

# Grapes

## Vitis

### A Garden Guide

Grapes were domesticated 6,000-8,000 years ago, in Western Asia. The oldest winery in the world was in Armenia, dated to 6,000 years ago. Today, grapes are grown around the world for food and drink. Here in WNC, it is technically possible to grow European grapes. However, for home

production, native grapes (*Vitis labrusca*) and their hybrids are vastly superior - tasty, productive, and far easier to maintain - this document will cover their care and management. With proper care, grape vines can live for 15-20 years.



**Siting:** 6-8 hours of direct sunlight, with good airflow. It is easiest to install a trellis system before or during planting. On flat land, the system can be installed in straight lines. On a slope, they can be installed on contour.

**Soil and Planting:** Native grape vines prefer a pH of 5.6-6.0, with moist, well-draining soil. A good soil test will tell you exactly what to add (and is HIGHLY RECOMMENDED PRIOR TO PLANTING GRAPES), but usually in our soils, grape vines will need at least 1/3rd soil conditioner, up to 1/3rd rich composts, and generous amounts of lime mixed with our native clay. Applying mycorrhizae directly to the roots, just prior to planting, will improve plant resilience. Dig a hole 2-3x as wide as the pot, only as deep as the pot, plant the vine in the soil at the same height as it was in the pot. Apply 2-3" of hardwood mulch to the root zone, do not let it touch the trunk or any woody roots that might be visible. Use Dolomitic lime or Sulfur to adjust soil pH as needed, but know that it can take years to change soil pH.

**Fertilizing:** Initially, follow soil test recommendations, as the best time to address soil issues is before the plants are in the ground. In later years, apply organic fertilizers in March and June. Avoid anything with excess Nitrogen, as the vines will prioritize foliage over fruit production.

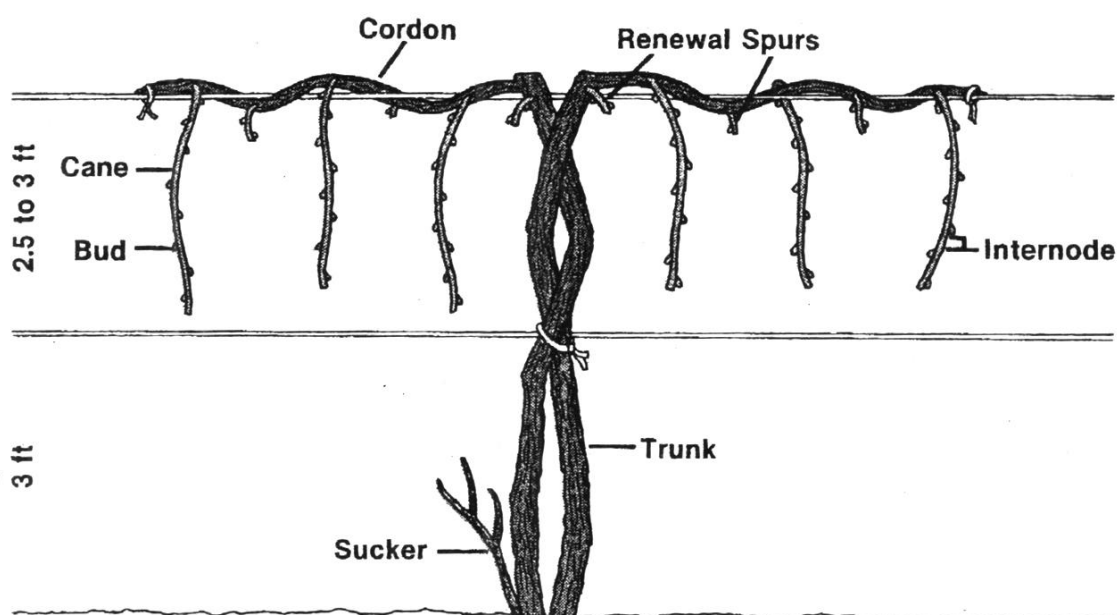
**Watering:** Slowly, deeply, and once weekly during the first growing season. Supplemental water will be needed during dry periods - drought can compromise fruit

production. Less water will be needed during rainy periods. Remember, too much or too little water can cause significant health issues. As plants mature and start to set large yields, water needs may significantly increase. Do not water so much that the roots are sitting in water - good drainage is essential for root health.

**Pruning and Trellising:** Grape vines benefit from severe pruning every late winter - up to 90% of plant matter removed from mature plants. Severe pruning encourages robust growth, encourages better fruit production, improves air flow, decreases disease issues, and makes them easier to manage. Sap may bleed during this late winter pruning, this is normal and not harmful to the plant, but it may be irritating to human skin. Alternatively, one can practice double pruning, where half of the material to be removed is pruned in late winter, and the remaining half removed just after the threat of frost has ended (but before much new growth has occurred).

You can train your grapes on a variety of structures. Grapes with heavy American genetics have a trailing form. The simplest trellis system for trailing grapes is the high cordon. For best production, use a cordon trellis and prune to a two-arm system.

**For a two-arm system:** In the late winter or early spring of the **2nd year**, select the best two original shoots to become the permanent trunk. Install a temporary stake at the base of the vine, then as it grows, tie it to the lower, then the upper wire. Cut it back to just above where you tied it (leaving 4-6 buds) on the top wire. This will help to encourage a sturdy and straight growth in the vine.



In the late winter or early spring of **3rd year**: select the two strongest horizontal or lateral shoots from each side of the trunk. Prune them back to 5 - 7 buds and tie them to the wire, extending in opposite

Cordon Trellis System

directions. Select two other healthy canes, one on either side of the trunk and cut back to 2 buds. These are called the renewal spurs.

For mature vines: Grapes produce fruit clusters - once - on two year old canes. After fruiting, prune them out, and the four shoots that grow from the two renewal spurs on either side of the trunk. Two of the four will become the new laterals, the other two will become renewal spurs. Prune the strongest lateral cane on either side to 20 - 30 buds. These two laterals give you a total of 40 to 60 buds. On weak vines, leave no more than 40 buds. On vigorous vines, keep 60 or more buds. For the renewal spurs, prune the two shoots to 2 to 3 buds. This way, each year you are removing the fruiting wood from the previous year, selecting which canes to become this year's fruiting



material, and selecting new shoots (renewal spurs) to become next year's fruiting wood. Many thanks to the University of Nebraska-Lincoln for their Cordon Trellis System diagram.

**Cluster Thinning:** In case of heavy fruit set, especially on young vines, it is best to do some cluster thinning. This will increase the quality and size of fruit. For young vines, thin to one cluster per shoot. For mature vines, thin to two clusters per shoot. Thin excess fruit clusters in late May, or before blooming.

**Organic Management:** Black Rot is the most common disease home gardeners have to deal with. Sanitation is incredibly important in stopping disease life cycles. Remove all diseased and damaged fruit immediately. If only a little bit of foliage is showing evidence of fungal infection, you can remove the infected leaves. Destroy, do not compost any infected plant matter. Organic sprays work best as a preventative.

For managing Black Rot: spray Copper when new growth is 4-6" long, during early bloom, and for up to 4 weeks afterwards. Follow bottle instructions. It is best practice to alternate Copper applications with Sulfur, however, do not apply Sulfur on Concord, Seedless Concord, or any other grapes susceptible to Sulfur damage.

For managing Japanese Beetles: remove them daily and drown in a bucket of soapy water. You can also hang Japanese Beetle trap bags AS FAR AWAY AS POSSIBLE from your grapes. We also carry Milky Spore, a biopesticide, that can damage and kill Japanese Beetles while they are still in their grub stage underground.





**Wildlife:** Wildlife may be interested in your grapes, especially as they become ripe. The easiest method is to plant more grape vines than you'll ever need - after all, native grapes are important food sources for our native birds. For deterrence, properly secured bird netting can help, as can large metal mesh cage enclosures. Wrens are territorial and feed on insects, setting up birdhouses just for them may be a helpful strategy.

**Harvesting:** Harvest table grapes by taste! Ripe berries will be firm, but not hard or mushy. Seeds (if present) will turn brown. Stems will be green and flexible. Grapes are usually ripe 1-3 weeks after their color changes - green grapes turning golden. Grapes do not continue to ripen or change color after being picked, so sampling is wise. Harvest on a warm, sunny day. Be sure to remove any dried, rotted, or unharvested grapes (including cluster stems) and destroy them immediately.



**Usage:** Fruits can be used for fresh eating, jellies, jams, juices, and raisins. They can be cooked down into sweet syrups. In some food cultures, the foliage is commonly rolled or stuffed with spiced meats and rice, or chopped up and added to soups for flavor. The seeds can be pressed to make grapeseed oil. Old vines can be used for crafts, such as wreaths. Version 1.1 Jan 24

