Pisum sativum
Annual



Peas have recently proven to be one of the most versatile and beneficial vegetables in the home garden. A preferred choice for sprouting, microgreens, hydroponics, and cover crops, classic garden pea can be grown year-round both indoors and out. Whether English shelling, snow, or sugar snap, peas grow basically the same and yet offer so much variety. As an overwintering cover crop, pea is popularly sown to replenish essential nitrogen back into depleted soils.

SOWING AND GROWING:

Pea is ideally suited for direct full sun outdoor sowing as soon as the soil can be worked after the final spring frost. Pea may also be planted at the end of summer for a quick fall harvest. Sow 1" deep and 1-2" apart in organically rich, well-drained soil with a pH of 6.0-7.5. Peas can be soaked 4-6 hours in warm water prior to sowing to help germination. Seeds germinate in 7-14 days, thinning out strongest starts to 6-9" apart as true leaves establish. Whether growing English shelling, Chinese snow, or sugar snap, pea cultivation is fairly universal.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 60-70

DAY TO GERMINATION: 7-14

SEEDING DEPTH: 1"

PLANT SPACING: 6-9"

PLANT HEIGHT: 12-36"

ROW SPACING: 12-24"

GROWTH HABIT: Climbing vine

SOIL TYPE: Moist, organically rich, well-drained

TEMP PREFERENCE: 55-75 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to mildew and mold from oversaturation in poorly drained beds.

HARVESTING:

Most varieties of pea are ready for harvest 60-70 days from sowing. Know the variety you are planting because each will have different signs of ripeness. English shelling peas are the most traditional, having a fibrous, inedible shell and are the fastest to maturity. Sugar snap is the next to mature and has a fibrous, but deliciously edible pod. Snow pea takes the longest to mature and has small seeds and flat, edible pods most notably used in Asian cuisine. Pea pods are sweetest when 2-3" long and should be carefully cut from vine rather than twisted or pulled.

PEPPER

Capsicum annuum
Perennial



Pepper is one of the most diverse, showy, and flavorful fruits grown in the annual garden bed. Available in nearly every possible color and shape from the super sweet to super spicy, pepper grows stronger and tastes better with a season of full sun and high heat. Pepper plants thrive in pots and containers and can even perennially overwinter in warm enough regions, maturing into bushy, vibrant, and well-stemmed patio favorites.

SOWING AND GROWING:

Pepper is a heat-loving crop that does not perform well in shade or cold soils. Seeds are best if started indoors 4-6 weeks prior to final spring frost for transplanting. Sow 2-3 seeds 1/4" deep per cell or peat pot in fertile, organically rich, and well-drained soil with a pH of 6.0-6.8. Germinates in 7-21 days, transplanting best starts 12-18" apart in the garden or one plant per container. Pepper plants thrive in pots and containers with a phosphorus-rich potting mix and will benefit from staking and support as they become top-heavy during fruit production.

HARDINESS ZONE: Annual (Perennial 9-11)

DAYS TO MATURITY: 70-100

DAY TO GERMINATION: 7-21

SEEDING DEPTH: 1/4"

PLANT SPACING: 12-18"

PLANT HEIGHT: 18-36"

ROW SPACING: 18-24"

GROWTH HABIT: Sturdy upright

SOIL TYPE: Fertile, organically rich, well-drained

TEMP PREFERENCE: 70-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to fungus, leaf spotting, and rot in poorly drained, oversaturated soils. Watch for aphids and whiteflies.

HARVESTING:

Some sweet and bell peppers can be harvested as soon as 60-70 days, but most hot varieties are ready about 100 days from sowing or when skin has changed color. Know the individual variety you are sowing to know when color has reached ripeness. Peppers can be picked early to ripen indoors or left to ripen and change color on the vine. Using a knife or shears, carefully snip off peppers while leaving some stem attached to the fruit. If working with hot peppers, wear gloves to avoid skin contact with capsaicin.

PUMPKIN

Cucurbita

Annual



Pumpkin is a full sun winter squash that thrives in the heat, trailing and vining just like a gourd or cucumber. And like any other winter squash, pumpkin features a wide variety of colors and sizes for both ornamental and culinary use. Pumpkins are able to grow multiple on the vine but, for largest and most decorative squash, plants can be pruned to force enormous, even competition size pumpkins just in time for autumn fun.

SOWING AND GROWING:

Pumpkin is able to be sown directly after the final spring frost but, for earliest starts, begin indoors 3-4 weeks prior. Plant 2-3 seeds 1" deep per cell or, for outdoor sowing, plant atop 8-10" tall mounds of soil every 5-6 ft to accommodate long, heavy trailing vines. Seeds germinate in 4-10 days and transplanted to composted, well-drained soil with a pH of 6.0-6.8. Fertilize crop every 3 weeks and harvest pumpkins before the autumn frost. Once a few pumpkins begin to show on the vine, pinch off vines to inhibit vegetative growth, directing energy to producing the most optimal pumpkins.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 90-120

DAY TO GERMINATION: 4-10

SEEDING DEPTH: 1"

PLANT SPACING: 5-6 ft

PLANT HEIGHT: 12-15"

ROW SPACING: 10-15 ft

GROWTH HABIT: Wide-spreading mound

SOIL TYPE: Fertile, composted, moist, well-drained

TEMP PREFERENCE: 60-90 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Watch for cucumber beetles, squash bugs, and aphids. Mildew and leaf spotting may occur in poorly drained soils.

HARVESTING:

Most small to medium pumpkins are ready to harvest 90-100 days from sowing while larger varieties require an extra few weeks. Regardless of color or size, pumpkins are generally ripe once the stem is solid and rind is tough, unable to be pierced by a fingernail. Clip pumpkins from the vine with shears leaving about 4" of stem intact and, once harvested, leave out to naturally cure in the sun for 10-14 days. The curing process will help pumpkins last up to 3 months longer after harvesting.

PURSLANE

Portulaca oleracea

Annual



Purslane is one of the rare succulents considered a garden vegetable and even treated like a lettuce or kale as a seasonal “cut and come again” salad green. A desert succulent tolerant to heat, drought, and poor soils, purslane grows so aggressively that it is widely considered an invasive species. Purslane is a member of the showy and ornamental *Portulaca* family and boasts stunning pink, orange, yellow, and red blooms ideal for patios and flower bedding.

SOWING AND GROWING:

Purslane is a high-heat crop with a weed-like hardiness best if sown directly in spring after the final frost or begun indoors 6-8 beforehand. Purslane is generally cold stratified (“refrigerated”) 2-3 weeks prior to sowing to accelerate germination. Lightly press 3-4 seeds per cell or 2-3” apart in average to poor, well-drained soil with a pH of 5.5-7.0. Germinates in 7-14 days, thin out strongest starts to 9-18” in the garden. Allow soil to dry between waterings, as purslane is considered an invasive species in many areas and tolerant to poor, arid soils.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 50

DAY TO GERMINATION: 7-14

SEEDING DEPTH: Lightly press without covering

PLANT SPACING: 9-18”

PLANT HEIGHT: 3-9”

ROW SPACING: 12-18”

GROWTH HABIT: Mounding succulent

SOIL TYPE: Average, moderately dry, well-drained

TEMP PREFERENCE: 75-100 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Drought tolerant with few known pests or diseases. Susceptible to mold and mildew from overwatering.

HARVESTING:

Purslane greens are ready for harvest about 50 days from sowing or when succulent leaves are big and tender. Plants do not mature to be very big and can be harvested whole or left in the garden as a “cut and come again” variety. When harvesting individual leaves, carefully cut with a knife or clippers to not accidentally uproot the shallow plant. Purslane is widely considered a weed and can be pulled from the ground exactly like yard weeds.

RADICCHIO

Cichorium intybus var. foliosum
Perennial



Radicchio is the deliciously bitter and tender head, or heart, of the chicory plant. Just like cabbage, cauliflower, or iceberg lettuce, the radicchio head is safely wrapped in a leafy protective layer that simply needs peeling back when harvested. Like other chicory, radicchio thrives in cooler gardens, especially when sown mid-summer so maturing plants may benefit from a few light autumn frosts before harvesting.

SOWING AND GROWING:

Radicchio is a cool weather chicory ideally transplanted in mid-late summer so maturing plants have a cooler grow season. Seeds may also be started indoors 8-10 weeks before final spring frost in regions with moderate summers. Plant 2-3 seeds 1/4" deep per cell or peat pot in loose, fertile, well-drained soil. Seeds germinate in 5-14 days, transplanting best starts every 18-24" in the garden with a soil pH of 6.5-7.0. Chicory is a leafy-headed mound similar to cabbage, and radicchio is merely the small purple head, or heart, of the chicory plant.

HARDINESS ZONE: Annual (Perennial 5-8)

DAYS TO MATURITY: 80-90

DAY TO GERMINATION: 5-14

SEEDING DEPTH: 1/4"

PLANT SPACING: 18-24"

PLANT HEIGHT: 18-24"

ROW SPACING: 24-36"

GROWTH HABIT: Leafy-headed mound

SOIL TYPE: Loose, fertile, loamy, well-drained

TEMP PREFERENCE: 50-70 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Radicchio is a chicory with a weed-like hardiness and drought tolerance. No serious pests or diseases.

HARVESTING:

Radicchio is ready for harvest about 80 days from sowing. Similar to cabbage, cauliflower, and iceberg lettuce, radicchio is the head of the chicory plant protected by leafy layers that can be simply peeled back and composted. Unlike other chicories, outer radicchio greens are not the most tender. Plants can be carefully cut at the base leaving roots intact for perennial growth, but following harvests will be smaller and bitter. Radicchio tastes and performs best as an annual.

SPRING RADISH

Raphanus sativus

Annual



Spring Radish is the smaller, shallow, and often pink or magenta variety that does not grow a deep taproot like winter radish. And whereas winter radish grows a broader, deeper root requiring 50-70 days until harvest, spring radish can be harvested as soon as 25 days and is one of the fastest maturing crops available. Try the classic Cherry Belle radish for a quick zesty harvest or fill the garden bed with unique French Breakfast, Purple Plum, or white Hailstone.

SOWING AND GROWING:

Spring radish is a cool season crop best sown directly 4-6 weeks before final spring frost. Like many root vegetables, radish does not transplant well and should not be started indoors. Plant 2-3 seeds 1/2" deep and 1-2" apart in very loose, organic, well-drained soil with a pH of 6.5-7.0. Seeds germinate in 3-7 days, thinning out best starts to 2-3" apart as true leaves establish. Minimize nitrogen content when fertilizing to reduce small spindly roots and excessive greens. Radish will bolt to seed in excessive summer heat if not provided afternoon shade or sown late.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 25-40

DAY TO GERMINATION: 3-7

SEEDING DEPTH: 1/2"

PLANT SPACING: 2-3"

PLANT HEIGHT: 6-8"

ROW SPACING: 4-6"

GROWTH HABIT: Bulbous rooted upright

SOIL TYPE: Loose, light, fertilized, well-drained

TEMP PREFERENCE: 50-70 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Monitor regularly for flea beetles and aphids. Water soil directly to avoid saturating greens known to cause mildew.

HARVESTING:

Many varieties of spring radish are ready to harvest in less than a month from sowing. Using a gardening fork, harvest as roots begin to show 1-2" diameter above the soil. Sample one plant to determine if the rest of the crop is ready. Harvest radish promptly because roots will quickly spoil in the ground from heat and maturity. Some varieties of radish greens are edible and often used in pestos, salads, and sautés.

WINTER RADISH

Raphanus sativus

Annual



Winter radish is the larger, deeper, taproot variation of the smaller spring crop, growing very similar to the spring radish except needing a little extra time and space to mature. While Daikon is widely considered the standard of winter radishes, varieties such as Black Spanish Round, China Rose, or the hypnotic Watermelon offer surprising color and diversity for a winter hardy crop. Winter radish is a frost tolerant cover crop specifically grown to repair and replenish poor and uncultivated soils.

SOWING AND GROWING:

Winter radish is a cool hardy staple best sown directly in mid-late summer for a fall harvest. Like many root vegetables, radish does not transplant well and should not be started indoors. Plant 2-3 seeds 1/2" deep and 1-2" apart in very loose, organic, well-drained soil with a pH of 6.5-7.0. Seeds germinate in 3-7 days, thinning out best starts to 4-6" apart depending on variety sown. Minimize nitrogen content when fertilizing to reduce small spindly roots and excessive greens. Winter radish, such as Daikon, is an overwintering cover crop specifically

HARDINESS ZONE: Annual

DAYS TO MATURITY: 60-70

DAY TO GERMINATION: 3-7

SEEDING DEPTH: 1/2"

PLANT SPACING: 4-6"

PLANT HEIGHT: 12-18"

ROW SPACING: 12-18"

GROWTH HABIT: Upright taproot

SOIL TYPE: Loose, light, fertilized, well-drained

TEMP PREFERENCE: 50-65 °F

LIGHT PREFERENCE: Full sun - partial shade

TROUBLESHOOTING: Monitor regularly for flea beetles and aphids. Water soil directly to avoid saturating greens known to cause mildew.

grown to repair and replenish poor and uncultivated soils during the winter.

HARVESTING:

Many varieties of winter radish are ready to harvest in about 60-70 days from sowing. Using a gardening fork, harvest as roots begin to show 1-2" diameter above the soil. Sample one plant to determine if the rest of the crop is ready. Harvest radish promptly because roots will quickly spoil in the ground from the first winter frost. Not all winter radish is white and individual color showing will help determine if roots are ripe.



RHUBARB

Rheum x hybridum

Perennial

Rhubarb is mistakenly considered to be one of the most challenging vegetables in the home garden because, like asparagus, requires nearly 3 years before a first harvest. However, once fully established, rhubarb will produce annually for the next 10-20 years as one of the most frost-hardy crops available. Similar to some berries and fruits, edible rhubarb stalks are sweeter and more ripe the deeper the color.

SOWING AND GROWING:

Rhubarb is a perennial winter hardy vegetable best if started indoors 8-10 weeks before final spring frost. Plant 2-3 seeds 1" deep per cell or peat pot in loamy, fertile, and well-drained soil with a pH of 6.0-6.8. Germinates in 7-21 days, choosing healthiest starts for hardening off and transplanting 36-48" apart to a sunny, compost-rich place in the garden. Rhubarb greens can mature to be as large as Elephant Ear plants and risks casting other crops in shade. Rhubarb is a perennial that will appear to die off each winter, only to come right back at first sign of spring. Mature rhubarb plants can be quickly cloned by splitting

HARDINESS ZONE: Biennial 2-10 (Perennial 2-7)

DAYS TO MATURITY: 3 years

DAY TO GERMINATION: 7-21

SEEDING DEPTH: 1"

PLANT SPACING: 36-48"

PLANT HEIGHT: 24-36"

ROW SPACING: 4-5 ft

GROWTH HABIT: Wide-spreading upright

SOIL TYPE: Loamy, sandy, composted, well-drained

TEMP PREFERENCE: 50-75 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Watch for beetles. Susceptible to crown rot in poorly drained soils.

entire plant in half and replanting.

HARVESTING:

Like asparagus, rhubarb should not be harvested until its 3rd year but, once established, will produce annually for the next 10-20 years. Rhubarb produces thick, meaty celery-like stalks 9-18" long when ready to harvest. Stalks can be twisted from the base if ripe enough or, for safety, carefully cut from the base with a knife to not damage roots. Similar to a strawberry, edible rhubarb stalks are sweeter, more flavorful the deeper red the color. Rhubarb greens are toxic to humans and small animals and should be composted after harvesting.

RUTABAGA

Brassica napobrassica
Biennial



Rutabaga is a tenacious and frost-hardy root vegetable grown very similar to onion, turnip, and winter radish and always tastes best after a light frost or two. Like many cool season favorites, rutabaga is an ideal crop to sow mid-late summer after spring greens have bolted and gone to seed. Try rutabaga in the garden alongside onion, leek, parsnip, and turnip for similar growing, feeding, and harvest dates.

SOWING AND GROWING:

Rutabaga is a cool-season vegetable sown in mid-late summer to allow maturing plants cooler fall weather for harvesting. Like other root vegetables, rutabaga does not transplant well and should always be directly sown. Plant 2-3 seeds 1/2" deep and 2-3" apart in organically composted, well-tilled, and well-drained soil with a pH of 6.0-7.0. Seeds germinate in 5-14 days, thinning healthiest starts 9-12" apart in the garden as true leaves establish. Rutabaga thrives with a top layer of mulch to help cool soil and roots. Although rutabaga benefits from regular fertilizing, reduce nitrogen-rich

HARDINESS ZONE: Annual (Biennial 8-10)

DAYS TO MATURITY: 90-110

DAY TO GERMINATION: 5-14

SEEDING DEPTH: 1/2"

PLANT SPACING: 9-12"

PLANT HEIGHT: 12-24"

ROW SPACING: 18-30"

GROWTH HABIT: Bulbous-rooted upright

SOIL TYPE: Loose, organic, composted, well-drained

TEMP PREFERENCE: 40-65 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Susceptible to clubroot and oversaturation known to cause mildew, rot, and fungal disease. Watch for aphids and flea beetles.

fertilizers known to stunt and deform root vegetables.

HARVESTING:

Many varieties of rutabaga are ready for harvest about 90-100 days from sowing or when roots begin pushing up and showing 3-5" diameter above soil. Rutabaga greens are often considered to be a smoother, more tender turnip green and can be quickly harvested while still young and tender during root production. Rutabaga can be harvested from the ground like a potato or radish by firmly pulling out of the soil. If possible, harvest after the first fall frost for best flavor.

SALSIFY

Tragopogon porrifolius

Biennial



Salsify is a delicate, yet nearly foolproof, root vegetable often overshadowed by more popular Daikon, parsnip, and turnip. Widely known as Oyster plant, salsify is one of the rare garden selections grown just as often for its roots as its flavorful greens and ornamental blooms. Harvest what you need from salsify in the fall and leave the rest to reseed and overwinter, finishing off the season with bold and exotic blooms commonly known as Jerusalem Star.

SOWING AND GROWING:

Salsify is a tenacious cool-season crop with a weed-like hardiness able to be sown direct 2-3 weeks before final spring frost or late summer. Like many root crops, salsify does not transplant well and should be sown direct. Plant 3-4 seeds 1/2" deep, 1-2" apart in loose, composted, well-drained soil with a pH of 6.0-7.5. Seeds germinate in 14-28 days, thinning best starts to 2-4" apart. Soil must be well-tilled 12" deep for roots to grow unobstructed. Salsify thrives from a fertilizer low in nitrogen to minimize excess vegetation and spindly, deformed roots.

HARDINESS ZONE: Annual (Biennial 6-8)

DAYS TO MATURITY: 120-150

DAY TO GERMINATION: 14-28

SEEDING DEPTH: 1/2"

PLANT SPACING: 2-4"

PLANT HEIGHT: 12-36"

ROW SPACING: 18-24"

GROWTH HABIT: Weedy upright

SOIL TYPE: Loose, sandy, composted, well-drained

TEMP PREFERENCE: 40-65 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Salsify is considered a weedy invasive species with no serious pests or diseases. Allow soil to dry between waterings.

HARVESTING:

Salsify is generally ready to harvest in early fall when the foliage has yellowed and died. Roots taste best if harvested after a few light frosts. Salsify is essentially a garden weed and may be harvested in the same way that a weed is carefully uprooted from the yard. Unlike carrot, salsify roots do not hold flavor for long and should be used soon after harvest. Salsify may be grown in the garden as a culinary herb, harvested for its top greens rather than delicate, flavorful roots.

SPINACH

Spinacia oleracea

Annual



Spinach is one of the fastest, most tender, and delicious “cut and come again” varieties in the home garden. A quickly maturing leafy vegetable, spinach is able to be sown in spring, summer, and fall in many cooler gardens for year-round harvests. Similar to other leafy greens, spinach thrives from frequent harvesting and is known to vigorously regrow cut leaves in just days. Garden spinach features unique varieties to try all year long from classic Bloomsdale and Giant Nobel to the exclusive French heirloom Viroflay.

SOWING AND GROWING:

Spinach is a cool weather favorite able to be sown in early spring, late summer, or winters in warm enough regions. Spinach can be started indoors 4-6 weeks prior to final spring frost but, for best starts, sow directly outdoors 5-6 weeks prior to final spring frost. Sow 2-3 seeds 1/2” deep and 4” apart in fertile, composted, well-drained soil with a pH of 6.5-7.0. Seeds germinate in 7-21 days thinning to 1 plant every 6-12” in the garden as true leaves establish. Harvest large outer leaves often to boost production while

HARDINESS ZONE: Annual

DAYS TO MATURITY: 35-50

DAY TO GERMINATION: 7-21

SEEDING DEPTH: 1/2”

PLANT SPACING: 2-4”

PLANT HEIGHT: 6-12”

ROW SPACING: 12”

GROWTH HABIT: Leafy upright

SOIL TYPE: Fertile, organic, composted, well-drained

TEMP PREFERENCE: 40-70 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Susceptible to fungus and mildew from oversaturation. Monitor regularly for aphids and leaf miners.

allowing smaller leaves to continue to mature. Avoid nitrogen-rich fertilizers known to spoil spinach flavor.

HARVESTING:

Most varieties of spinach are ready to harvest 35-50 days from sowing. Spinach is one of the most productive and most popular “cut and come again” varieties in the home garden and takes only days for regrowth. Using scissors, simply snip larger outer leaves for harvest while allowing smaller leaves to continue vegetative growth. Harvest often to encourage production. Shoots that begin to bolt can be harvested to redirect plant energy from seed production to leafing.

SUMMER SQUASH

Cucurbita pepo
Annual



Summer squash boasts one of the most productive, reliable, and fastest growing crops available in the summer. Whether zucchini, crookneck, couisa, or Mexican squash, once these sun-loving squashes start fruiting, they'll continue producing non-stop all the way until the frost. Summer squash thrives from frequent harvests and, if left unattended for even a day or two, is notorious for spitting out unexpected 18-24" monsters when you weren't looking.

SOWING AND GROWING:

Summer squash is a full sun staple able to be sown directly after the final spring frost but, for earliest starts, begin indoors 3-4 weeks prior. Plant 2-3 seeds 1" deep per cell or every 4-6" in medium moist, organic, well-drained soil with a pH of 6.5-7.0. Whether transplanting or sowing direct, plant seeds on 6-8" tall mounds of soil to accommodate heavy vegetation. Germinates in 4-14 days, thinning out best starts and transplants to 1 plant 24-36" apart per mound. Summer squash benefits from a top layer of mulch to help cool soil and roots. Fertilize after the first set of blooms appear and again

HARDINESS ZONE: Annual

DAYS TO MATURITY: 50-60

DAY TO GERMINATION: 4-14

SEEDING DEPTH: 1"

PLANT SPACING: 24-36"

PLANT HEIGHT: 36-48"

ROW SPACING: 36-48"

GROWTH HABIT: Leafy branching mound

SOIL TYPE: Medium moist, organic, fertile, well-drained

TEMP PREFERENCE: 60-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Monitor regularly for disease-carry

pests such as squash bugs, squash borers, and cucumber

beetles.

during fruiting stage.

HARVESTING:

Summer squash is one of the fastest, most productive crops in the garden and, with frequent harvests, will continue to produce all the way until the frost. Most varieties are ready to harvest 50-60 days from sowing or ideally when 6-8" long. Summer squash will quickly reach a starchy and less flavorful 18-24" long if not harvested promptly. Using shears or a knife, carefully clip off fruits at the stem. Do not harvest young and tender squash by twisting or pulling.

WINTER SQUASH

Cucurbita maxima

Annual



Winter squash definitely grows one of the most fun, exciting, and durable fruits to ever come out of the garden. Despite being called a “winter” squash, these plants are grown in high heat and full sun just like summer squash staples zucchini and yellow crookneck. Winter squash features a timeless selection of exotic, decorative, and deliciously edible heirlooms such as butternut, acorn, cushaw, hubbard, and the autumn favorite turban squash.

SOWING AND GROWING:

Winter squash is a full sun staple best if sown directly after the final spring frost but, for earliest starts, begin indoors 3-4 weeks prior. Plant 2-3 seeds 1” deep per cell in medium moist, organic, well-drained soil with a pH of 6.5-7.0. Whether transplanting or sowing direct, plant seeds on 6-8” tall mounds of soil to accommodate heavy trailing vegetation. Germinates in 4-14 days, thinning out best starts and indoors transplants to 1 plant 8-12 ft apart per mound depending on variety. Winter squash benefits from a top layer of mulch to help cool soil and roots. Fertilize after the first set of blooms appear and again during fruiting stage.

HARDINESS ZONE: Annual

DAYS TO MATURITY: 80-120

DAY TO GERMINATION: 4-14

SEEDING DEPTH: 1”

PLANT SPACING: 8-12 ft

PLANT HEIGHT: 9-15”

ROW SPACING: 72”

GROWTH HABIT: Heavy-spreading mound

SOIL TYPE: Medium moist, organic, fertile, well-drained

TEMP PREFERENCE: 60-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Watch for disease-carry pests such as squash bugs, squash borers, and cucumber beetles.

HARVESTING:

Most small to medium winter squash are ready to harvest about 100 days from sowing while larger varieties require an extra few weeks. Regardless of color or size, winter squash are generally ripe once the stem is solid and rind is tough, unable to be pierced by a fingernail. Clip squash from the vine with shears leaving about 4” of stem intact and, once harvested, leave out to naturally cure in the sun for 10-14 days. The curing process will help winter squash last up to 3 months longer after harvesting.

STRAWBERRY

Fragaria ananassa

Annual



Strawberry plants mature at a tidy 4-6" tall and trailing just as wide, making it the premier crop for windowsill, patio, and container gardening. Most strawberry plants are ready for harvest after about a month and are always the first fruit to ripen each spring. Strawberries are one of the most exciting, rewarding, and delicious fruits for beginners and kids, currently in a renaissance as a world-class hydroponic.

SOWING AND GROWING:

Strawberry is a quickly maturing crop that thrives in pots and containers, able to be sown direct after final spring frost but, for best starts, begin indoors 4-6 weeks sooner. Plant 2-3 seeds 1/2" deep per individual cell or 2-3" in the garden in organically rich, consistently moist, well-drained soil with a pH of 5.5-7.0. Seeds are traditionally cold stratified (refrigerated) for an entire month before sowing to help germination. Seeds germinate in 14-28 days, thinning best starts and transplants to 4-6" apart in the garden or container. Plants are a full sun crop, but benefit from shade if summer

HARDINESS ZONE: Annual (Perennial 5-8)

DAYS TO MATURITY: 30-45

DAY TO GERMINATION: 14-28

SEEDING DEPTH: 1/2"

PLANT SPACING: 5-6"

PLANT HEIGHT: 4-6"

ROW SPACING: 36"

GROWTH HABIT: Small trailing mound

SOIL TYPE: Moist, fertile, composted, well-drained

TEMP PREFERENCE: 60-80 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Susceptible to aphids, spider mites, and strawberry weevils. Plants suffer in poorly drained soils.

heat exceeds 90 °F. Add a nutrient-rich compost after the first harvest.

HARVESTING:

There are three different types of strawberries with three different fruiting schedules over the course of the summer. Know which type you have bought before sowing. June-Bearing seeds produce all their fruit at once in June. Ever-Bearing strawberries fruit heavily in the spring and fall with a light harvest in summer. Day-Neutral seeds steadily produce all through the season. Strawberries are ready for harvest when plump and bright red by pinching off at the stem.

TOMATO

Solanum lycopersicum

Annual



Tomato is the quintessential staple of summer gardening and arguably offers the most seed diversity among all seasonal fruits. Available in every possible color, shape, and size, tomato is a high-heat and full sun favorite that thrives from container and patio gardening. Along with cucumber and summer squash, the tomato plant is one of the most productive, hardy, and heavy fruiting crops of the season.

SOWING AND GROWING:

Tomato is a warm weather crop best if started indoors about 6-8 weeks prior to final spring frost. Plant 2-3 seeds 1/4" deep per individual cell in fertile, humusy, and well-drained soil with a pH of 6.0-6.8. Germinates in 5-14 days, transplanting starts to 1 per pot or 18-36" apart in the garden depending on variety. Before sowing, know whether the seed is determinate or indeterminate, as each will have different grow habits. Determinate varieties mature to a predetermined size, producing all of its fruit at once with only minor need for staking. Indeterminate varieties grow indefinitely through the season, produc-

HARDINESS ZONE: Annual

DAYS TO MATURITY: 80-110

DAY TO GERMINATION: 5-14

SEEDING DEPTH: 1/4"

PLANT SPACING: 18-36"

PLANT HEIGHT: 36-72"

ROW SPACING: 24-36"

GROWTH HABIT: Tall-reaching upright

SOIL TYPE: Moist, fertile, composted, well-drained

TEMP PREFERENCE: 65-85 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to fusarium wilt, verticillium wilt, and blight. Watch for aphids, flea beetles, and tomato hornworms.

ing non-stop fruit while requiring heavy trellis support.

HARVESTING:

Smaller varieties such as the cherry are ready to harvest at about 80 days from sowing while larger varieties like the beefsteak may require a few extra weeks. Although vine-ripened fruit is always preferred, tomatoes can just as easily be harvested early and ripen indoors by being stored in a paper bag or box along with a banana for its ethylene gas. Ripe tomatoes may be pulled from the vine by hand, while more firm ones should be clipped with shears.

TURNIP

Brassica rapa subsp. rapa
Annual



Turnip is one of the unsung heroes of the garden bed along with rutabaga, kohlrabi, and celeriac. One of the rare root crops whose leafy greens might be more popular than the root itself, tender turnip greens are able to be harvested well into fall similar to spinach or collards. Most varieties of turnip are ready to harvest in about 50 days when bright purple roots begin to show, but always taste best if harvested after a light frost or two.

SOWING AND GROWING:

Turnip is a cool-season vegetable sown 3-4 weeks before final spring frost or mid-late summer to allow maturing plants cooler fall weather for harvesting. Like other root vegetables, turnip does not transplant well and should always be directly sown. Plant 2-3 seeds 1/2" deep and 1-2" apart in organically composted, well-tilled, and well-drained soil with a pH of 6.0-7.5. Seeds germinate in 3-10 days, thin out healthiest starts to every 4-6" in the garden as true leaves establish. Turnip thrives with a top layer of mulch to help cool soil and roots. Unlike other root vegetables, turnip benefits

HARDINESS ZONE: Annual

DAYS TO MATURITY: 40-60

DAY TO GERMINATION: 3-10

SEEDING DEPTH: 1/2"

PLANT SPACING: 4-6"

PLANT HEIGHT: 6-12"

ROW SPACING: 12-15"

GROWTH HABIT: Bulbous-rooted upright

SOIL TYPE: Loose, organic, composted, well-drained

TEMP PREFERENCE: 40-65 °F

LIGHT PREFERENCE: Full sun - partial sun

TROUBLESHOOTING: Susceptible to clubroot and oversaturation known to cause mildew, rot, and fungal disease. Watch for aphids and flea beetles.

from a nitrogen-rich fertilizer during vegetative growth.

HARVESTING:

Depending on variety, turnip is ready for harvest about 40-70 days from sowing or when roots begin pushing up and showing 3-4" diameter above soil. Turnip greens are just as popular as the turnip root and can be quickly harvested while still young and tender during root production. Turnips are shallow-rooted and can be harvested from the ground like a potato or radish by firmly pulling out of the soil. If possible, harvest after the first autumn frost for best flavor.

WATERMELON

Citrullus lanatus

Annual



Watermelon is the unofficial herald of summer and, without doubt, the largest and juiciest fruit you could possibly hope for in the garden. Most popularly known as a red-flesh fruit, watermelon is also available in both yellow and orange along with a surprising selection of shape and size. Most varieties boast 20-30 pound fruits with regular watering and, like pumpkins and gourds, may be pruned and pinched back to direct growth towards competition size melons.

SOWING AND GROWING:

Watermelon is best sown direct after the final spring frost but, for earliest starts, begin indoors 3-4 weeks prior. Plant 2-3 seeds 1" deep per individual cell or 6-8 ft apart directly in the garden in loamy, consistently moist, and well-drained soil with a pH of 6.0-6.8. Watermelon performs best when grown on 8-10" tall soil mounds to accommodate long, heavy trailing vines. Watermelon is a heavy feeder and benefits from a nitrogen-rich fertilizer every 3 weeks until fruiting, then minimize nitrogen content in fertilizer. Fruits contain 90% water and plants require heavy, routine watering to

HARDINESS ZONE: Annual

DAYS TO MATURITY: 80-110

DAY TO GERMINATION: 1/4-1/2"

SEEDING DEPTH: 1"

PLANT SPACING: 6-8 ft

PLANT HEIGHT: 9-15"

ROW SPACING: 5-8 ft

GROWTH HABIT: Heavy-trailing mound

SOIL TYPE: Loose, moist, fertile, well-drained

TEMP PREFERENCE: 65-95 °F

LIGHT PREFERENCE: Full sun

TROUBLESHOOTING: Susceptible to wilt, mildew, and rot.

Watch for cucumber beetles, aphids, and squash bugs.

produce 20-30 lb melons.

HARVESTING:

Most watermelons are ready to harvest about 90 days from sowing or when showing signs of ripeness. The most important tip to picking vine-ripened watermelon is to locate the small tendril attached to the melon on the vine. If this tendril is completely brown and dead, the melon is ripe for harvest but, if the tendril is still even slightly green, the watermelon is not ready. Heirloom watermelon rinds will soften slightly when ripe and feel less like an impenetrable gourd. Use scissors or shears to carefully remove watermelon from the vine.

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