

PLANTING GUIDE

**Constructed by
Students for Sustainable Health**

Beets

Type:	Root and Leafy Green
Germination Time:	7-14 Days
Days to Maturity:	50 days (36-29 days if transplanted)
Direct Seed or Transplant:	Direct or Transplant
Sun Exposure:	Full Sun
Planting Season:	September - March
Difficulty:	Easy
Description/Fun Fact:	Beets are thought to be a 'good mood food.' Substances betaine and tryptophan, found in beets, are thought to relax the mind and contribute to a sense of well-being.
Nutrition/Health Benefits:	Beets have one of the highest sugar contents of any vegetable. Up to 10% of it is sugar, but it's slowly release into the body making it a healthy, sweet vegetable that can help maintain blood sugar levels.
Planting Instructions:	Sow 15 seeds per foot 1/2" deep, rows 12-18" apart. Thinning is not necessary.
Harvesting:	Harvest roots as soon as they are the right size.
Attributes:	Beets require soft soil, preferably sand, but avoid clay soils as it can make the roots tough.

Broccoli

Type:	Vegetable; Cabbage Family
Germination Time:	4-5 days
Days to Maturity:	65-70 days
Direct Seed or Transplant:	For fall crops, you can start seedlings indoors or sow seeds directly in the ground in July or August. In mild-winter climates, plant in the late fall for a spring harvest.
Sun Exposure:	Full sun
Planting Season:	Late Summer
Difficulty:	Medium
Nutrition/Health Benefits:	Broccoli can provide you with some special cholesterol-lowering benefits if you cook it by steaming. The fiber-related components in broccoli do a better job of binding together with bile acids in your digestive tract when they've been steamed. When this binding process takes place, it's easier for bile acids to be excreted, and the result is a lowering of your cholesterol levels. Raw broccoli still has cholesterol-lowering ability—just not as much. Broccoli is also high in beta carotene, vitamin C, folic acid (folate), iron, and moderate amounts of calcium.
Planting Instructions:	For fall plantings, direct sow seeds outdoors 85 to 100 days before your average first fall frost. Work in 2 to 4 inches of rich compost or a thin layer of

manure before planting. Space plants 12 to 24 inches apart, depending on the side heads you want to harvest. Plant seeds 1 inch deep, 3 inches apart. You will need to thin seedlings. Provide consistent soil moisture with regular watering, especially in drought conditions. Some varieties of broccoli are heat tolerant, but all need moisture. Do not get developing heads wet when watering

Harvesting: Harvest before the florets start to open and turn yellow. Cut just below the point where the stems begin to separate. Once you've harvested the main head, tender side shoots will form in the leaf axils all along the lower stalk. Keep cutting but don't strip off all the side shoots. Broccoli will keep producing until the weather turns too hot or too cold. Can, freeze, or pickle broccoli, or keep it refrigerated for up to 2 weeks.

Fun fact: Broccoli is an Italian word and was derived from the Latin "brachium." Brachium means arm or branch. Companion planting with rosemary, thyme, sage, onions, garlic, beets, and chard.

Attributes: Thrives in warm, sunny areas and avoid shallow, sandy or windy sites for planting. Varieties range from perennial to annuals to different colored broccoli. Colors range from green or purple or other derivation.

Brussels Sprouts

Type: Cabbage Family

Germination Time: 5-10 days

Days to Maturity: Approximately 90 days

Direct Seed or Transplant: Direct seed or transplant

Sun Exposure: Full Sun

Planting Season: November - March

Difficulty: Easy

Description/Fun Fact: Brussels sprouts should not be grown within a 10 foot radius of any brassica growing location within the last 3 years, preferably 7 years. Companion plants include Artichokes, beets, peas, potato, and spinach. Incompatible plants include Pole beans, strawberry, tomato, and Kohlrabi.

Nutrition/Health Benefits: Brussels sprouts are high in calcium and iron, as well as a good source of vitamins A and C.

Planting Instructions: As with other brassicas, composting roots should be avoided. Brussels sprouts should not be grown within a 10 foot radius of any brassica growing location within the last 3 years, preferably 7 years.

Harvesting: The sprouts will mature from the bottom up. When sprouts first appear, the lower leaf should be cut off. The sprouts should be picked green when about an inch or so in diameter. To pick them, you can either twist them off, or better yet get a sharp knife and cut them off. Each plant should yield about 1 quart of sprouts.

Attributes: Brussels sprouts have shallow roots, so as they become top heavy, you may need to stake them, particularly if exposed to strong winds.

Cantaloupe

Type: Fruit

Germination Time: 5-10 days

Days to Maturity: 70-90 days, depending on variety

Direct Seed or Transplant: Direct

Sun Exposure: Full Sun

Planting Season: August – September, February - March

Difficulty: Easy

Description/Fun Fact: What we commonly refer to as ‘cantaloupe’ is actually not true cantaloupe, rather, a type of muskmelon. True cantaloupe has a rough, warty rind and is not widely grown or commercially available in the U.S. Cantaloupes are a heat-loving fruit with a long growing season. They have a net-like, tan rind, and sweet orange flesh. The names muskmelon and cantaloupe are used interchangeably.

Nutrition/Health Benefits: Source of potassium, vitamin A, vitamin C, niacin, and folate.

Planting Instructions: Amend soil with aged manure or compost before planting. Growing the vines in raised rows ensures good drainage and will hold the sun’s heat longer. If you have limited space, vines can be trained to a support such as a trellis.

Harvesting: When rinds begin to change from green to tan or yellow, the melon is probably ripe, but be careful not to pick too early. Look for a crack in the stem where it attaches to the fruit. This is a sign of ripeness as well. The fruit should be easy to separate from the vine, but if they fall off by themselves they are usually overripe. Harvest melon when vines are dry, and be careful not to damage them. They will soften after harvesting, but will not continue to sweeten off the vine.

Attributes: Must be grown in high humidity and warm temperatures. Watch for cucumber beetles that spread bacterial wilt and squash vine borers that burrow into the stem. Due to humid conditions, powdery mildew and downy mildew infected leaves must be removed to prevent melon from losing their sweetness to mold. A fully ripe cantaloupe fills the room with fragrance! Usually store bought varieties are picked when they are unripe and the smell is not as strong. Companion planting with sweet corn, sunflowers, peanuts, and morning glory. The leaves of the plant have lots of calcium that can be used for worm compost.

Carrot

- Type:** Vegetable
- Germination Time:** 12-15 days
- Days to Maturity:** Approximately 2.5 months
- Direct Seed or Transplant:** Direct
- Sun Exposure:** Full Sun
- Planting Season:** October - February
- Difficulty:** Easy
- Description/Fun Fact:** Carrots can be eaten both raw and cooked. Mature topped carrots can be stored for 4 or 5 months @ 32°F/0°C and 90% relative humidity.
- Nutrition/Health Benefits:** Carrots are rich in carotene (the source of vitamin A) and high in fiber and sugar content.
- Planting Instructions:** Sandy loam soils should be deeply dug or rototilled (at least 1.5 feet deep), for straight, smooth roots. Sow as early as soil and weather conditions permit. Scatter seed thinly, spacing seeds about 1/4 apart in all directions. Sow in rows 16 inches apart ¼ inch deep, cover with fine soil and firm lightly. Do not allow the ground to crust. Make successive sowings from early spring till July 15th. Cultivate the soil so that it covers the shoulder of the root to prevent "green shoulders".
- Harvesting:** Carrots are mature at around 2.5 months and 0.5 inch in diameter. Harvest whenever desired maturity is reached. Okay to leave mature carrots in the soil for storage if the ground will not freeze.
- Attributes:** Different colored varieties include white, yellow, purple, and even violet carrots! The most familiar carrot is the orange variety. Root shapes also differ in length and width according to each variety. Companion planting with onions(to reduce carrot fly pests), leeks, annual flowers, lettuce, radishes, tomatoes, and peas. Do not plant carrots near dill or anise. If carrots are left to flower they attract hoverflies and other beneficial insects!

Celery

- Type:** Vegetable
- Germination Time:** 2-3 weeks
- Days to Maturity:** 90-120 days
- Direct Seed or Transplant:** Seed / transplant
- Sun Exposure:** Full Sun to Light Shade
- Planting Season:** October -January
- Difficulty:** Moderate
- Description/Fun Fact:** It takes only one ounce of celery seeds to grow 1 acre of celery
- Nutrition/Health Benefits:** Celery is an important food source of conventional antioxidant nutrients, including vitamin C, beta-carotene, and manganese.
- Planting Instructions:** 6 to 12 inches (15 to 30 cm) apart; 18 to 40 inches (45 to 100 cm) between rows. Needs lots of moisture, withstands waterlogged conditions better than most crops
- Harvesting:** Harvest celery when the stalks are large enough to use. Can continue to harvest until first fall frost.
- Attributes:** Stalks can be tied together while growing to reduce sprawling. Stalks should be harvested from the outside, moving towards the center. The darker the stalks become, the more nutrients they will contain, but the darkening can also lead to a tougher stalk.

Chives

Type:	Onion family
Germination Time:	7-14 days
Days to Maturity:	80-90 days
Direct Seed or Transplant:	Direct Seed
Sun Exposure:	Full Sun
Planting Season:	Late Spring/Early Summer
Difficulty:	Easy
Description/Fun Fact:	Chives have been added to foods for nearly 5,000 years. Native to Asia, they were probably first used by the Chinese. Colonists brought chives with them to America.
Nutrition/Health Benefits:	A mild antiseptic.

Planting Instructions: Plant the seeds 2 to 4 inches deep in moist, well-drained soil about 12 to 18 inches apart in late spring/early summer. (If you don't want to start from seeds, you can also just replant a full-grown plant or borrow a plant from a friend.) Plants grow to be 12 to 24 inches tall. Be sure to water the young plants throughout the growing season. After the flowers bloom, be sure to remove them so that the seeds aren't spread throughout your garden. In the garden, plant chives next to carrots.

Harvesting: Begin harvesting the chives after about 6 weeks. If the plant is already mature (such as in the following growing season), begin harvesting as soon as the plant begins to grow again. Be sure to cut the leaves down to the base when harvesting. Use chives when they're fresh or frozen (freeze the leaves in an airtight bag)

Attributes: Perennial member of the onion family that sport beautiful purple flowers which are also edible.

Collard Greens

Type:	Leafy Green/ cabbage family
Germination Time:	5-10 days
Days to Maturity:	36-77 days
Direct Seed or Transplant:	Direct or Transplant
Sun Exposure:	Full Sun
Planting Season:	July for transplants, August – February for Seeds
Difficulty:	Easy
Description/Fun Fact:	Collards or Greens have smooth, thin leaves but taste mild. They are also heat tolerant. Collards are in the same family with kale and swiss chard. Collards are popular in the South or southern U.S. where it is known as “greens.”
Nutrition/Health Benefits:	High in calcium, fiber, vitamin A, and vitamin C. Collards have more fiber than kale or swiss chard.
Planting Instructions:	Space plants 40 - 50 cm apart.
Harvesting:	Harvest after 9-11 weeks. For best flavor and texture, leaves should be picked before they reach their maximum size.
Attributes:	Watch out for white fly, cabbage root fly, clubroot, cabbage caterpillar, flea beetles, cabbage aphids.

Corn

Type: Vegetable

Germination Time: 10 days

Days to Maturity: 14 days

Direct Seed or Transplant: Direct Seed

Sun Exposure: Full Sun

Planting Season: August-March

Difficulty: Easy

Description/Fun Fact: Ethanol, a renewable biofuel made from corn, is currently blended into more than 80 percent of the nation's fuel supply.

Nutrition/Health Benefits: It's a good source of vitamin C and A, potassium, thiamine, and fiber, and it's very high in antioxidants.

Planting Instructions: Sweet corn is a warm season crop requiring a minimum soil temperature of 50 °F (60-95 °F is optimum) for seed germination. Starting out with fresh purchased seed each year is advisable. Plant the kernels 1 inch deep in heavy soils and no deeper than 2 inches in very light sandy soils. Space the rows 2 to 3 feet apart. Plant early cultivars 8 to 10 inches apart in the row and late cultivars 9 to 12 inches apart. Corn can also be planted in "hills" or mounds instead of rows; use 5 or 6 seeds per hill and then thin to 3 strong plants per hill. Space hills about 3 feet apart.

Harvesting: During the milk stage, the unhusked ear should feel firm, have full kernels at the tip of the ear, and have brown, dry silks. Generally, ears should be ready about three weeks from silking time. When harvesting, break the shank (stem of the ear) close to the ear without breaking the main stock or tearing the shank from the stalk. Grasp the ear near the base and bend it down sharply, or bend it to one side with a rotary motion of the wrist. At first it may be best to hold the shank with one hand and the ear with the other.

Attributes: Once the corn has grown for several weeks, beans can be planted directly next to the corn. The corn will act as a natural trellis, allowing the beans to grow up the corn stalks.

Cucumber

- Type:** Cucumber Family
- Germination Time:** 3-6 days
- Days to Maturity:** 12 weeks
- Direct Seed or Transplant:** Can do either, but if you are planting directly in the soil, the seeds need a day temperature of a minimum 68° F and a night temperature of a minimum 60° F.
- Sun Exposure:** Full Sun
- Planting Season:** Year round in Southern California, but most commonly March – May
- Difficulty:** Easy
- Description/Fun Fact:** There are a wide variety of cucumbers, including sweet Persian cucumbers and others with the shape and color of a lemon. Some grow in a bush and others are trailing, perfect for training up trellises. Watch out for cucumber mosaic virus, and protect from slugs using traps. Leaves may get powdery mildew, which could be a sign of dry soil. If this happens late in the year it will not affect the crop.
- Nutrition/Health Benefits:** Cucumbers are a good source of water and fiber, as well as Vitamin K. They contain smaller amounts of a wide variety of other micronutrients.
- Planting Instructions:** Plant when soil temperature is around 70-75 degrees Fahrenheit. Sow 3 seeds in one hole that is 1" -½ "deep. Thin seedlings to keep the strongest seedling growing. Space the plants 18in and use poles to train vines upward. If not using poles, then pinch the growing points of stems to have leaves grow laterally instead of vertically. Row cucumbers are insect pollinated and they must have the male and female flowers. Greenhouse cucumbers need to have male flowers removed or else cucumbers become bitter. Water regularly, keep soil moist and weed free.
- Harvesting:** Cut fruit once large enough, and check regularly for fruit hidden under leaves.
- Attributes:** Companion planting with corn, sunflowers, peas, carrots, beets, and beans. Cucumbers thrive in shade of corn and sunflowers.

Dill

Type:	Herb
Germination Time:	10-14 days
Days to Maturity:	70
Direct Seed or Transplant:	Direct Seed
Sun Exposure:	Full Sun
Planting Season:	Any time
Difficulty:	Easy
Description/Fun Fact:	Dill attracts beneficial insects to your garden, such as wasps and other predatory insects.
Nutrition/Health Benefits:	The activity of dill's volatile oils qualifies it as a "chemo-protective" food that can help neutralize particular types of carcinogens. Dill has also been shown to act as an antioxidant agent in the body.
Planting Instructions:	Sow dill seeds about 1/4-inch deep and 18 inches apart in rich soil then gently rake the seeds into the soil. The soil should be around 60 to 70°F for best results. Dill does not grow well when transplanted, so start the seeds fresh in the garden in early summer. In order to ensure a season-long fresh supply of dill, continue sowing seeds every few weeks. For an extended harvest, do not allow flowers to grow on the plants. In your garden, plant dill next to cabbage or onions, but keep the dill away from carrots
Harvesting:	As soon as the plant has four to five leaves, you can start harvesting. Pinch off the leaves or cut them off with scissors
Attributes:	Annual self-seeding plant with feathery green leaves. Aromatic herb used frequently in soups, stews, and for pickling.

Eggplant

Type: Vegetable

Germination Time: 10-12 Days

Days to Maturity: 58-80 days, depending on variety

Direct Seed or Transplant: Start plants indoors 2 months before the soil warms up or buy nursery transplants just before planting. Place 3 to 4 inch tall seedlings 24 to 30 inches apart in well-prepared beds.

Sun Exposure: Full Sun

Planting Season: December-February, August-October

Difficulty: Easy

Description/Fun Fact: Eggplants are short-lived perennial vegetables, but are usually cultivated as annuals. Also known as aubergines, eggplants differ mainly in size, shape and color of the fruits. Eggplants are tropical and subtropical, requiring relatively high temperatures. Related crop include tomatoes, potatoes and peppers.

Nutrition/Health Benefits: Low in calories - only 20 calories per cup raw eggplant. Source of potassium, vitamin A, and high in antioxidants.

Planting Instructions: Start plants indoors 2 months before the soil warms up or buy nursery transplants just before planting. Place 3 to 4 inch tall seedlings 24 to 30 inches apart in well-prepared beds.

Harvesting: Harvest 16 to 24 weeks after sowing when the skin of the fruit is shiny and unwrinkled. Cut the fruit close to the stem, but leaving about an inch of it attached.

Attributes: If larger eggplants are desired, restrict the number of fruit grown on one stalk to 5 or 6. This will allow for larger eggplants for harvest.

Fava Beans

Type:	Legume
Germination Time:	10-14 Days
Days to Maturity:	80 Days when sown in Spring; 240 days when sown in Fall.
Direct Seed or Transplant:	Direct Seed
Sun Exposure:	Full Sun
Planting Season:	October – December best; February – May also works.
Difficulty:	Easy
Description/Fun Fact:	Broad beans are thought to originate in the Middle East and are a crop of ancient origin. Evidence has been found of their cultivation since at least 4500 BC.
Nutrition/Health Benefit:	Rich in protein, iron, and calcium.
Planting Instructions:	Sow seed 2 inches deep, 6 inches apart in double rows
Harvesting:	Pick when the pods appear plump and begin to droop from the weight of the seeds. Shell (like peas) and cook or use in soup. For dried beans, wait until the pods start to shrivel.
Attributes:	Enjoy cool season most, can still thrive in shade, used as fall cover crop

Garlic

Type:	Bulb- part of onion family
Germination Time:	N/A
Days to Maturity:	90 days
Direct Seed or Transplant:	Direct
Sun Exposure:	Full Sun
Planting Season:	September - December
Difficulty:	Easy
Description/Fun Fact:	Beyond its intense flavor and culinary uses, “the stinking rose” is good in the garden as an insect repellent and has been used for centuries as a home remedy. Garlic was grown since Egyptian times but was originated from western Asia.
Nutrition/Health Benefits:	Raw garlic has high amounts of salicylic acid that is a natural antiseptic (burns if you put it in concentrated amounts). Garlic has been used topically to decrease inflammation and for exfoliation of the skin to promote healing. Different concentrations for different medical treatments, so please consult doctors and pharmacists. Not only is garlic an antiseptic, but also known to have antiviral, antibacterial(allicin compound and also the culprit for the garlic odor), and antifungal properties. There is ongoing research in the properties for countering certain cancers, cholesterol, digestive problems.

Planting Instructions: Break apart cloves from bulb a few days before planting, but keep the papery husk on each individual clove. Place cloves 4 inches apart and 2 inches deep, in their upright position (the wide root side facing down and pointed end facing up).

Harvesting: Harvest when the tops begin to yellow and fall over, before they are completely dry. To harvest, carefully lift the bulbs with a spade or garden fork. Pull the plants, carefully brush off the soil, and let them cure in an airy, shady spot for two weeks.

Attributes: Perennial but grown as annual for aromatic bulbs.

Green Beans

Type: Legume

Germination Time: 10 days

Days to Maturity: 47-54 days

Direct Seed or Transplant: Direct

Sun Exposure: Full Sun

Planting Season: September - April

Difficulty: Easy

Description/Fun Fact: The bean is a tender, warm season vegetable. Bush Beans stand erect without support, yield well and require the least amount of work. Green bush beans were formerly called "string beans" because fiber developed along the seams of the pods. Plant breeders have reduced these fibers through selection and green beans are now referred to as "snap beans."

Nutrition/Health Benefits: Great source of fiber, vitamin A, vitamin C; also provides calcium, iron, and some protein

Planting Instructions: Plant seeds of bush beans 2 to 4 inches apart in rows at least 18 to 24 inches apart. Seeds of most varieties tend to crack and germinate poorly if the soil's moisture content is too high. For this reason, never soak bean seed before planting. Water just after planting or plant right before a heavy rain.

Harvesting: Plant seeds of bush beans 2 to 4 inches apart in rows at least 18 to 24 inches apart. Seeds of most varieties tend to crack and germinate poorly if the soil's moisture content is too high. For this reason, never soak bean seed before planting. Water just after planting or plant right before a heavy rain.

Attributes: Suitable for freezing; open pollinated

Kale

Type: Leafy Green

Germination Time: 5-10 days

Days to Maturity: 49-63 days

Direct Seed or Transplant: Direct

Sun Exposure: Full Sun

Planting Season: September - January

Difficulty: Easy

Description/Fun Fact: Kale has been cultivated for more than 2,000 years. Popular in Europe during Roman times and the Middle Ages, it arrived in the United States in the 17th century.

Nutrition/Health Benefits: Kale is packed with antioxidants, which help neutralize harmful free radicals in the body. Some research suggests kale helps reduce the risk of certain cancers.

Planting Instructions: Plant the seeds 1/4 to 1/2 inch deep into well-drained, light soil. After about 2 weeks, thin the seedlings so that they are spaced 8 to 12 inches apart.

Harvesting: New leaves will grow from the center of the plant. Harvest the larger, more mature leaves from the perimeter of the plant.

Attributes: Some varieties have curly leaves while others have smoother leaves. Harvest before weather gets too hot. Hot weather turns kale tough and bitter. Young leaves for salads and older leaves for cooking.

Kohlrabi

Type: Vegetable; cabbage family

Germination Time: 5-10 days

Days to Maturity: 60-70 days

Direct Seed or Transplant: Direct or transplant

Sun Exposure: Full Sun

Planting Season: September - March

Difficulty: Easy

Description/Fun Fact: Alien looking vegetable that was found in northern Europe during the fifteenth century. In German, kohl- means cabbage and rabi- means turnip. When boiled, it tastes like cabbage or turnip. If eaten raw, then it has a nutty flavor.

Nutrition/Health Benefits: High in potassium, phosphorous, vitamin C, fiber, vitamin B-6. Also has various other micronutrients and phytochemicals in smaller amounts.

Planting Instructions: From transplant, move seedlings when they are no more than 2 inches high. If sown directly, sow in drills ½ inch deep in rows of 1 foot apart. Thin seedlings when about 1 inch high. Space seedlings 6 to 8 inches apart. Kohlrabi needs sunny, fertile, well-drained, firm (not loose) soil. Mulch with compost to retain water in the soil and manage weeds. Water regularly, especially during drought. For fall and winter crops, protect plants from frost with cloches.

Harvesting: Harvest when bulbs, which are above ground, are the size of tennis balls or golf balls. Trim outer skin of tougher, bigger bulbs before eating. Leaves are also edible when boiled.

Attributes: Biannual

Lavender

Type:	Herb
Germination Time:	2 weeks to 1 month
Days to Maturity:	Varies
Direct Seed or Transplant:	Seed / Seedling
Sun Exposure:	Partial / Full Sun
Planting Season:	Spring – Late Fall
Difficulty:	Easy
Description/Fun Fact:	The scent of lavender deters mice, flies, mosquitoes and other pests from the area
Nutrition/Health Benefits:	Lavender oil can be used to soothe aching muscles and joints, reduce anxiety and stress, and to induce sleep. Edible flowers for salads, fruit dishes, or other decorative dishes.
Planting Instructions:	Space them ½" to 1" apart in a flat of well-drained sterile seed starting mix, and cover them only about ⅛", since light aids germination.
Harvesting:	Prune 1/3 of the flowers
Attributes:	Summer-blooming perennial herb.

Leeks

Type:	Onion
Germination Time:	N/A
Days to Maturity:	105 – 126 days
Direct Seed or Transplant:	Transplant
Sun Exposure:	Full Sun
Planting Season:	October - January
Difficulty:	Medium
Description/Fun Fact:	It is one of the national symbols of Wales. Most of the leeks grown in the world are in France. There are world contests of growing the biggest leek! This tradition is traced back to giant leek contests in pubs and clubs of northeast England during the 1880's.
Nutrition/Health Benefits:	Good source of potassium and iron.
Planting Instructions:	Grow in seed trays, and plant out in 4-6 weeks. Using a dibble, poke holes 6 inches deep, 6 inches apart, in rows 24 inches apart. Drop one plant in each hole. Only an inch or two of the leaves need extend above the soil surface. Do not firm the soil around plants. Water the transplants immediately after planting.
Harvesting:	Leeks can be harvested at any time during the season.
Attributes:	Hardy variety that are biennial but are grown annually for their green leaves. Leek flowers also attract beneficial insects. Companion planting with celery, onions, carrots, shallots, garlic. Typically the leeks are divided into two groups: long, thin leeks and the short, stout leeks.

Loose Leaf Lettuce

Type: Leafy Green
Germination Time: 7-10 days
Days to Maturity: Approximately 28 days
Direct Seed or Transplant: Direct Seed
Sun Exposure: Partial sun
Planting Season: Year round, but can only germinate under 77°F.
Difficulty: Easy
Description/Fun Fact: Growing your own salad greens is very easy and much cheaper than buying box after box of lettuce mixes from the store.
Nutrition/Health Benefits: Rich in vitamin C, vitamin A, and fiber. Good source of calcium and iron as well. Nutrient content depends on what variety of lettuce.
Planting Instructions: If soil is nutrient-poor, mix in organic fertilizer before planting, then water deeply and let settle overnight. Divide seeds into 2 or 3 batches so you can plant successive crops. Thinly broadcast first batch over a block of soil and rake gently into the ground. Water with drip system or overhead watering. Use baits and traps to control slug population. After two weeks, plant another bed in the same fashion. If you alternate between 2 or 3 different beds, planting every 2 weeks, you can have fresh salad mix for most of the year!
Harvesting: Harvest by thinning (pulling up whole plants) when plants are 2 to 3 inches tall. When 5 to 6 inches, begin harvesting by shearing greens 1 inch above root. At this point the plant can regrow.
Attributes: Plant lettuce in the shade of other plants during warmer months. The lettuce will shade the ground, and the taller plants will prevent wilting.

Mustard Greens

Type: Leafy Green
Germination Time: 5-10 days

Days to Maturity: 40 days
Direct Seed or Transplant: Direct seed
Sun Exposure: Full Sun to Partial Shade
Planting Season: September – March; grows year round but best in cool season
Difficulty: Easy
Description/Fun Fact: Mustard Greens/Tokyo Bekana is sometimes listed as "small Chinese cabbage," but it's closer to lettuce in texture, with a surprisingly sweet flavor that is neither hot (like some other mustards) or bitter (like some lettuces)
Nutrition/Health Benefits: It is a good source of Thiamin, Riboflavin, Niacin, Iron and Magnesium, and a very good source of Dietary Fiber, Vitamin A, Vitamin C, Vitamin E, Vitamin K, Vitamin B6, Folate, Calcium, Phosphorus, Potassium, Copper and Manganese. Contains decent amount of protein for a green
Planting Instructions: Sow 3-4 seeds in each spot you want a plant to grow. Sow ¼-½" deep and thin to the strongest plant, spaced 4-6" in the row.
Harvesting: Cut individual leaves, or the whole plant at whatever stage of maturity you desire. Young leaves tend to be more tender and less powerfully flavored as mature leaves. Some varieties will develop a slight bitterness in fully mature leaves.
Attributes: Can be eaten cooked, raw or pickled

Okra

Type: Vegetable
Germination Time: 7-14 days
Days to Maturity: 60-70 days
Direct Seed or Transplant: Direct or transplant

Sun Exposure: Full Sun
Planting Season: March-July
Difficulty: Easy
Description/Fun Fact: Some varieties are tall plants that may reach up to 10 feet sometimes.
Nutrition/Health Benefits: Has potassium, fiber, calcium, and other nutrients.
Planting Instructions: Needs rich, fertile, well-drained or loamy soil at around 65-70 degrees Fahrenheit. Plant ½ -1" deep and 12-18" apart. If using transplants, space 1-2 feet apart. Due to being a tall plant, space rows by 3-4 feet apart. Apply mulch to retain water, but during drought or arid regions water regularly.
Harvesting: Cut off from stem using sharp knife or scissors. Do not let the pods stay on the plant too long or else okra would taste bitter and woody to eat. Constantly harvest tender green pods to get more pods to be produced.
Attributes: Annual

Parsley

Type: Herb
Germination Time: 3 weeks
Days to Maturity: 75 Days
Direct Seed or Transplant: Direct seed / Transplant
Sun Exposure: Full sun to partial shade
Planting Season: October-July; likes colder season

Difficulty: Easy

Description/Fun Fact: It was used as an offering in burial rituals, to make wreathes to crown the victors of sporting events, and medicinally for a variety of ailments. It is also a great natural breath freshener

Nutrition/Health Benefits: High in vitamins A and C as well as numerous minerals

Planting Instructions: Sow outdoors 1¼" deep, spaced 3" apart. Thin final plants to 6" apart.

Harvesting: Cut individual sprigs or the whole plant as desired

Attributes: Biennial, likes cool temperatures

Radishes

Type: Root Vegetable

Germination Time: 3-10 days

Days to Maturity: 21 days

Direct Seed or Transplant: Direct Seed

Sun Exposure: Full sun

Planting Season: October - March

Difficulty: Moderate

Description/Fun Fact: Radish spicy flavor is due to mustard oil inside. Many are familiar with red varieties, but radishes also come in black, purple yellow, and green skinned types.

Usually known to be an indicator crop if one has sown slow germinating plants nearby (parsnips, parsley, or other).

Nutrition/Health Benefits: Radishes are rich in ascorbic acid(vitamin C), folic acid, and potassium. They are a good source of vitamin B6, riboflavin, magnesium, copper, and calcium.

Planting Instructions: Direct sow seeds ½ inch to an inch deep and one inch apart in rows 12 inches apart. Thin to about 2-inch spacing. Crowded plants will not grow well.

Harvesting: Do not leave in the ground long after mature stage, their condition will deteriorate quickly. Cut the tops off short, wash the radishes and dry them thoroughly. Store in plastic bags in the refrigerator.

Attributes: Colorful and crisp. Biennial and annuals grown for edible roots, leaves, and seed pods. Companion plant with chervil, peas, lettuce, nasturtiums, and mustard.

Scented Geraniums

Type: Edible Flower

Germination Time: 7-14 days

Days to Maturity: 80-120 days

Direct Seed or Transplant: Transplant. Easiest to buy 6-packs.

Sun Exposure: Full Sun

Planting Season: March - May

Difficulty: Easy

Description/Fun Fact: The flowers commonly known as geraniums are actually Pelargoniums, but are part of the geranium family. Scented Geraniums consist of over 70 different species of pelargoniums with scented flowers, most of which are edible and make a great addition to any salad. In addition to tasting great, geraniums attract many beneficial predatory insects to your garden.

Nutrition/Health Benefits: N/A

Planting Instructions: Plant in full sun, in well-drained soil with mild acidity. Preferable to plant on a mound.

Harvesting: It takes 12 - 16 weeks for geraniums to flower. Their main purpose is to attract beneficial insects, so you probably should not harvest all of the flowers. Instead take a few off of each plant. When a stem stops flowering, pinch it off.

Attributes: **NOT ALL GERANIUMS ARE EDIBLE!**

Spinach

Type: Vegetable

Germination Time: 6-10 Days

Days to Maturity: 6-8 weeks

Direct Seed or Transplant: Seed or transplant

Sun Exposure: Mixture of Sun and Shade

Planting Season: October - January

Difficulty: Moderately difficult. Must be planted early and grown when temperatures are cool. Needs consistent moisture. Will go to seed (bolt) if too dry, or when days lengthen and temperatures warm

Description/Fun Fact: March 26th is National Spinach Day. First cultivated by Persians, unbeknown to Greeks and Romans.

Nutrition/Health Benefits: Spinach has a high nutritional value and is extremely rich in antioxidants, especially when fresh, steamed, or quickly boiled. It is a rich source of vitamin A

(and especially high in lutein), vitamin C, vitamin E, vitamin K, magnesium, manganese, folate, betaine, iron, vitamin B2, calcium, potassium, vitamin B6, folic acid, copper, protein, phosphorus, zinc, niacin, selenium and omega-3 fatty acids.

Planting Instructions: As soon as you can work the soil in spring, sow seed ½ inch deep, 1 inch apart in rows 12 to 18 inches apart. Thin to 2- to 6-inch spacing. Closer spacing can stress plants and cause them to go to seed (bolt) sooner.

Harvesting: It can be harvested and eaten after only 37 to 45 days

Attributes: Fast growing annual. Companion plant with beans, peas, corn, and strawberries.

Strawberry

Type: Berry

Germination Time: Buy packs

Days to Maturity: 90 days if bought as plant

Direct Seed or Transplant: Transplant

Sun Exposure: Full sun

Planting Season: Early November

Difficulty: Medium

Description/Fun Fact: Once the plant is established, cut off runners as they occur. Check regularly for aphids and red spider mite.

Nutrition/Health Benefits: Strawberries are rich in Vitamin C and Folate, and are a good source of potassium and fiber.

Planting Instructions: Plant in early November, in slightly acidic, preferably sandy soil. Best planted in their own pot, or in 6 to 8 inch high mounds, with 12-18 inches between plants. If poor soil, add manure or other soil amendment before forming mounds. Water lightly every day for a week, or until plant is established, then water only once a week. Best watered using a drip line or soaker hose.

Harvesting: Before fruits ripen, net the plant to exclude birds. Put down slug traps to deter other pests. Harvest fruits when they are full colored all over and eat them right away. Once all crop has been picked, trim off foliage, leaving 1 inch of stalk to protect newly emerging leaves. This reduces chance of infection.

Attributes: Garden strawberry cultivars are divided into 3 types: Junebearers, everbearers, and day-neutrals. These 3 types are categorized based on flowering times juxtaposed to day lengths. Junebearers bear fruit in April. Everbearers bear fruit in summer till August. Day-neutrals are not affected by day length, but are sensitive to heat, drought, and weeds. Day-neutrals bear fruit from January through August.

Sweet Bell Peppers

Type: Vegetable

Germination Time: 7-10 Days

Days to Maturity: 60-90 Days

Direct Seed or Transplant: Transplant

Sun Exposure: Full Sun

Planting Season: August-March

Difficulty: Easy

Description/Fun Fact: The popular green and red bell peppers that we see in supermarkets are actually the same thing; the red peppers have just been allowed to mature on the plant longer, changing color and also gaining a higher content of Vitamin C.

Nutrition/Health Benefits: If you want to maximize the availability of vitamin C and carotenoids from bell pepper, allow this amazing vegetable to ripen. Recent studies have shown that the vitamin C content and the carotenoid content of bell pepper both increase with ripening. When the vitamin C and carotenoid content of bell peppers increases, so does their total antioxidant capacity, which can be a source of great health benefits

Planting Instructions: Begin to harden off plants about 10 days before transplanting. A week before transplanting, introduce fertilizer or aged compost in your garden soil. After the danger of frost has passed, transplant seedlings outdoors, 18 to 24 inches apart. Soil should be

at least 65°F; peppers will not survive transplanting at temperatures any colder. Soil should be well-drained, but maintain adequate moisture either with mulch or plastic covering. Water one to two inches per week, but remember peppers are extremely heat sensitive. If you live in a warm or desert climate, watering everyday may be necessary.

Harvesting: Harvest as soon as peppers reach desired size. The longer bell peppers stay on the plant, the more sweet they become and the greater their Vitamin C content.

Attributes: Annuals and short lived perennials.

Swiss Chard

Type: Leafy Green

Germination Time: 7-14 days

Days to Maturity: 49-84 days

Direct Seed or Transplant: Direct to transplant

Sun Exposure: Full Sun

Planting Season: September - March

Difficulty: Easy

Description/Fun Fact: It gets the name Swiss Chard because of its extensive cultivation in Switzerland.

Nutrition/Health Benefits: Chard is a great source of vitamin K, A(in the form of beta carotene) and C, and is a wonderful cauldron of potassium, magnesium, iron and fiber.

Planting Instructions: Plant the seeds 1/2-3/4in deep in well-drained soil. Space seeds 18 inches apart in single rows or 10-18 inches apart in wide rows. Sow 8-10 seeds per foot of row.

Harvesting: Harvesting when the plants are 6-8 inches tall. Cut off the outer leaves 1-1/2 inches above the ground with a sharp knife. New leaves will grow and provide another harvest.

Attributes: Can come in a rainbow of colors and is a close relative to beets. It is also a biennial but grown annually for leaves and stems.

Tomatoes

- Type:** Potato Family (?)
- Germination Time:** 5-14 days
- Days to Maturity:** 7-12 weeks
- Direct Seed or Transplant:** Transplant, easiest to buy a plant
- Sun Exposure:** Full Sun
- Planting Season:** March - May
- Difficulty:** Easy
- Description/Fun Fact:** Due to a growing interest in heirloom tomatoes, we have a huge variety of tomatoes available to us. There are plum-shaped, round, and ribbed tomatoes that range from the size of a cherry to over a pound in weight. There is also a wide variety of color, including green, white and orange. On top of this, each type of tomato has its own unique flavor. Look out for tomato blight, which looks like mold on the leaves and rots the fruits. Infected plants can be treated with a probiotic bacterial inoculator.
- Nutrition/Health Benefits:** Tomatoes are a great source of Vitamin C, Vitamin A, Folate, Vitamin K, Potassium and Fiber.
- Planting Instructions:** To fruit well, tomatoes should be planted when temperatures are around 70°F to 75°F. It is beneficial to interplant them with marigolds to reduce white fly attacks. If planting in rows, should be 15" apart, with 18" between rows. If grown in blocks, 18" between plants. Once the plant begins to grow, train up cage, and trim off any low leaves and stems that may touch soil.
- Harvesting:** Pick fruits as they ripen fully, reaching the color appropriate to the cultivar. When picking, cut the end of the stem leaving part of it attached to the tomato.
- Attributes:** Short lived perennial grown annually for its fruit. Companion plant with basil, parsley, alliums, asparagus, French marigolds, and nasturtiums. **Leaves and stems**

are poisonous, but fruits are not once they ripen. Tomatoes are part of the nightshade family that produce poisons such as solanine. The family name for nightshade is solanaceae!

Watermelon

Type:	Cucumber family
Germination Time:	7-14 days
Days to Maturity:	70-80 days
Direct Seed or Transplant:	Direct or transplant
Sun Exposure:	Full Sun
Planting Season:	April-June or as long as there is enough warm weather.
Difficulty:	Easy to medium
Description/Fun Fact:	In the cucurbitaceae family, melons are like cucumbers in that they have trailing vines.
Nutrition/Health Benefits:	Mostly water and some sugar with other micronutrients.
Planting Instructions:	Melons need long sunny, humid, and warm weather for growth. Soil needs to be rich, sandy or well-draining, moist, and at least 70 degrees Fahrenheit. Allow for plenty of space for vines that hug against the ground. Use drip line system or soaker hose along with a deep layer of mulch to retain water. Pollination may be a problem due to the male and female flowers are separate instead of together. To pollinate, rely on bees and beneficial insects or use a Q-tip if necessary. Make sure the female flower, ones with a bulb under the flower, are there to begin bearing fruit. Apply manure or compost to the soil. Prevent rotting of fruit, by putting straw or cardboard underneath the melon. Some have used fences to move melons off the ground by making a makeshift hammock for the melons.
Harvesting:	Watermelons are not ripe when picked right off the vine. Easiest way to tell if it's ripe is by tapping the melon to see if it has a light thumping noise or sounds hollow. If tapping gives a deep and dull thumping noise, then it isn't ripe yet. To tell the difference between which ones are ripe or not takes practice. Delicious when chilled in the fridge or under cold running water (river or fountain) during the summer.
Attributes:	Annual

Fertilizers

No Synthetic Fertilizers allowed.

Products listed at the following links are accepted or approval from the faculty advisor:

Link for a list of organic fertilizers available for use in the garden:

<http://www.planetnatural.com/product-category/organic-gardening/organic-fertilizers/>

Link for a list of soil amenders, available for use in the garden:

<http://www.planetnatural.com/soil-amendments/>

The purpose of fertilizers and amendments is to build the soil (increase the living organisms in the soil) and feed the plants. Your soil needs to be abundant in living organisms and microbes that help build quality soil. Amendments are added to improve the structure of the soil, to increase the organic content so that the soil is more capable of holding nutrients and moisture. The main nutrients that plants need are nitrogen, potassium, and phosphorus (N-P-K). Plants need a specific pH balance. For most plants it is ideal at 6.0-6.5; however, there are exceptions (i.e. citrus, blueberries, spinach). Always check for each plant.

Synthetic Fertilizers go directly to the plant, not feeding the soil, which decays and becomes acidic. Organic fertilizers release nutrients slowly over time, feeding the soil and plants.

There are many organic methods for fertilizing and amending soil:

- Dry Fertilizers (kelp meal, bone meal, potash, etc.)
- Seabird & Bat Guano
- Foliar (leaves) Feeding
- Liquid Fertilizer
- Cover crops
- Soil Amenders (chicken manure, worm castings, etc.)

Choosing a fertilizer will depend on the plant being fed, its stage of growth and the current consistency of your soil. First, measure the pH of the soil and add the appropriate fertilizers/amenders. To determine the nutrient ratio needed see the purpose of each of the 3 main nutrients N-P-K (below). For example nitrogen is important to new plant growth and deep green color so it usually needs to be present, but even in a higher ratio for new growth. Phosphorus is important when plants are blooming and fruiting!

N-P-K (You will see this ratio on fertilizer blends-it refers to the blends ratio of the 3 main nutrients, For example 3-5-2, will be 3 parts N, 5 parts P and 2 parts K)

- Nitrogen: keeps plants green and feeds new shoot growth
- Potassium: potash. Key in formation of chlorophyll. Increases disease resistance and general plant health (Solpomag, green sand, etc.)
- Phosphorus: feeds bulbs and blooms (get through decaying organic matter, rock phosphate, bone meal, etc.)

When growing crops in the ground, you should always rotate crops, rest soil, and grow cover

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