

Gardening



Want a great garden? Do your homework and plan it well. Follow through on nurturing the soil and plants to produce the harvest you want.

Lay Out & Design

30" wide path for circulation

Beds less than 4' wide. (The picture above actually has the raised beds in a formation of a smile, with 2 eyes, a smile-elongated bed, later added a square nose-flower bed, and cheeks-2 small circle beds for herbs)

Considerations:

Best layout for the plants. What plants do you want to plant in your garden? Are you looking for exciting kaleidoscope corn, purple cauliflower or something dramatic to capture children's interest or is their a favorite vegetable, herb or fruit you wish you had. Do you want to make smoothies or salads or are you wanting potatoes or peas? Are you worried about GMOs and just want a healthy garden to plan healthier meals from?

Look at the sizes anticipated of fully grown plants and what their growing needs are. Do they have vines that extend out like squash or melons that might smoother another crop? If so, on the edge of a bed or separate bed might be wise. Do they block sunlight? Like corn? Can they assist a plant by being a natural trellis?

Do you want raised beds, how many beds are you planning, how many crops will you plant and what will you plant next to it? A few things to think about...Do you want a fence around it to keep animals out too? Do you need covers for colder weather after the initial planting?



Spacing, Biodiversity & Companion Planting:

<u>PLANT</u>	<u>SPACING</u>	<u>LIKES TO BE NEAR</u>	<u>DISLIKES</u>
Asparagus 	<u>15-18"</u> <u>2-3 years to produce a harvest. 8 hours of light preferred</u>	<u>Basil, parsley, marigolds, spinach, asters, beets, grapes and dill, sun</u>	<u>Onions, garlic</u>
Bean (bush, lima) 	<u>4-6"</u> <u>Full sun, moist, loose well drained soil</u>	<u>Carrots, cucumbers, potatoes, celery. 60-90 days 70-80 degrees, sun</u>	<u>Onions, garlic, leek and shallots</u>
Bean (pole) 	<u>6-12"</u> <u>2 months. Soak seeds in water before planting</u>	<u>Strawberries, cabbage, cucumber, sunflowers</u>	<u>Garlic, onion, fennel</u>
Beets 	<u>2-4"</u> <u>Full sun 5 hrs , nonacidic soil</u>	<u>Bush beans, butter beans, cauliflower, kale, peas, onions, garlic, celery, lettuce</u>	<u>Pole beans, field mustard and wild mustard</u>

<p><u>Broccoli</u></p> 	<p><u>12-18"</u> <u>100-150 days. Cut buds 5-6" of stem. Full sun.</u></p>	<p><u>Dill, sage, potatoes, celery, garlic, onions, geraniums</u></p>	<p><u>Tomatoes, pole & runner beans, peppers</u></p>
<p><u>Brussel Sprouts</u></p> 	<p><u>15-18" 3 months</u> <u>Spring Early Fall</u> <u>Biennial-seeds 2nd yr</u></p>	<p><u>Sage, beets, bush beans, carrots, celery, lettuce, onion, pea, potato</u></p>	<p><u>Strawberries, cabbage, eggplants, peppers.</u></p>
<p><u>Cabbage</u></p> 	<p><u>15-18" 6 hrs of sun 80-180 days</u></p>	<p><u>Aromatic herbs, sage, rosemary</u></p>	<p><u>Rue, strawberries, tomatoes, garlic</u></p>
<p><u>Carrots</u></p> 	<p><u>15-18" 6-8 hour direct but not full sun</u></p>	<p><u>Tomatoes, lettuce, chives, rosemary, sage, peas</u></p>	<p><u>Strawberries, fennel, cabbage, dill</u></p>
<p><u>Cauliflower</u></p> 	<p><u>15-18"</u> <u>Annual</u></p>	<p><u>Beans, celery, 8-12 weeks cool, Full sun well drained soil</u></p>	<p><u>Onion, beans, peas, strawberries</u></p>
<p><u>Swiss Chard</u></p> 	<p><u>6-9"</u></p>	<p><u>Tomatoes, Radishes, lettuce, celery, thyme</u></p>	<p><u>Potatoes, corn, cucumber, melons</u></p>
<p><u>Collards</u></p> 	<p><u>12-15"</u> <u>Early Spring, Late Summer</u></p>	<p><u>Mint, Tall plant likes full sun,</u></p>	<p><u>Radishes, cabbage</u></p>
<p><u>Corn</u></p> 	<p><u>15-18"</u></p>	<p><u>Sunflowers, beans, peas, pumpkin, squash, melons, parsley, cucumber</u></p>	<p><u>Cabbage, tomato, celery, tomatoes</u></p>

<p><u>Cucumbers</u></p> 	<p><u>18-36"</u></p>	<p><u>Corn, sun flowers, broccoli,</u></p>	<p><u>Potatoes, tomatoes, cauliflower, cilantro, basil, rosemary, thyme, lavender, sage</u></p>
<p><u>Endive</u></p> 	<p><u>15-18"</u></p>	<p><u>Radish, turnips, parsnip</u></p>	<p><u>Pumpkin, squash</u></p>
<p><u>Eggplant</u></p> 	<p><u>18-24"</u></p>	<p><u>Beans, peas, peppers, spinach, thyme</u></p>	<p><u>Fennel</u></p>
<p><u>Kale</u></p> 	<p><u>15-18"</u></p>	<p><u>Beets, celery, cucumbers, herbs, onions, spinach, chard, potatoes</u></p>	<p><u>Beans, strawberries or tomatoes</u></p>
<p><u>Leeks</u></p> 	<p><u>3-6"</u></p>	<p><u>Beets, carrorts, celery, onions, spinach</u></p>	<p><u>Beans, peas</u></p>
<p><u>Lettuce</u></p> 	<p><u>10-12"</u></p>	<p><u>Carrots, radishes, strawberries, cucumber, beans</u></p>	<p><u>Celery, parsley,</u></p>
<p><u>Melons</u></p> 	<p><u>18-24"</u></p>	<p><u>Peas, beans, cabbage, broccoli, cauliflower, carrots, kale, okra, spinach, sunflowers, lettuce, brussel sprouts</u></p>	<p><u>Squash, potatoes or cucumbers</u></p>

<p><u>Mustard Greens</u></p> 	<p><u>6-9"</u> <u>Spring. Garden fertilizer 1 cup</u></p>	<p><u>Corn, English peas, snap peas, jasmine, clematis</u></p>	<p><u>Garlic, inions, thyme, mint, sage</u></p>
<p><u>Okra</u></p> 	<p><u>12-18"</u> <u>Spring early summer</u></p>	<p><u>Sweet and hot peppers, eggplant, lettuce, peas, radishes, sunflowers</u></p>	<p><u>Distance the plants.</u></p>
<p><u>Onions & Garlic</u></p> 	<p><u>6-12"</u></p>	<p><u>Carrots, beet roots, cabbage, tomatoes, lettuce</u></p>	<p><u>Peas, Beans, Parsley, Leeks</u></p>
<p><u>Peas</u></p> 	<p><u>2-4"</u></p>	<p><u>Lavendar, carrots, turnips, radish, corn beans</u></p>	<p><u>Onion and garlic</u></p>
<p><u>Peppers</u></p> 	<p><u>12-15"</u></p>	<p><u>Tomato, geraniums, basil, carrots, onion</u></p>	<p><u>Beans, cabbage, kale</u></p>
<p><u>Potatoes</u></p> 	<p><u>10-12"</u></p>	<p><u>Coriander, beans, corn, cabbage</u></p>	<p><u>Cucumber, pimkin, tomatoes, melon and sunflowers</u></p>
<p><u>Radishes</u></p> 	<p><u>2-3"</u></p>	<p><u>Lettuce, spinach, cucumbers, squash, parsnips, beans, peas, tomatoes, beets</u></p>	<p><u>Potatoes, grapes, turnips, mint</u></p>

<u>Rutabaga (turnip)</u> 	<u>4-6" Shade</u>	<u>Peas</u>	<u>Mustard greens, broccoli, cabbage</u>
<u>Spinach</u> 	<u>4-6"</u>	<u>Strawberries, peas, broad beans</u>	<u>Potatoes</u>
<u>Squash (summer)</u> 	<u>18-24"</u>	<u>Radishes, pumpkin, marigolds, corn, cucumbers, peas or beans</u>	<u>Potatoes</u>
<u>Tomato</u> 	<u>18-24"</u>	<u>Basil, oregano, parsley, chives, onions, carrots, geranium</u>	<u>Potato, cabbage, cucumbers, cilantro, tomatoes, brocolli</u>
 <u>Marigolds</u>	 <u>Thyme</u>	 Rosemary	 Yarrow
<u>Marigolds-plant in garden but away from peas and beans, repels aphids, been beetles and deer. Thyme-deters cabbage worms, Rosemary-deters moths, beetles and flies, Yarrow-enhances oil production in herbs for aroma.</u>			

Planning is KEY to a healthy garden. Why do we do this pairing of certain plants next to others, soil nutrients, bug attractants or deterrents, trellising options, roots protection. Do we want to rotate the crops yearly? You need to research what plants you are planting so you know these answers.

Once you have selected which plants will go where in your garden, it is a matter of getting good soil to work with. Garden soils contain sand, silt, loam, rocks and other minerals while potting soils contain natural rocks, moss, composite and plant matter. The best soil for optimum growth is rich sandy loam, which contains moss, sand and compost. There are 6 types of soil: clay, sandy, silty, peaty, chalky and

loamy. To get rich soil you may add manures for nitrogen, try composting, plant cover crops. A downed tree may have rich soil inside it.

Now to plant your seeds.

Seedlings-use a little bit of soil and plant the seeds as recommended on the packets or after your research. Place the containers in an area sun will be available and water as needed, check the soil with your fingers to see how dry it is before watering. Note some plants like dry soil and others like the soil to be moist. In the initial growing process, place a watering chart on a clip board and assign the watering tasks accordingly. Use a mister or small watering can to keep the soil moist but not soggy, let the soil dry in between watering's and set up a fan to get air movement and prevent plants from getting diseases.



Schedule: (What to plant when dependent on your location). Indoor seed starting gives you the most control over your seedlings, because you can track the germination and give the more moisture or warmth as needed. In a contained environment seedlings are less prone to pests and diseases.

The farmers almanac has made the following recommendations for indoor or direct sowing outdoors.

Crop	Start Seeds Indoors	Or Start Seeds Outdoors
Basil	Feb 19-March 23	N/A
Beets	N/A	4/2-23, 4/8-21
Bell Peppers	2/5-19	4/30-5/7
Broccoli	3/4 – 19	3/26-4/16
Brussel Sprouts	¾ -19	3/ 19-4/9
Cabbage	2/19-3/23	3/19-4/2
Cantaloupes	3/19-3/26	4/30-5/7
Carrots	N/A	3/12-26
Cauliflower	3/4 -19, 3/24-4/2	N/A

Celery	2/5-19, 4/23-5/7	N/A
Chives	N/A	3/19-3/26
Cilantro	N/A	4/16-30
Corn	N/A	4/16-30
Cucumbers	3/19-26	N/A
Dill	N/A	3/12-26
Eggplant	2/5-9, 4/30-5/7	N/A
Green Beans	N/A	4/23-5/7
Kale	3/ 4-24	N/A
Lettuce	3/ 4-19, 4/2-30	N/A
Okra	N/A	4/30-5/14
Onions	N/A	3/19-4/9
Oregano	2/5-3/4, 4/16-5/7	N/A
Parsley	N/A	3/19-4/2
Parsnips	N/A	3/26-4/16
Peas	N/A	3/ 4-26
Potatoes	N/A	4/9-21
Pumpkins	3/19-4/2, 4/30-5/7	N/A
Radishes	N/A	2/19-3/12
Rosemary	2/5-9, 4/23-5/7	N/A
Sage	2/19-4/22	N/A
Spinach	N/A	3/ 4-26
Squash	3/19-4/2, 4/30-5/7	N/A
Sweet Potatoes	3/19-26, 4/30-5/21	N/A
Swiss Chard	3/ 4-3/26	N/A
Thyme	2/19-3/24, 4/23-5/7	N/A
Tomatoes	2/19=3/4, 4/23-5/7	N/A
Turnips	N/A	3/19-4/9

Watermelon	3/19-26, 4/30-5/7	N/A

Once seedlings have grown two to three sets of leaves, 2-3 weeks, they are mature enough to go outside. About 7-10 days before seedlings are ready to be transplanted, take them outside and leave them in the shade for a few hours in the morning or afternoon. Eventually leave them overnight, as long as temperatures do not drop below freezing. Ideally 50-80 degrees works best, moisten the seeds with a mister. If you need to speed up the process, wrap the tray in plastic wrap, once you see green growth remove the plastic wrap. If you need to strengthen your seedlings, move them to a pot and plant them deeply for a few days before transplanting outside. Be gentle with the roots of the plant in transplanting, take a look at the spacing and what plants to put near the other, depth should be on the packet but at a minimum seeds should be planted at a depth two times the width or diameter of the seed, (ie seed 1/16" thick, plant it 1/8" deep).

Pests: Aphids, Spiders, Beetles and Stink Bugs Oh MY....flies, ants and slugs too.

Aphids-leave a sticky substance that can allow black fungus to grow

Red Spider Mites-live under leaves, suck sap, leave molting. Try an organic spray.

You can review 44 different kinds of bugs...but what are you going to do?

Tomato leaf is a natural insecticide. Most commercial insecticides are derived from Australian and African chrysanthemum flower varieties. Why not plant a few.

What pests are beneficial to the garden? Lady bug, Praying mantis, spiders, ground beetles, wasps.

INSECT	PREYS ON	ATTRACTANT
Lady bugs 	Aphids, White flies, Potato Beetles	Dill, Dandelion
Ground Beetles	Slugs, Caterpillars, Potato Bugs & Cutworms	Clover
Minute Pirate Bugs	Spider Mites, aphids, caterpillars	Fennel, alfalfa, spearmint
Green Lacewings	Aphids, Whiteflies, Leafhoppers, mealybugs	Dill, coriander
Aphid Midges	Aphids	Dill
Damsel Bugs	Caterpillars, Mites, Aphids and Cabbage Worms	Caraway, Spearmint, Fennel

Braconid Wasps	Caterpillars, Aphids	Parsley, Yarrow
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Irrigation: If watering is going to be an issue, consider installing timers on hoses, adding a automated valve, tubing and emitters and looking at the best layout and design for a drip system. Soaker hoses are cheaper, but less precise. Drip emitters can be spaced so they drip over the root zone. By watering specific spots, it cuts down on plant disease by over watering. It is better to water plants during the day so the sun assists them in drying out. With a drip system run it about 1 inch of water (minutes are dependent on garden size) about 5 hours a week. This can be different depending on many factor, check your soil.

Shade: (Hot spell)

A good rule of thumb is to plant in rows North to South. Taller plants in the 9-4 sun, Cabbage, Onions, Zucchini in the shade.

Hot spells-water early and late, water longer and slower.

Harvesting your crops

Gathering ripe crops from your garden. Yeah you now have fruit, herbs and vegetables. Take this time to pick these up and take them inside to use. Also this is a good time to pull weeds around the crop and check the leaves for bugs and insects. Vegetables may be harvested when they are just half grown. The harvest period is usually only 1-2 weeks. Small gardens will harvest by manual reaping, larger ones will use machinery.

Educational component regarding reinvesting in your garden. Make smoothies, sell herbs and put the money back into the land.