

Muscadine Cultivation

Storing Your Vines:

If you are unable to plant immediately, or the ground is too wet or frozen, you may leave the plants in the package for up to 2 weeks with the following provisions.

- 1) If package is frozen, do not open. Allow package to thaw out.
- 2) If it will be several days before you will plant – make sure that the roots stay damp. You may need to open package, moisten the roots and re-close.
- 3) Store your plants in a cool dry area. (garage, porch, well house, basement) Make sure plants are stored away from extreme heat, cold and sunlight.
- 4) It is important that you DO NOT let the roots on your plants dry out. Keep roots covered with damp sacks while preparing holes for planting. Plants may also be heeled in ground in a well-drained area or placed in a bucket covered with dirt until ready to plant.

If you purchased your plants at our nursery in one-gallon containers, you may simply leave them in the container until ready to plant. If your temperatures drop to 38 degrees or lower or you anticipate a frost – cover plants with plastic. If it's during the spring and summer months remember to water your plants while in the pot.

What your muscadines need and facts you should know:

1. Muscadines produce best in full sun on fertile, well-drained soil with good water holding capacity. Sites with good elevation and cold air drainage are preferred because they are less prone to late spring freezes. If full sun is not possible – Morning sunlight is the most important.
2. Muscadines require a pH level around 6.5. We recommend having your soil tested in January, as it takes 3 months for lime to raise the pH level, to ensure the best soil for highest growth and productions. If pH is too low a lime application may be necessary. Sometimes the ripening season on muscadines will be delayed as much as 3 weeks when the pH of the soil is below 6.0. Limey soil produces sweeter fruit, as a rule.
3. The area you are planting the muscadines should be free of weeds such as Honeysuckles, Brambles, Johnson Grass and Bermuda Grass. Your County Extension agent can help you choose the best herbicides for your area. We use Roundup at our nursery, BUT YOU CANNOT LET IT COME IN CONTACT WITH YOUR PLANTS "AT ALL".
4. Muscadines are shallow rooted with most of the feeder roots in the top ½ inch of soil. To avoid damage to these roots, cultivate shallowly and only as frequently as necessary to control weeds. Frequent clean cultivation is necessary the first two years for young vines. Remove all grass and weeds from around the plants so that growth will be vigorous the first year.
5. Muscadines can produce fruit for over 20 years with proper care. They will start bearing fruit the 2nd to 3rd year in the ground and will reach maximum production their 4th year. Usually between 15 and 20 years they are more prone to cold damage and will not produce as much as younger vines. Generally self-fertile varieties will produce 75 to 100 lbs of fruit per vine and female vines will produce 50 to 80 lbs per vine.

6. Female vines require pollination by a self-fertile variety. We recommend planting a self-fertile variety within a 50 feet radius of each female. Usually in large plantings we plant 3 rows of females and then 1 row of self-fertile pollinators. This provides ample pollination. On single row plantings you may space your pollinators throughout the row. (The more pollinators you have – your fruit yield will increase on your female plants)

7. A good trellis. We recommend the One-Wire Trellis using 9-gauge wire to support the vines and 8' pressure treated posts. Caution: Wood preservative treated posts should be weathered prior to erecting the trellis so that excessive surface preservatives are washed off. If posts are not weathered, vines planted adjacent to the posts can be damaged by the wood preservative when it leaches into the root zone. Also, direct the root system away from the posts.

a) End posts should be at least four inches in diameter and eight feet long. Set the end posts three feet into the ground so that the trellis wire will be five feet high. Bracing involves setting a post identical in size to the end post three feet deep, six feet from the outside brace posts. Then position a 4 x 4 timber or post between the tops of the two posts. The horizontal beam must be longer than the posts are tall. Run a double 9-gauge wire from the top of the inside post to the bottom of the outside post. Twist the wire to tighten and secure the brace system. In heavy soils it may be possible to use a 5 to 6 inch post and drive it with a post driver and eliminate the bracing.

b) Line posts, (3 to 4 inches in diameter and 6 ½ feet long) so that the wire will be 5 feet high. Spacing on the line posts should be 20 feet. We recommend row spacing 12 feet apart (ample room for a tractor or truck to drive through).

c) Use no. 9-gauge galvanized wire for the trellis. Staple it to the tops of the line of posts with 1.5 inch staples (commonly called horse shoe nails). Leave the staple just loose enough so that the wire is not held rigidly. If the wire is bound too tightly to the staple it may break. The wire is brought over the top of the end post, tightened, wrapped around the end posts and stapled.

d) Ease of training, picking and pruning, lower construction cost, time and good spray coverage are the main advantages of the one wire trellis system. We are tried everything in our vineyards and always go back to the one-wire system.

8. In general, Muscadines are among the last plant types to leaf out in the spring. They have a low chilling hour requirement in the 200-500-hour range. However, they have a very high heat accumulation requirement in the spring before they will break bud and grow. This characteristic keeps the plants dormant many times until late into the spring.

Planting Your Muscadines:

We primarily ship plants grown in containers at our nursery – although we do still have some varieties that are “layered plants”.

Vines may arrive with more than 1 runner. Prior to planting remove all runners except the longest one. This one runner will be trained up to the wire.

Muscadines produce their greatest concentration of fruit near the trunk, so we recommend planting the vines approx. 12-16 inches from the trellis posts.

Layered plants require a trench like hole large enough for the roots to spread out and not be cramped. Make holes at least 8 – 12 inches deep. Space plants 20 feet apart for maximum fruit production but no closer than 12 to 15 feet

Potted plants require a hole dug straight down no more than 10 inches deep. Do not use hole digger as this will pack the dirt around the edges of the hole and the roots will have difficulty spreading through the dirt when they begin to grow.

- * Place the vine in the hole with the roots about 3 inches below the ground.
- * Fill the hole half full of topsoil.
- * Pack the dirt and add enough water to make soil pack around roots.
- * Then fill to ground level.
- * DO NOT add fertilizer in the planting hole and DO NOT fertilize when planting.

In late fall and winter we recommend backing the dirt up 8 to 12 inches high around plants to protect them from freezing.

Developing The Vine:

Diligent care the first 2 growing seasons following planting is essential. Vines generally die the year of planting if particular attention is not given. The following areas are the most important to your vine:

1. Water is vital for the growth of the plant. We recommend 24 gallons of water per week on developing vines and 36 gallons of water per week on established vines. You want the soil to be moist 2 inches deep. We recommend installing drip irrigation on your vines to ensure that they receive the proper water. The last few summers have been extremely dry and many of our customer lost plants due to drought.
2. Fertilizing as recommended below.
3. Keeping the plant area weed free and the proper training must be done.

A properly trained vine has a trunk, two arms and fruiting spurs. [See printable diagram and more information on developing and pruning the vine.](#) The first two years of training are devoted to developing the trunks and arms. In the spring following planting, each plant will begin growing and may produce 3 or 4 shoots. When these shoots are about 1 foot long, select the strongest and remove the others. Tie a piece of durable string such as a binder's twine to the overhead wire and bend a piece of wire bent into a 9 shape and place in the ground beside the trunk. It should be taut enough so that as the new shoots grow it can be twined around the string to form a straight trunk for the plant. Long tomato stakes may also be used and the vines fastened to the stake with cloth or plastic tying ribbon. We use and suggest the "Max Tapener" for training young vines. (You may order this through our nursery) While you are training the main shoot, pinch developing shoots in axils of the leaves of the young trunk. DO NOT, however, remove the leaves from the trunk. When the shoot reaches 2-3 inches below the wire, pinch the top of the trunk. Let the two buds develop into the two arms and train each arm in opposite directions. After the plant has attached itself to the trellis wire, be sure to remove any tags from the trunk to avoid girdling of the vine. Periodically, tie the young cordons to the wire with Ag.Tyes until each is 10 feet long. (Ag Tyes are available through our nursery) Then pinch out the terminal. Permanent arms of adjacent plants should be tip to tip.

Fertilization For Muscadines:

We recommend using 10-10-10 fertilizers on the following schedule:

1st Year April 1 – May 1 – June 1 – July 1

Apply $\frac{1}{4}$ pound of 10-10-10 fertilizer 12 inches out from the plant in a complete circle

April 15 – May 15 – June 15 – July 15

Apply $\frac{1}{4}$ pound of Calcium Nitrate. This will add nitrogen to the soil which will increase growth. (Calcium Nitrate can be hard to find in some areas – We carry it through our nursery in 5 lb bags) If unable to find Calcium Nitrate you may use Ammonia Nitrate but only use $\frac{1}{8}$ pound per plant.

2nd Year April 1 – May 1 – June 1 – July 1

Apply $\frac{1}{2}$ pound of 10-10-10 fertilizer 12 inches out from the plant in a complete circle

April 15 – May 15 – June 15 – July 15

Apply $\frac{1}{2}$ pound of Calcium Nitrate. This will add nitrogen to the soil which will increase growth. (Calcium Nitrate can be hard to find in some areas – We carry it through our nursery in 5 lb bags) If unable to find Calcium Nitrate you may use Ammonia Nitrate but only use $\frac{1}{4}$ pound per plant.

3rd Year Use 3 lbs of 10-10-10 on May 1st

4th Year Fertilize as needed depending on growth of your vines

Fertilizer Tips:

- 1) Do not place fertilizer in the hole when planting your vines.
- 2) Muscadines need an average of 3 to 4 feet of growth vertically each growing season. If growth is less increase fertilizer the next year. If growth is more then decrease fertilization the next year.
- 3) Never use manure, sawdust, pine straw or cottonseed mote in or around plants.
- 4) Never use 2-4-5T in or around vineyard.

Growing Information & Tips:

1) Muscadines are considered disease resistant, but there are several diseases that can be a problem. There are also things that you can do to help decrease the chances of disease.

a) Once your vines begin producing, make sure that you knock off all fruit prior to the winter months to decrease chances of disease. Berries that are left on the vine over winter can cause problems in the spring.

b) Black Rot is a common disease for muscadines. In early spring the fungus can infect new growth as soon as it appears or later in the growing season. The signs of the fruit infection are dry, black scabby spots. Leaf infections appear as tiny reddish brown spots on the upper surface. The spots enlarge to $\frac{1}{4}$ inch or more in diameter and turn dark brown. A ring of black fungus spores develops near the edge of the brown area.

c) Ripe Rot is another common disease. It over winters on stem lesions and on mummified berries left on the vine. It primarily damages the fruit but can affect the vines and tendrils. Symptoms on mature fruit appear as somewhat bleached fruit or water soaked spots.

2) To help decrease disease on your vines, we recommend using the fungicide "Captan" on your vines. We recommend two tablespoons of Captan per gallon of water. Do not start spraying until the leaves on the vines reach the size of a half dollar. You can spray your vines every two weeks up until two weeks prior to picking your fruit.

3) Sometimes you may have problems with insects such as Japanese Beetles. We recommend using "Sevin" or "Malithion". Use 2 tablespoons per gallon of water. Also use a little dish detergent as a surfactant to help the mixture stay on the leaves.
DO NOT EVER SPRAY YOUR VINES DURING BLOOM.

For more detailed information on growing Muscadines we recommend the book "All About Muscadines, Blueberries & Blackberries" by Bill Ison
95 pages - \$7.95.

Main reasons that Muscadine vines die during their first year:

- 1) Lack of water during growing season – or roots drying out prior to planting.
- 2) Placing fertilizer too close to the vine.
- 3) Killing plants with herbicides
- 4) Cold Damage