

Basic Steps to Starting a Garden



- Step 1: Find a Place to Plant
- Step 2: Get Seeds and Tools
- Step 3: Prepare the Soil
- Step 4: Plant
- Step 5: Care for the Garden
- Step 6: Harvest Time
- Step 7: Prepare for the Next Year/
Season



This material was produced by the California Department of Public Health's *Network for a Healthy California*, with funding from the USDA Supplemental Nutrition Assistance Program (formerly the Food Stamp Program). These institutions are equal opportunity providers and employers. In California, food stamps provide assistance to low-income households, and can help buy nutritious foods for better health. For food stamp information, call 1-530-225-5767. For important nutrition information visit www.cachampionsforchange.net.

The use of trade, firm, or corporation names in this publication (or page) is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by the United States Department of Agriculture or the Agricultural Research Service of any product or service to the exclusion of others that may be suitable.



Step 1: Find a Place to Plant



Where Should Your Garden Go?

Think Location:

The availability of plenty of sunlight and well-drained, level soils are important factors in deciding where to put your vegetable garden. The site should be fairly level to avoid erosion problems. A garden should be located away from trees and shrubs, not only because of shade, but also because they compete for soil moisture and plant nutrients. Ideally, your garden should be at least 75 to 100 feet away from any trees, especially from any nut trees.

Check the Soil:

Fruits and vegetables grow best in well-drained, fertile soil. Improving drainage and soil structure can help poor soil. Organic matter (compost, peat moss, manure, and decayed ground bark) mixed with tight soils will open them up and improve drainage.

Needs Sun:

At least 6 hours of full sunlight daily is necessary to produce healthy, top-quality vegetables. If the best, well-drained location has some shade, locate cool-season crops such as lettuce, radishes, carrots, and cabbage in partial shade. Full sun is needed to grow crops such as sweet corn, snap beans, tomatoes, and peppers.

Water Supply:

Water is one of the most important needs of a garden. Make sure an adequate and safe water supply is nearby. Water generously once per week with a one inch application. You can set out a watering can with a one inch mark inside (as a guide) to collect sprinkler water. That way you will know when you have watered appropriately.

Think Size:

Your garden's size depends on the kind and amount of vegetables desired, land availability, and your time commitment. A manageable size for a garden is 100 square feet (10 ft. x 10 ft., for example), but smaller or larger spaces can be used. Make sure that your first garden is not TOO BIG!

Map it Out:

Make a garden map, plan, or graph so that after the growing season you will know the locations of your fruits and vegetables. This will help you to avoid planting them in the same place the following year. Crop rotation helps cut down on the spread of diseases, especially for the cabbage family and tomatoes.

Find a Place to Plant, cont...

Small Plot Vegetable Gardening

Overall points

- Choose a site that receives at least 6 hours of sun each day.
- If the land has never been used for a garden, use a rototiller or dig up the area in the early spring to a depth of 6 or 8 inches.
- Even if space is limited, remember not to crowd the plants. They need air and elbow room.

Space Saving Techniques

- **Try Inter-planting:**

This is a technique that involves growing two or more vegetables in one area by planting slow-and-fast growing crops among each other. The fast maturing vegetables will be harvested before the crops begin to crowd each other. You can also alternate rows of fast and slow maturing vegetables. For example, plant a row of tomatoes (slow maturing) and lettuce (fast maturing).

- **Try Succession Planting:**

This involves planting another crop once the other is harvested or finished. For example, when spinach has been harvested, replant the space with beans or beets.

- **Wide Row Planting:**

This technique involves scattering fruit and vegetable seeds over an 8 to 12 inch band rather than a single row. This method works best for leafy vegetables like spinach and lettuce, that will ultimately form a leaf canopy that prevents weed growth.

- **Use Vertical Space:**

Using a trellis or fence to support pole beans, cucumbers, and squash is a great way to maximize a limited space. You can also cage or stake the tomato plants.

- **Plant Bush Varieties:**

By planting “bush” varieties, the plants take up less space in the garden than standard varieties. Bush varieties, available as seeds, are found in cucumbers, muskmelon, watermelon, and squash.

- **Square Foot Gardening:**

This technique involves marking squares of space for crops rather than planting in straight rows. Common arrangements involve marking off 1 foot by 1 foot areas of garden space. Plants are planted according to their space needs.

- **Bottom Line:**

Gardens don't have to be square. They can be planted in a circle or a triangle.

Find a Place to Plant, cont...

Container/Raised Bed Gardening

Overall Points

- To begin, be sure to select a container that is large enough to hold the plant and its root system.
- For most vegetable crops, a 3 to 5 gallon container is preferred.
- Soil-less potting mixes (often contain peat moss, vermiculite, and perlite) are the best for container gardens. The mix is less likely to compact, holds moisture and plant nutrients very well, and is typically lightweight.
- Plants grown in containers require frequent watering because they dry out quickly from the sun and wind. Some plants may require daily watering.
- Clay, wood, plastic, cement, and metal are all suitable container materials for growing plants.
- Raised beds that are 2-3 feet wide make reaching across easier for weeding and harvesting.
- When using raised beds you can plant the fruits and vegetables closer together because you don't need to walk on the soil.
- For the best results, use drip lines or slow-release watering units in containers.

Types of Containers

- Examples of possible containers include clay pots, old pails, bushel baskets, plastic buckets, wash tubs, wooden planters, or hanging baskets. Almost any type of container can be used as long as it has good drainage via holes in the sides or bottom.
- Wood containers can be easily constructed, but will last longer if cedar or redwood is used.
- The typical size for a wooden container is 18 x 24 x 8 inches. Drainage holes must be drilled in the bottom or around the sides near the bottom of the box. A mesh screen can be cut to fit the bottom of the container to allow water, but not soil, to drain. Soil 6 to 8 inches deep is the minimum for most vegetables.

Suggested fruits and vegetables for container raised bed gardens:

- | | |
|----------------|------------------|
| a. Beets | h. Onions |
| b. Carrots | i. Peppers |
| c. Cucumbers | j. Radishes |
| d. Eggplant | k. Summer Squash |
| e. Green Beans | l. Spinach |
| f. Kohlrabi | m. Swiss Chard |
| g. Lettuce | n. Tomatoes |



Step 2: Get Seeds & Tools



Selecting Seeds for Planting

Overall Suggestions

- Obtain seeds early in the year (January through March) for the best selection.
- Select seeds based on the time of maturity (how long they need to grow) and disease tolerance. This information should be on the package label.
- If you choose to save seeds from the vegetables in this year's garden, make sure to store them in a closed container until next year.

Quick Tips

- **Check Storage:**

Seeds should be kept in a cool and dry place to ensure good germination at planting. Paper packets are best kept in tightly closed cans or jars until seeds are planted. Laminated foil packets ensure dry storage.

- **Saving Seeds:**

Some gardeners save seeds from the previous growing season. This requires knowing how to select, produce, handle, and store the seed. To ensure germination, purchase new seeds each year.

Items Needed for Your Garden

The Necessities

- Rake
- Shovel
- Garden hoe



Other Accessories

- Small hand trowel
- Watering can
- Turning fork
- Small bucket
- Plant labels or row markers
- Rope or twine to mark rows if planting in straight rows
- Garden hose
- Lawn sprinkler
- Wheelbarrow



Step 3: Prepare the Soil



The Ultimate Garden Soil

The ultimate garden soil is deep, loose, fertile, well drained, slightly acidic (with a ph level of 6.2 to 7.0), and has lots of organic matter. Most garden soils don't meet all these requirements, so it is a good idea to try to improve your soil to the best of your ability.

How to Improve Your Soil

Test Your Soil

Testing your soil is one practical way to know the nutrients your soil may need and whether your soil's ph is too low, too high, or just right. The soil test helps you determine if you need to add lime (for low ph) or elemental sulfur (for high ph). For more information on soil testing, contact your county University of California Cooperative Extension office (see resources). Also, a ph indicator can be purchased from a local garden center. The ph for an ideal garden is around 6.8.

Add Organic Matter

To yield quality fruits and vegetables, garden soil needs lots of organic matter mixed in. You can improve soils by adding organic matter. Organic matter helps create good crumb-like structure. This helps for better water and air movement and easier root penetration. The key to improving either sandy or heavy soils is to add organic matter frequently. Types of organic matter include rotted manure (aged), certain plant leaves, grass clippings (from a non-chemically treated lawn), compost, green manure, crop residues or peat moss. Add about 1-4 inches of organic matter on top of the soil. Then, blend the organic matter into your soil at least 6 inches deep. The best time to add organic matter is in the fall after the previous growing season, when soils are reasonably dry. If you add it in the spring, make sure the soil is dry enough and work it in right away.



Step 4: Plant



Getting Ready to Plant in the Garden

- An important point to remember is that some vegetables grow best in cool temperatures, while others require warm soil and air.

Cool and Warm Season Crops:

- Cool season crops can be planted when the ground temperature is around 50 degrees; warm season crops are planted when the ground temperature is at 60 degrees.

Cool season crops:

Beets
Carrot
Peas
Lettuce
Chard
Mustard
Greens
Cabbage
Broccoli

Warm season crops:

Corn
Beans
Squash
Pumpkins
Peppers
Eggplant
Melons
Cucumbers
Brussels Sprouts

A Few Things to Consider

- **Buying or Growing Transplants:**

Many crops need to be started early indoors. This head-start allows a crop that needs a longer growing season the ability to mature before frost in the fall. Most people find it easier to purchase plants from garden centers and greenhouses rather than starting from seeds. If buying, be very selective by choosing the dark green, stocky plants over leggy, yellow, weak ones.

- **Setting Transplants into the Garden:**

The main goal is to avoid root disturbance as much as possible. Try to transplant late in the afternoon or during a cloudy day. Protect newly set plants with light shade during bright days for the first 3-5 days. If planting early in the spring, you may want to be sure to provide some ventilation so the heat generated from the sun does not “cook” your plants. Water the transplants the day before you are planning to plant them into the garden.

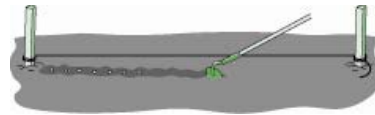
Plant, cont...

Different Ways to Plant Your Garden

- **Straight-Row Furrows:**

Although straight-row furrows are not the most efficient use of space, they make cultivation, insect control, and harvesting easier. To plant a straight-row furrow, first stretch a tight cord (or rope) between stakes at the end of each row. A 1½ to 2-inch furrow can be made using the blade of a garden hoe. Use this method when planting large seeds, such as beans and corn. The handle of a garden hoe can be used to make ¼ to ½ inch shallow furrows for small-seed crops such as lettuce, beets, and carrots.

Illustration 1.
Straight-Row Furrow



- **Wide Row Planting:**

This method involves scattering seeds across a wide row to produce greater yields of smaller vegetables. This allows for a more efficient use of sunlight, space, and soil nutrients. Set your wide row by drawing a rake over the ground. Seeds can be planted in 4 to 24 inch wide bands, rather than rows. The bands reduce the chance of malformed roots. Some thinning is required during the growing season to ensure quality vegetables. Careful hand weeding is required. If using a raised bed, plants such as broccoli, tomatoes, peppers, and eggplant can be set closer together than in a typical straight row format.

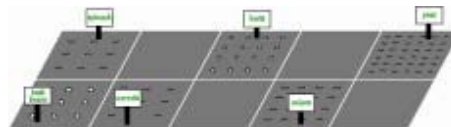
Illustration 2.
Wide-Row Planting



- **Square-foot Gardening:**

Similar to the wide-row planting method, extra hand weeding may be required with square-foot gardening. However, this method is a very efficient use of garden space. Instead of planting in rows, the garden is divided into squares that are 1 foot by 1 foot (12" x 12"). The number of plants in each square depends on the variety, how big the plant will get, and how far apart it needs to be from other plants in order to develop properly.

Illustration 3.
Square-foot Gardening



- **Hill Planting:**

This method is mostly used for vine crops, such as squash, melons, and cucumbers. Hills let the roots range out from a central growing point, which helps the plant obtain more soil nutrients and water. Begin by raking dirt into a round hill that is raised from the ground, creating a 12 inch circle. Next, plant 4 to 5 seeds. Later when the plants begin to grow, thin the hill to no more than 3 plants. Raised mound plantings are not highly recommended for the entire garden, as the soil will dry out much more quickly than if it were level. This can result in poor seed germination.

Illustrations 1-4 by Jane Lenahan and used with permission from Iowa State University Extension.

Illustration 4.
Hill Planting



Vegetable Gardening

What, Where, and How Much to Plant

The University of California Vegetable Research and Information Center

The authors are Harwood Hall, Farm Advisor, Susan Wada, Technician, and Ronald E. Voss, Extension Vegetable Specialist.

The chart on Table Two lists some basic and important information about growing and storing vegetables. It can help you decide what, when, where, and how much to plant.

WHAT DO THE TERMS “WARM-” OR “COOL-SEASON” CROPS MEAN?

Warm- or cool-season crops are common descriptive terms for types of vegetables and refer to more than the necessary weather conditions for growing them.

WARM-SEASON CROPS

Setting “fruit” (eggplant, peppers, squash, tomatoes, etc.) is the objective of warm-season crops. These crops require soil warmth and short days to germinate, but need long days and high temperatures to form and ripen fruit.

Early varieties need less total heat than later ones. Late varieties need more heat to mature. Thus, early varieties are good for the home gardener who lives in an area with a short growing season, or for the gardener who wishes to make two plantings.

COOL-SEASON CROPS

A cool-season crop is grown for its vegetative parts: the roots (carrot), leaves (cabbage), stems (celery), and immature flowers (broccoli).

The food value of cool-season crops is generally higher than that of warm-season crops per pound and per acre. Their natural planting and harvesting period is in the cool time of the year. However, these crops can be grown all year in temperate zones, such as the coastal areas, and can be planted in summer in the hot interior valleys for winter gardens. They can also be grown in partial shade in the summer. They are well adapted to small areas and containers. Their root systems are shallow-to-medium depth.

PLANTING TIME

What do the seed packages mean by “Sow when all danger of frost is past” or “Sow in spring as soon as soil can be worked”...? These general directions may not apply to your situation. Most of California is not subject to prolonged frost or water-saturated soil.

However, this doesn't mean that you can plant all crops year round. Warm-season crops need warm temperatures, for example. You will not speed up your harvest by planting earlier than suggested by the chart. Plants grow more slowly in cool weather, so earlier-planted vegetables of the same type end up being harvested at the same time as those planted later.

Vegetable Gardening cont...

The University of California Vegetable Research and Information Center

WHEN SHOULD I PLANT IF I LIVE OUTSIDE THE AREAS LISTED ON THE CHART?

The chart dates on Table Two are general, and you may wish to contact your Farm Advisor for more information. However, you may get some clues as to your best planting dates by comparing your climate to the ones described on the chart.

The Sierra and Siskiyou foothills reach the same summer temperatures as the Central Valley, but their warm season is shorter. Therefore, their planting must be later and their harvest must be earlier. Appropriate plant varieties must be chosen.

Climatically, the coastal valleys (for example, the Sonoma and Napa Valleys) are between the Central Valley and the coastal areas. Their winters are mild, thus permitting their growing of cool-season crops during winter, but the summers are hot like the Central Valley and warm-season crops also do quite well.

IS THE CHOICE OF A SPECIFIC VARIETY IMPORTANT?

The choice of a variety may be the most important decision you can make in planning your garden. Properly selected varieties can make the difference between having a healthy or a diseased crop, a bumper crop, or a meager one.

Varieties are adapted for a number of things: disease resistance, growing-season length, the size of the vegetables and/or plants, and growth response for specific areas. Before you purchase your seeds or transplants, find out which diseases may be prevalent in your area. Disease-resistant varieties of the vegetables you want to grow may be obtainable. Some varieties also may do especially well in your area. There may be varieties adapted to the time period in which you can grow them. You may want to consider growing extra-early varieties that will mature at smaller sizes to fit in a limited space or to allow experimenting with a greater number of

Table Two
Vegetable Gardening at a Glance: How to Plant and Store

Recommended planting dates for sections of California		General planting requirements			Storage conditions	
Vegetables	Interior Valleys: Sacramento, San Joaquin, and similar Valleys	Crop type C—Cool Season W—Warm Season	Between Plants in Rows (distance in inches)	Between Rows- No Beds (distance in inches)	Best Temp (F °)	Time Length (weeks)
Artichoke ³	July	C	48	60	32	1-2
Asparagus ³	Jan.-Feb.	C	12	60	32	3-4
Beans, lima ¹	May-June	W	6 bush 24 pole	30	40	1-3
Beans, snap ^{1,2}	Apr.-May, July-Aug.	W	3 bush 24 pole	30 ⁴	45-55	1-2
Beets ^{1,2}	Feb.-April August	C	2	18 ⁴	32	3-10
Broccoli ^{2,3}	Dec.-Feb. July	C	9-12	36	32	1-2
Cabbage ^{1,3}	July February	C	24	36	32	12-16
Cabbage ¹ Chinese	August	C	6	30 ⁴	32	2-3
Cantaloupes/ other melons	April-June	W	12	72	32	2-4
Carrots ^{1,2}	Aug.-Sept. Feb.-Apr.	C	2	24 ⁴	40-50	16-20
Cauliflower ³	July-August	C	24	36	32	2-3
Celeriac	June-August	C	4	24 ⁴	32	8-16
Celery ^{1,3}	June-August	C	5	24 ⁴	32	8-16
Chard ¹	Feb.-August	C	12	30	32	1-2
Chayote	May-June	W	72	Use trellis		---
Chives ¹	Feb.-March	C	---	---	---	---
Corn, sweet ²	March-July	W	12	36	---	½-1

Table Two—Vegetable Gardening at a Glance: How to Plant and Store, cont...

Recommended planting dates for sections of California		General planting requirements			Storage conditions	
Vegetables	Interior Valleys: Sacramento, San Joaquin, and similar	Crop Type	Between Plants in Rows (distance in inches)	Between Rows- No Beds (distance in inches)	Best Temp (F°)	Time Length (weeks)
Cucumbers	April-July	W	24	48	45-55	1-2
Eggplant ^{1,3}	April-May	W	18	36	50-60	1-2
Endive ¹	January-April	C	10	24 ⁴	32	2-3
Florence fennel	August	C	4	30 ⁴	32	2-3
Garlic ¹	Oct.-Dec.	C	3	18 ⁴	32	24-32
Kohlrabi ¹	August	C	3	24	65-70	2-4
Leeks	January-April	C	2	24	32	4-12
Lettuce ^{1,2}	August Nov.-March	C	12 head 6 leaf	24	32	2-3
Mustard	August-April	C	8	24 ⁴	32	1-2
Okra	May	W	18	36	32	50-60
Onions (bulb) ¹	Nov.-March	C	3	18 ⁴	32-36	12-32
Onions (green) ^{1,2,3}	Aug.-Dec.	C	---	---	85-90	---
Parsley ¹	Dec.-May	C	8	24	32	1-2
Parsnips	May-July	C	3	24 ⁴	32	8-16
Peas ^{1,2}	Sept.-Jan.	C	2	36 bush	32	1-2
Peppers ^{1,3}	May	W	24	36	45-55	4-6
Pumpkin	April-June	W	48	72	55	8-24
Potatoes ³ , sweet	April-June	W	12	36	55-60	8-24
Potatoes, white	Feb.-March Aug.	W	12	30	40-45	12-20
Radish ^{1,2}	Sept.-April	C	1	6 ⁴	32	8-24
Rhubarb ³	Dec.-Feb	C	36	48	32	2-3
Rutabaga	August	C	3	6 ⁴	32	8-16
Spinach ¹	Sept.-Jan	C	3	18 ⁴	32	1-2

Table Two—Vegetable Gardening at a Glance: How to Plant and Store, cont...

Recommended planting dates for sections of California	General planting requirements	Storage conditions
---	-------------------------------	--------------------

Vegetables	Interior Valleys Sacramento, San Joaquin, and similar Valleys	Crop Type	Between Plants in Rows (distance in inches**)	Between Rows- No Beds (distance in inches**)	Best Temp (F°)	Time Length (weeks)
Squash ¹ , summer	April-July	W	24	48	50-55	2-3
Squash ¹ , winter	April-June	W	24-48	72	55	8-24
Tomatoes ^{1,3}	April-May	W	18-36	36-60	55-65	1-2
Turnips ¹	February- August	C	2	18 ⁴	32	8-12
Watermelons	April-June	W	60	72	40	2-3

Some vegetables in this chart carry numbers. This is your key to what those numbers mean:

1. This crop is suitable for a small garden if compact varieties are grown.
2. In a suitable climate, these crops can be planted more than once/year for a continuous harvest.
3. Transplants, shoots, or roots are used for field planting.
4. If grown in beds, plant two rows per bed. Space the beds about 32-40 inches apart and make the tops of the beds 18 inches wide.

Since the areas shown here are large, planting dates are only approximate, as the climate may vary even in small sections of the state. Contact experienced gardeners in your community and experiment on your own to find more precise dates.

Table 2: Vegetable Gardening at a Glance adapted from
University of California Cooperative Extension
Vegetable Research and Information Center
<http://vric.ucdavis.edu/veginfo/homegarden.htm>



Step 5: Care for the Garden



1. Thinning Seedlings:

Once your seeds have begun to sprout and grow in the garden, pull out the extras to provide growing space for the remaining plants. Make sure to remove extras when the plants are still small, before they compete with others for light, air, or water. When fruits and vegetables grow too close together, the plants growth may be stunted, root crops become distorted, and vine crops grow poorly due to self-starting.

2. Weeding:

If you keep weeds out of your garden, you'll have a better harvest! Weeds compete with your plants for water, light, and air. Weeds also encourage insects and diseases that attack your garden plants. Mulch and cultivation can help keep the weeds in your garden under control. Use organic materials such as grass clippings (from a non-chemically treated lawn), a good weed-free straw, or specifically clean wheat or rye straw as means for controlling weeds in your garden. Old newspaper combined with a top layer of grass clippings can be placed around and in between plants to provide an excellent barrier for weeds. The coarser the material, the thicker the layer of mulch.

3. Watering:

The best time to water your garden is in the early morning or early afternoon. This allows for the leaves to dry before nightfall, reducing the chance for disease. Drip irrigation or soaker hoses can be used to keep plants dry during watering, which also reduces the chance of disease infection. However, drip irrigation can be used any time of the day if used under newspaper, straw, or grass. Some plants, like tomatoes, do not like their leaves getting wet. In this case drip hoses work especially well. Note: Watering between 10:00 AM and 2:00 PM could burn the plants, unless it is an overcast or cloudy day.

4. Garden Fertilizer:

An inorganic fertilizer can be used according to your soil test. If you did not test your soil, a rule of thumb would be to use 2-3 pounds of fertilizer per 100 square feet of garden space. It is best to decide which type of fertilizer you need based on the results of your soil testing. Follow label directions for correct application of fertilizer.

5. Adding Organic Matter:

“Organic Matter” provides nutrients for plants. Plants take food from the soil as they grow, so organic matter needs to be applied yearly. Some organic matter sources include: well-rotted cow or horse manure, compost made from tree leaves, lawn clippings (without chemicals), garden refuse (disease-free), green manure, and other organic residues. It is important to keep in mind that some fruits and vegetables are “heavy feeders” (i.e. corn and tomatoes), while others are not (i.e. green peppers). It is best to incorporate organic matter in the fall or early spring, as you prepare the garden soil.

Caring for the Garden, cont...

6. Integrated Pest Control Management

a. Purchase Quality Seeds and Plants:

Start by selecting healthy plants or seeds from reputable seed companies and nurseries. There are several different disease-resistance varieties of seeds you can purchase.

b. Plant Spacing:

Leave plenty of distance between plants to provide air movement. This reduces the chance for diseases to begin.

c. Plant at the Right Time:

Setting plants out too early or late in the growing season can make them weak and more susceptible to a pest attack.

d. Set up Barriers:

Use physical barriers between the plants and pests by using row covers or nets that allow the sunlight and water to penetrate, but keep out pests. The barrier **MUST** be in place before the pest appears. Remember to remove the barriers during the blossoming stage so that beneficial insects will be able to pollinate the plants.

e. Pick the Pests:

Hand-pick and destroy insect pests.

f. Prevent Weeds:

A layer of mulch helps to control weeds and conserve soil moisture. A garden full of weeds is a major attraction to pests!

7. Keep the Beneficial Insects:

Over 90% of insects around the garden are harmless to people and plants. Without the help of these beneficial insects, most plants would be overrun with pest insects every year. These beneficial insects feed on many different pest insect species. Furthermore, several of these beneficial insects are “pollinators.” With more pollination taking place, more high quality fruits and vegetables can be produced. To keep beneficial insects around your garden, limit or eliminate pesticide use. Consider leaving flowering weeds around the garden to provide alternate nectar sources for the good insects. To have beneficial insects attracted to your vegetable garden, be sure to add some flowers and herbs. Examples of annual flowers that attract pollinators include alyssum, marigolds, nasturtiums, dill, and cosmos.

8. Mulching:

Mulching with untreated, chemically free grass clippings, leaves, or straw in late June provides several benefits. The mulch will help to suppress weeds, conserve soil moisture, prevent compaction of soil by heavy rains, and add more organic matter to your soil.

Step 6: Harvest Time



When is it Time to Pick?

Asparagus:

Pick when the spears are 6 to 7 inches tall, and before the tips begin to open. Cut or break off stems at the soil line.

Beans (Snap):

Pick when the pods are almost full size, but before the seeds begin to bulge. Never pick beans that are wet or have dew on them.

Beets:

Pick the greens when the leaves are 4 to 6 inches long. If you want to use the tops or small beets, pick when the beets are 1 to 1-½ inches diameter. If you want to use the roots only, pick when the roots are 1-½ to 3 inches in diameter.

Broccoli:

Pick when flower heads are fully developed, but before flower buds start to open. Cut 6 to 7 inches below the flower heads.

Brussels Sprouts:

Pick when sprouts at the base of the plant have become solid. Remove sprout (buds) higher on the plant as they become firm, but do not strip the leaves, as they are needed for further growth. They tend to taste better if harvested after the first fall frost.

Cabbage:

Pick when the cabbage head has become solid. Leave older leaves, stems and roots to produce small lateral heads later in the season.

Carrots:

Pick when roots are ½ to 1 inch or more in diameter. If you want to store carrots, pull them just before the ground freezes in the fall.

Cauliflower:

Pick when flower heads are 6 to 8 inches, but are still compact, white, and smooth. Heads that are exposed to sunlight become cream colored, rough, and coarse in texture. Cover flower heads when they are 3 to 4 inches across by tying the outer leaves loosely above the flower heads.

Celery:

Pick when the plants become 12 to 15 inches tall. While the plant is still young and tender, the lower leaves (8 to 10 inches long) may be removed from a few plants and used in salads, soups or cooked dishes.

Chard:

Break off new leaves at the ground level as they appear in early spring. Pick the tender leaves throughout the growing season.

Collards:

Pick by breaking off outer leaves when they are 8 to 10 inches long. New growth from the center of the plant will provide a continuous harvest throughout the growing season.

Cowpeas/Black-Eyed Peas:

Pick when seeds are near full size, but still bright green. Dry seeds can be used for cooking, baking, or in soups. Pick dry seeds when they are full size and dry.

Cucumbers:

Pick burp-less cucumbers when they are 10 to 12 inches long. For sweet pickles, pick cucumbers when they are 1-½ to 2-½ inches long. For dill pickles, pick when the cucumbers are 3 to 4 inches long. For slicing, pick cucumbers when they are 6 to 9 inches long and are bright green and firm.

Eggplant:

Pick when eggplant is about 4 to 6 inches long, but still firm and bright in color. Older eggplants may become dull in color, soft and seedy.

Endive:

Pick when plant is 10 to 12 inches across and after blanching the center leaves of the plant by covering or tying loosely to exclude light for 2 to 3 weeks.

Garlic:

Pull the garlic when tops begin to bend over or die.

Gourds:

For eating, pick gourds when they are 8 to 10 inches long, young and tender. For decoration, pick when gourds are mature and fully colored, but before the first fall frost. Also, you'll know a gourd is mature if a finger nail doesn't leave a mark on them.

Horseradish:

Dig up roots in the late fall or early the following spring.

Kale:

Break off outer leaves when they are 8 to 10 inches long. New leaves will grow from the center of each plant for harvest throughout the growing season.

Kohlrabi:

Pick when bulbs (thickened stems) reach 2 to 4 inches in diameter, depending on the variety.

Leeks:

Pull when leeks are 1 to 1-1/2 inches in diameter and before the ground freezes.

Lentils:

Pick when lentil pods turn yellow. Mature seeds can be used in soups.

Lettuce:

If growing leaves, pick when outer, older leaves are 4 to 5 inches long. If growing heads, pick when it is moderately firm and before seed stalks start. Leaves taken from either leaf or head lettuce can be harvested once the leaves are 4 to 6 inches long. New leaves provide a continuous harvest throughout the growing season, until hot weather brings a bitter flavor and seed stalks begin to grow.

Mushrooms:

If growing edible mushrooms, pick when the mushroom is 1 to 2 inches across, but before the cap separates from the stem.

Muskmelon:

Pick when the base of the fruit stem begins to separate from the fruit. The fruit is almost ripe when the separation begins, but will be fully ripe when a crack appears completely around the base of the fruit stem.

Mustard:

Pick when outer leaves are 8 to 10 inches long. New leaves will provide continuous harvest, until their flavor becomes too strong and the leaves become tough in texture from hot weather. Seeding again in late summer will provide for a crop with a milder flavor and tender texture.

Okra:

Pick when young and tender pods are 3 to 4 inches long, but still bright green.

Onions:

For green onion sets, pick when onions are 6 to 8 inches tall. Harvest any with round, hollow seed stalks when they appear. Continue harvesting onions until all are used. Mature onion sets do not store well. If planted for seeds or plants, harvest when tops fall over and begin to dry. Pull with tops on and dry them in a protected place, cutting tops 1 inch above the bulb for further drying.

Parsnips:

Pick in very late fall, after early frosts, and in very early spring before growth starts. If roots are to be left in the soil over the winter, cover after early frosts with 3 to 5 inches of soil to avoid injury from alternate freezing and thawing.

Peas:

Pick when pods are fully developed, but still green. Edible pod peas can be picked when pods reach near full size (about 3 inches) and before seeds show significant growth. If you only want seeds for eating, pick peas when seeds are fully developed, but pods are still fresh and bright green. For Sugar Snap and Sugar Ann peas, pick when the pods are filled out.

Peppers:

Pick when peppers are firm, a good size, and appropriate in color. In 2 to 3 weeks "mature" green peppers will be fully ripe (green will change to red).

Potatoes:

Pick when tubers are full size and skin is firm. "New" potatoes can be harvested at any size, but generally after the tubers are 1-¼ to 1-½ inches in diameter. If you plan to store your potatoes, it is best to wait for the top of the plant to die, then dig up the potato.

Pumpkins:

Pick when fruits are full size, the rind is firm and glossy, and the portion of the pumpkin touching the soil is cream or orange in color.

Radicchio:

Pick in fall, after the first frost for the best flavor. The burgundy red leaves with white mid-ribs should be folded to resemble a small, loose, head of cabbage.

Radishes:

Pick when 1 to 1-½ inches in diameter.

Rhubarb:

Pick when stalks are 8 to 15 inches long. Flavor and tenderness are best in spring and early summer. Harvesting from well established plants may be continued throughout the season; you may want to pull all leaves present just before the first fall frost.

Spinach:

Pick when larger leaves are 6 to 8 inches long. Pull larger, whole plants from the row until you harvest all plants. Spinach that is planted in early spring goes to seed when the days get longer. If spinach is planted in early August, it does not usually go to seed during the shorter days of fall.

Squash:

Pick winter squash when it is full size, the rind is firm and glossy, and the portion of the squash touching the soil is cream to orange in color. Pick summer squash when 6 to 10 inches long.

Sweet Corn:

Pick when kernels are fully rounded, but still filled with milky juice. Harvest about 21 days after silk appears. Pull each stalk once the last ear of corn has been harvested.

Sweet Potatoes:

Pick in late fall, but just before the first early frost. Make sure to dig them up carefully to avoid cuts, bruises, and broken roots. Use smaller, younger sweet potatoes soon after harvest, as they typically do not store well.

Tomatoes:

Pick when fruits are fully colored. For fully ripe tomatoes, leave completely red fruits on healthy plants for 5 to 8 days during warm, sunny days of August and very early September. Pick only fully ripe tomatoes for juice or canning to ensure full flavor, good color, and maximum sugar content. Tomatoes will ripen indoors if picked at a mature green stage or when some color is showing.

Turnips:

Pick when roots are 2 to 2-½ inches in diameter, but before the heavy fall frosts.

Watercress:

Pick tips of stems 6 to 8 inches long, especially in spring and fall. This is when leaves and stems are fully developed but still bright green and tender.

Watermelon:

Pick when watermelon is full size, dull in color, and the portion touching the soil turns from greenish white to cream. The tendrils nearest a melon will curl and dry up when a melon is ripe.

Step 7: Prepare for Next Year



During the Growing Season

- **Try Composting**

Compost, which is decomposed organic material, can be used in many ways. It can be used as a soil amendment to add nutrients to your soil, as a mulch to add around plants, or as an ingredient in potting soil. Furthermore, it can help fight disease, neutralize the pH of your soil, improve soil, protect against soil erosion, hold moisture, and help moderate soil temperatures. To begin composting, find an area of level, bare ground near a water source. After choosing a place or container to store compost, mix 1/3 green and 2/3 brown materials. Examples of green materials include grass clippings, vegetables/fruit scraps, coffee grounds, weeds and other garden debris. Examples of brown materials include dry leaves, hay or straw, paper, cardboard, or dried grass clippings. Sawdust and small brush or twigs should be stored in a separate place other than compost pile, as they tend to take longer to decompose. A sawdust or small brush pile can take up 10 years or longer to fully decompose.

After the Growing Season

- **Removing Spent Vegetable Plants**

Once a plant has stopped producing fruits or vegetables, entirely remove it from your garden. For example, remove all the cucumber, pumpkin, and squash vines in your garden. You can compost these spent plants, if disease or insects have not infected them.

- **Add Organic Matter**

You can improve soils by adding organic residues. Organic matter helps to create good crumb-like soil structure. This allows for better water and air movement and easier root penetration. The process of decomposition using organic residues is what helps loosen heavy soils. The key to improving heavy soil is to add organic matter frequently. Types of organic matter that you can use include rotten manure (aged), leaves, grass clippings, compost, green materials, crop residues or peat moss. It is best to dig the organic matter into your soil at least six to eight inches deep. The best time to add organic matter is in the fall, often after the previous growing season. This is when soils are reasonably dry. Plant a cover crop in the fall, such as annual rye that can be tilled into the garden soil the next spring.

Preparing for Next Year, cont...

Till it Up

Tilling can be done mechanically via a rototiller or by hand using a spade or fork. Turning soil over and exposing the lower portion helps bury surface residue so microorganisms can decompose it. If left on the surface, crop residue acts as an insulator and will slow the soil warming next spring. If you take extra time to prepare your soil in the fall, it will make next years garden easier to plant. Never till or work the soil when it is wet. If you do, the soil will form large clumps and balls, and it will take even more time to create workable soil.

Save Seeds

In general, it is not advised to save seeds from fruit and vegetables grown in the garden. Home-saved seeds of some crops can carry disease and seeds from hybrid plants will not grow true again. Some vegetables can be stored over the winter and transplanted outdoors the following spring for seed propagation. These vegetables include: beets, cabbage, carrots, onions, and rutabagas. Some vegetable seeds may be successfully saved. These include bean, lettuce, pea, pepper, and tomato seeds.

Basic Steps to Starting a Garden adapted from Wisconsin Department of Health and Family Services, Division of Public Health, Nutrition and Physical Activity Program, Got Dirt? Garden Toolkit. February 2005.
PPH 40112 (02/05)

