Growing strawberries in your home garden can be an interesting and rewarding experience. By growing various cultivars (varieties) of strawberry, you can pick ripe fruit from late spring until frost in the fall. If you care for plants properly, you can obtain enough berries for your family from a relatively small area.

SELECTING A SITE

Strawberries require direct, full sunlight for best production. They bloom early in the spring, so don't plant them in frost pockets — low-lying areas in which cold air drains or areas (surrounded by tall trees, for example) where cold air is trapped.

Avoid planting where tomatoes, peppers, potatoes, eggplant, strawberries, or blackberries have grown in the past 3 years. These plants can act as hosts for fungi, blackberries have grown in the past 3 years.

Soils. A well-drained, firm soil, high in organic matter, is ideal. Avoid planting in heavy clay soils. If your soil is sandy, pay more careful attention to watering and fertilization. However, strawberries will tolerate a wide range of soil types if you properly modify the soil. You can improve most garden soils by adding organic matter.

The soil should be well-drained — strawberries can't tolerate standing water or "wet feet." If the only soil you have available has poor drainage, you may be able to improve it by tilting beds or building mounds. Planting on mounds or raised beds also helps soil drain poorly (see "Preparing the soil" and "Planting systems").

SELECTING A CULTIVAR

Strawberry cultivars are normally placed in one of three categories (or types), based on their responses to day length (photoperiod) and the season in which they produce a crop:

1. June-bearers produce one crop a year, usually from early June to July. These plants produce flowers, fruits, and runners (daughter plants produced on aboveground stems) in sequence. Most commercial plantings are of June-bearing cultivars.

   June-bearers produce many runners and produce flowers, fruits, and runners (daughter plants produced on aboveground stems) in sequence. Strawberry plantings can remain productive for 3 to 4 fruiting years. You can minimize the buildup of many insect and disease problems by rotating the strawberry patch from one site to another each time you make a new planting.

   Types of strawberries:
   1. June-bearers
      - one crop per year (June-July)
      - produce many runners
   2. Everbearers
      - two crops per year (June-July and fall)
      - produce few runners
   3. Day-neutrals
      - crop almost continuously (June until frost in the fall)
      - produce few runners
   You can choose from various cultivars (varieties) available for each type of strawberry.

   Strawberry cultivars are adapted to certain climatic conditions. Cultivars that haven't been tested in Oregon or that aren't adapted to this region aren't recommended.

2. Everbearers produce one crop a year, usually from early June to July. These plants

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   Everbearing types produce two crops a year, one in June and one in the fall. Everbearers usually produce few runners.

   Day-neutrals produce a relatively continuous crop throughout the growing season.

   The fruit of everbearers and day-neutrals is typically smaller, and total seasonal yields are often lower, than that of June-bearers. However, the advantage in growing these types along with the June-bearers is that you can harvest fruit for most of the growing season.

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   June-bearers

   Season: early to mid. Fruit: large, bright, red, firm and easy to cap; poor texture for freezing but very good for preserves and suitable for fresh; plants are susceptible to wilt, and insect pests that haven't been tested in Oregon or that aren't adapted to this region aren't recommended.

   June-bearers

   Season: early to mid. Fruit: large, bright, red, firm and easy to cap; poor texture for freezing but very good for preserves and suitable for fresh; plants are susceptible to wilt, and insect pests that haven't been tested in Oregon or that aren't adapted to this region aren't recommended.
virus; similar to Marshall, which is no longer commercially available.

Shuksan. Season: mid. Fruit: large, glossy, bright red with a tough skin; firm and not as easily capped as Olympus and Hood; good quality for frozen pack and preserves; suitable for fresh.

Tolstoy. Season: mid. Fruit: large, attractive, dark red with uniform red internal color; caps easily, firm; good for frozen pack and fresh; a little dark in color for best preserves.

Olympus. Season: mid. Fruit: small to medium, bright red throughout, moderately firm; good for frozen slice pack and preserves; unacceptable for fresh market.

Benton. Season: mid to late. Fruit: large, medium bright red color on exterior with moderately good red internal color; medium firm with mild flavor; doesn't cap as easily as Hood; preserve quality is similar to Hood.

Rainier. Season: late. Fruit: large, bright red throughout; ripens late and difficult to cap; excellent for frozen pack, preserves, and fresh.

Everbearers

Fort Laramie. Fruit: moderate fruit size, bright scarlet red and firm-fleshed; interior flesh is pink to scarlet; flavor is sweet.

Ozark Beauty. Fruit: large, sweet and good flavored; exterior color and flesh is bright red.

Quinault. Season: crops slightly in June and then moderately to heavily in July to September. Fruit: large (up to 2 inches in diameter), solid crimson in color and glossy with a light interior that's soft to slightly spongy; large berries have an open center; somewhat difficult to cap; flavor is fair; poor for freezing and jam.

Day-neutrals

Fern. Fruit: larger and of better quality than Hecker; earlier ripening than Hecker.

Hecker. Fruit: medium, dark-reddish orange; flavor and quality equal or superior to other earlier California introductions.

Selva. Fruit: large with slightly dark, bright, attractive skin; very firm; good flavor when ripe.

Tillikum. Fruit: small to medium with a glossy dark red skin and bright red flesh; average firmness.

Tristar. Fruit: small to medium, firm, glossy, deep red with good flavor.

ESTABLISHING YOUR PLANTING

Preparing the soil. A good supply of organic matter, such as soil amendments, will improve the soil in which your plants will grow. You can apply composted manure or well-rotted horse manure added at 3 to 5 bushels per 100 ft² is a good source.

You can also use composted hay or other grassy material, etc. Take care to use any material that you think are free of weeds and weed seeds.

Dig, plow, or worked the material into the soil to ensure that it will be well decomposed. You can incorporate large amounts of composted (fresh) material into the soil, an ammonium nitrate (33% nitrogen) at 1 lb per 100 ft² to aid in decomposition.

Eliminate all perennial weeds the year before you plant. Don't let weeds to go to seed!

To “heel in” plants, dig a shallow trench that's deep enough for the roots. Place plants in a single layer against one side of the trench with crowns (short stem of the strawberry plant) partially above the soil line. Cover roots with soil and gently firm it in place. Water the soil.

Keep plants moist before you plant, and plant in a damp, well-till soil. Don't leave plastic bags containing plants in the sun. If possible, plant on a cool, cloudy day.

Capping or hulling a strawberry fruit means removing the green stem and leafy part attached to the berry. You can do this by hand (long fingernails help!) or use a strawberry huller, available in most kitchen supply stores.

Note: Some cultivars are easier to cap than others. If you make a lot of preserves or freeze a lot of berries, you may want to consider this when you select a cultivar.
Plant strawberries in early spring, as soon as you can prepare the soil. Use a spade, shovel, or trowel to set the plants. Dig a hole for each plant large enough to place the roots straight downward but somewhat spread. The midpoint of the crown should be level with the soil surface; the topmost root should be just below the soil surface (figure 1).

If you set plants too high, the roots may dry out. If you set them too low (figure 1), the growing tip at the top of the crown may smother and rot. Fill the hole with soil and press firmly around the roots—take care that no air pockets remain.

Irrigate the plants as soon as you set them.

**Planting systems.** The matted-row and hill systems are the most common training methods for strawberries. The hill system is preferred for everbearers and day-neutrals, because they don't produce as many runners as June-bearers. June-bearers are usually grown in a matted row, but you can also grow them in a hill system.

In the matted-row system, set plants 18 to 24 inches apart in the row (or raised bed), with 3 to 4 feet between rows (figure 2). Allow some runners that form from the “mother” plant to develop and root—they'll form a rooted row 18 inches wide. Keep the planting 1.5 to 2.5 feet between rows clearly apart, sweeping early-formed runners into the aisle or by cutting them off at soil level (figure 1). In the hill system, keep rows 18 inches wide. Keep the remaining 1.5 to 2 feet clear by sweeping or hoeing between rows (figure 2).

To develop and root before August.

**FIRST SEASON’S CARE**

**Blossom removal.** In June-bearers, remove all flower clusters during the planting year before fruit is formed. Be patient! If you try to produce strawberries during the planting year of June-bearers, you'll stress the young plant. This limits crown and leaf growth, which will decrease the yield you get the following season.

In everbearers and day-neutrals, remove only the first flush of flowers, allowing flower clusters formed after July 1 to develop fruit. This allows plants to get well-established before fruiting.

**Cultivation and weed control.** Weeds compete with the shallow-rooted strawberry plant for water and nutrients, and they often harbor insects and diseases. Hoe around the plants often enough to destroy weeds and to keep the soil loose. This promotes good growth and permits runner plants to root quickly when establishing the matted row.

Check with your county office of the OSU Extension Service or a local garden supply store for herbicides registered for use on strawberries in home gardens.

You can use sawdust, bark, or black plastic mulch in the row to keep down weeds, conserve...
Use pesticides safely!
- Wear proper clothing and safety devices recommended on the label.
- Read the pesticide label — even if you’ve used it before.
- Follow closely the instructions on the label (and any other instructions you have).
- Be cautious when you apply pesticides. Know your legal responsibility as a pesticide applicator. You may be liable for injury or damage resulting from pesticide use.

moisture, and keep fruit clean. However, mulches may lead to an increase in slugs. Mulch is particularly useful for hill-system plantings. Avoid covering the top of the crown or growing point of plants with sawdust or bark mulch. Black plastic is very useful. Clear plastic isn’t as suitable weeds grow underneath it.

You can apply plastic most easily just before or just after planting. Before planting, place the plastic over the planting area or raised bed. Edges of plastic should overlap and be held down with soil. Cut circles with a diameter of 6 inches in the plastic where you’ll set the plants. Plant through these holes. If you lay plastic just after you plant, feel for the plants under the plastic and carefully cut holes around them. The holes cut in the plastic allow some weeds to grow around the plants, but they’re necessary to ensure that plants get enough water and for fertilization.

Runner plants can’t root through the plastic, but you should still cut them off plants growing in the hill system.

Fertilizing. You may add additional nitrogen fertilizer 6 weeks after planting if plant growth is weak and leaves are light green. Broadcast ammonium nitrate (33% nitrogen) at a rate of ½ lb per 100 ft² of row. Make a similar application in late July or early August if the plants lack vigor.

Avoid broadcasting ammonium nitrate directly on crowns, or they may burn. You can remove fertilizer from plants by brushing and using sprinkler irrigation.

You may also band fertilizer 2 to 3 inches from both sides of the row and 2 to 3 inches deep.

If the soil is dry, it may be necessary to irrigate, to carry the fertilizer into the soil and to prevent toxic concentrations from forming.

Checklist for establishing your planting and care in the first year:
- Choose a good site.
- Eliminate all perennial weeds.
- Choose a cultivar(s) suitable for your needs.
- Choose a planting system.
- Prepare the soil by adding organic matter and forming raised beds, if necessary.
- Apply fertilizer.
- Till the soil.
- Purchase certified disease-free plants.
- Plant in the spring — set plants to the correct depth.
- Remove all flower clusters from June-bearers and the first flush of flowers from everbearers and day-neutrals.
- In the hill system, remove all runners as they form.
- In the matted row, train runners to the row (18 inches wide); remove all runners that form after September 1.
- Irrigate as required.
Watering. Strawberries are shallow-rooted. To obtain maximum growth and yield, they should never be stressed by lack of water. Keep newly set strawberry beds well irrigated throughout their first season. If you plan to develop a matted row, the earlier you can root down the runner plants, the more fruit buds they'll form for the following year's crop.

If you’re maintaining plants as individuals in the hill system, the larger and more vigorous their crowns, the more fruit buds they’ll set in late summer and fall.

Weed control and cultivation. Keep the planting free of weeds by cultivation. Check with your county office of the OSU Extension Service or a garden supply store for herbicides registered for strawberries in the home garden.

Fertilizing. It's best to fertilize established strawberries in late summer to promote fall growth. Spring fertilization results in excessive leaf growth and runner formation and doesn't promote more or larger berries. After harvest, apply 2 to 3 lb of 10-10-10 (or equivalent well-balanced fertilizer) per 100 ft² of row. Foliage should be dry.

If you aren't mowing the plants (see “Renovation”), brush or wash the fertilizer off the leaves. You can also band fertilizer 2 to 3 inches from both sides of the row and 2 to 3 inches deep. Water the plants to carry the fertilizer down to the roots.

Watering. During the growing season, strawberries need about 1 inch or more of water per week. On sites with sandy soils or during very hot weather, plants may need more water. If rainfall isn't adequate, supply the needed water, irrigate the plants.

Wet the soil to a depth of 6 to 8 inches with each irrigation. Avoid applying so much water that the soil remains saturated (excessively wet) for long periods. Standing water is harmful, even for a day or two.

After the first frost, there are no critical times when good soil moisture is important. The first frost usually occurs in early October, so after that date, keep the plant fully watered. Applying a light mulch to the planting area in fall is recommended to help protect the crowns. You can also band fertilizer 2 to 3 inches from both sides of the row and 2 to 3 inches deep. Water the plants to carry the fertilizer down to the roots.

Avoid using straw mulches such as western Oregon, where cold winter temperatures and extended periods of rain. These conditions cause the plants to grow under the mulch and promote rot.

Checklist for taking care of your mature planting:

- Protect the planting from frost if possible (avoid planting in frost pockets or use covers).
- Cultivate to control weeds.
- Irrigate as required.
- In the hill system, remove all runners that form.
- In the matted-row system, train runners to the row (18 inches wide); remove all runners that form after September 1.
- June-bearers:
  - Pick fruit from June to July.
  - Renovate the planting or remove it if it’s no longer productive.
  - Fertilize.
  - Irrigate if necessary.

- Everbearers and day-neutrals:
  - Pick fruit in June-July and in the fall (also throughout the rest of the season for day-neutrals).
  - Remove the planting if it’s no longer productive.
  - Fertilize in the fall.
  - Irrigate if necessary.
Starting the last producing year of an older planting prevents a gap in fruit production. Most plantings remain productive for 3 or 4 fruiting years.

**NOVEL GROWING METHODS**

You can also plant strawberries in barrels, planters, or hanging baskets. These plantings will require close care in watering, fertilizing, and other cultural requirements. You may find fruit production in hanging baskets disappointing.

Everbearing or day-neutral types are best suited for container production. The containers you choose should be well-drained. A possible soil mixture consists of 1 part sand, 1 part peat moss, and 2 parts garden soil. You can replace the peat moss with well-rotted manure or compost. Mix about 1/2 cup of complete fertilizer, such as 10-20-20, into each bushel of the growing medium.

**HARVEST**

Pick fruit every other day or daily during hot weather. Fruit harvested in the morning usually has a longer shelf life. Pick all ripe berries — fruit left on the plant become overripe, which promotes development of disease and insect problems. You can refrigerate fruit for several days. Avoid washing fruit until just before you use it, to prevent softening and decay.

**PESTS**

If any diseases or pests become a problem — such as lice, aphids — check with your county office of the OSU Extension Service for control recommendations.

The incidence and spread of fruit rot may be decreased by preventing a matted row planting from becoming too dense and by picking and discarding infected fruit.

For most current information: http://extension.oregonstate.edu/catalog