

Fragaria × ananassa

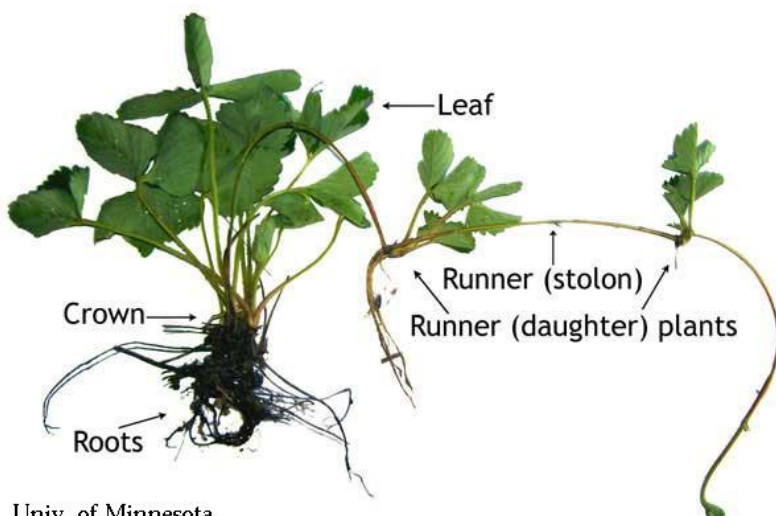
Strawberries

A Garden Guide

What is a summer day without delicious, sweet strawberries? WNC is a great area for growing your own; NC is a huge producer of strawberries - one of the top states in the nation - mainly on small and medium sized farms. They are very popular with children and a great way to get them interested in gardening.



Wild strawberries have been eaten for eons, but they were very small, tough, or not very tasty, more of a foraged food than anything else. However, the French were very fond of strawberries and were cultivating their wild types by the 1300s. By the 1600s our native strawberry *Fragaria virginiana*, a cold hardy plant, had reached Europe. In 1714 a French spy brought the Chilean strawberry *Fragaria chiloensis*, with big berries, back to France. In the 1750s the French hybridized these two species. The result was the common garden strawberry (*Fragaria × ananassa*) with big berries and excellent cold hardiness. All modern garden strawberries descend from this crossing.



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Basic Anatomy: Strawberries are small, semi-evergreen perennial plants. They are shallow rooted, with the majority of their roots in the top 6" of soil. The leaves emerge from the crown.

Also emerging from the crown are the runners or stolons. Runners are horizontal stems that root at their tips, forming additional runner (daughter)

plants a few inches to a foot or so from the original (mother) plant. Each mother plant can live for several years and a planting can be maintained for 8+ years by encouraging daughter plants to grow and replace mother plants as they die.

Types: There are different ways to categorize strawberries but the easiest is June-bearing or Ever-bearing.

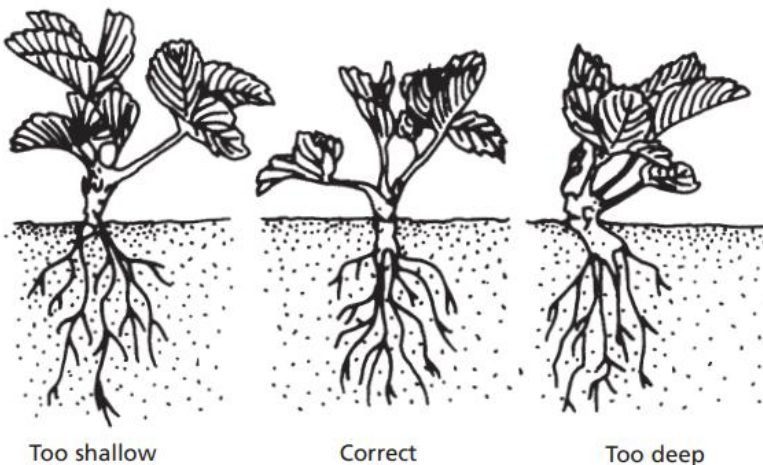


- June-bearing strawberries produce large berries and large crops around May and June. They form new buds in autumn to bloom the next year. June bearers are the most highly recommended types for WNC.
- Ever-bearing strawberries produce two crops, one around June and a second time in early fall. Their berries tend to be smaller than the June-bearing varieties. They form buds in summer to bloom in the autumn, and form autumn buds to bloom the next year.

That said, it can be helpful to plant both types, to ensure a long harvest season with plentiful yields. Each pollinated bloom takes about a month to grow mature fruit.

Light: Strawberries need full sun - a minimum of 6 hours of direct sunlight per day. Good air flow is critical for preventing diseases. Strawberries do very well in raised beds and containers. They can even be grown in gutters and vertical grow bags.

Soil: A fluffy, moist, well-draining soil with a 6.0-6.5 pH is ideal. Heavy clay soils will need to be amended with products such as Daddy Pete's Lawn and Garden and composts. Strawberries are not only delicious, they are nutritious as well. Interestingly, multiple studies have found that strawberries grown in at least 50% compost contain significantly more health-promoting antioxidants than those grown in just regular soil.



Too shallow
Source: NCSU

Correct

Too deep

Planting: Plant at the correct depth. If the crown is too shallow they dehydrate and die. If the crowns are planted too deeply they may be prone to rotting and foliage may have a more difficult time emerging. Plant where the soil line comes halfway up the crown of bare root plants (as shown). Plant with the roots straight down, and plants spaced 8-12" apart. After

planting, tamp the soil firmly to remove air pockets around the roots. Water all new

plantings deeply immediately after planting.

Watering: Strawberries have shallow root systems and are most productive when receiving 1" of water per week. Watering early in the day is better than later in the day. It is preferable for the plants to receive the water all at once, which encourages them to grow deeper root systems. Dry weather and drought will dramatically decrease the size and yield of fruits, so be prepared to supply water.



Pruning: Immediately after planting, pinch off the flower buds for a few weeks to encourage root and leaf development. Runners may be allowed to spread and fill in spaces or removed to keep things in check. The first few sets of runners will be healthier and more vigorous than those later in the season - feel free to remove all of them later in the season. At the end of the growing season, thin plants to approximately 8" apart in all directions.

Weeding: Be diligent about keeping the weeds in check. Use mulch or straw to help retain moisture in the soil and lessen weed issues.



Fertilizing: We have a variety of organic fertilizers that are suitable for strawberries. Composted chicken manures, especially the pelletized types, are an excellent choice. They have enough Nitrogen and Potassium necessary for healthy, productive plants. Overfertilizing can lead to fruit health issues, so too much of a good thing can cause problems down the line.

Harvesting: Strawberries do not continue to mature once harvested, so leave them on

the plant until they reach full maturity. Remove any overripe or rotten berries so they don't run the risk of spreading disease. Pick plants about every other day or so, picking the fruit only when it is fully red, with about one-fourth of the stem attached. Cut the stem to avoid damaging the fruit. Unwashed strawberries can be stored in the fridge for 3-5 days, and frozen for months.

Uses: Strawberries can be enjoyed fresh, right out of (or in) the garden and in many other ways - jams, preserves, juices, smoothies, pies, cakes, ice cream, chocolates, and much more.

Winter Care: When temperatures drop below 20F (usually November or December), a layer of mulch or straw can be scattered over the plants and the soil to help protect the crowns. Thicker mulch will provide better protection, but even a gentle sprinkling is better than none. The mulch can be removed when the danger of frost has passed (April to May). If the mulch starts to fly around in the winter winds, use netting or mesh to keep them in place.



Pests: A physical barrier is your best bet to keep birds from eating your crop. Cover with cheesecloth, burlap, netting, or similar materials before the fruits begin to ripen. Keep the plants covered completely (except when harvesting) until all the fruit has been picked. Sluggo is an excellent organic product to deal with slugs.

Diseases: With proper conditions - full sun, moist and well-draining soil, good air flow - most home grown strawberries do not face major health issues. However, stressed plants are far more likely to develop problems. Be sure to keep things tidy - remove any rotten fruit and dead leaves under plants to help prevent diseases.

That said, there are diseases in this area, such as Red Stele, Anthracnose, and Gray Mold. If you suspect that you have diseased plants, take lots of photos. You can email the photos to your county Extension Service. Plant samples may be needed for a proper diagnosis.

Selected Strawberry Varieties for WNC*

Variety	Season	Flavor	Size	Yields	Red Stele Resistance**
Albion	Everbearing	Excellent	Medium	High	Unknown
Allstar	Mid	Good	Large	High	Resistant
Apollo	Mid to late	Good	Large	High	Susceptible
Bish	Early	Very Good	Medium	Very High	Unknown
Cardinal	Early to mid	Good	Large	High	Susceptible
Earliglow	Very early	Excellent	Med. to small	Medium	Resistant
Galleta	Early	Excellent	Med. to large	High	Resistant
Jewel	Late	Very good	Large to med.	Medium	Susceptible
Latestar	Late	Good	Large	High	Resistant
Ozark Beauty	Everbearing	Very good	Medium	Very high	Susceptible
Primetime	Mid	Very good	Large	Medium	Resistant
Red Chief	Mid	Good	Large	High	Resistant
Seascape	Everbearing	Very good	Large	High	Susceptible
TN Beauty	Late	Fair	Small	Med-High	Susceptible
Tribute	Everbearing	Good	Large	Medium	Resistant
Tristar	Everbearing	Very good	Med. to small	Medium	Resistant
Winona	Late	Very good	Large	High	Resistant

*Chandler and Camarosa are very popular varieties for NC farmers, but they mainly grow them in annual plasticulture systems. Chandler has large fruit but poor disease resistance; Camarosa isn't usually grown in the mountains. However, home gardeners can always experiment!

**Red Stele (*Phytophthora fragariae*) is difficult to distinguish between other diseases, such as Anthracnose, but it does occur here in the mountains. Home gardeners do not have any real way to treat the issue other than growing resistant varieties and ensuring excellent soil drainage. Vers. 1.1 Mar 23

