PLANTING AND CARE OF MUSCADINE GRAPES

By Otis Woodard and W.T. Brightwell

Adaptation and Soil Requirements: Muscadine grapes will grow on a wide range of soil types but for commercial production should be planted on well-drained, and preferably fertile soil.

Variety Test: In a study of muscadine grapes more than thirty varieties have been included in the station trial grounds. Yield records and other data resulting from this study indicate that Hunt is the most desirable variety for commercial planting and that Dulcet, Thomas, Topsail, and Yuga are best for home use, being high in sugar content, relatively free of disease and superior to all other varieties in quality.

Variety Description: The Hunt variety is black-skinned, medium large size, productive, and ripens over a short period. Dulcet is black-skinned, high in sugar content, is of medium size, mid-season, and of excellent quality. Thomas is reddish black, of medium size, early, and of good quality.

Topsail and Yuga are excellent amber or light-skinned varieties. Topsail ripens in early mid-season, is of medium size, has light amber skin, is sweet, and of high quality. Yuga ripens late, is amber to deep pink, medium size, sweet, and productive.

All of the above varieties require pollinator or male vines at the rate of about one pollinator vine to eight fruiting vines. (See illustration)

Arrangement of Pollinator or Male Vines

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Perfect Flowered Varieties: In recent years varieties have been developed in breeding programs which are perfect flowered, that is, they do not require male vines for pollination. These may be substituted for male vines and are considered more desirable as they will produce both pollen and grapes. Duplin, Burgaw, and Tarheel are dark-fruited varieties whereas Willard and Wallace produce light-colored fruit.
Soil Preparation: In commercial plantings it is well to pulverize the soil and to eradicate Bermuda or other noxious weeds. This can be more easily done before than after plants are set.

Spacing: Spacing trials are in progress in which plants vary in the drill from 20 to 22 feet and in which row widths vary from 10 to 14 feet. Data obtained thus far indicate that from the standpoint of original cost and maintenance muscadine grapes should be spaced 12 x 20 feet on the average soils of the Coastal Plain area.

Planting: Vines should be carefully located so that the base of each plant will be directly under the trellis wire. The trunk should be trained in a straight, upright position. If the vines are to one side of the trellis, cultivation will be more difficult and more hand work will be required.

Holes should be made large enough that the roots may be straightened out, however, long roots may be cut back. The roots should be separated and placed in a normal position and soil placed around them. Top soil, preferably moist, should be placed in the bottom of the hole and around the roots. In setting plants, holes should be filled with soil and firmed either with the foot — or by filling hole with water. The latter is more desirable.

Care of Young Plants: Plants should be heeled-in and watered if they cannot be set in the field when received from the nursery. The roots should not be allowed to dry out before planting.

The first summer after planting, each plant should be supported with a stake which extends five feet above ground. As the vines grow, they should be tied to the stake and two side branches selected 2 1/2 feet above ground and an additional two branches five feet above ground. These laterals will form the framework of the vine. Other laterals should be removed from the upright trunk so that growth will be forced into the permanent arms.

Growth of the permanent arms may be increased the second season by pinching off tips of the lateral branches, after they have made a growth of 12-14 inches. By properly training the young plants, stronger vines — capable of producing large crops, may be developed in a shorter period of time.

Trellis: A trellis should be constructed after the first growing season. Where a five foot trellis is used, end posts should be eight feet in length and line posts seven feet. The posts should be set so as to be five feet above the ground. A line post should be located midway between each vine. In order to hold wires tight and to give adequate support when trellis is heavily loaded, end posts should be securely braced. One of the most satisfactory methods consists of anchoring posts to "dead-men" placed about three feet below the surface of the ground.

Galvanized eight-gauge wire should be used for the trellis and six-gauge for bracing. The lower wire should be 2 1/2 feet above ground and the upper wire five feet, or on top of the posts.

Fertilizer: The amount of fertilizer needed will be determined largely by soil fertility and age of plant. After growth has begun the first season, a light application of 1/4 to 1/2 pound of a 4-8-6 or 4-8-6 fertilizer should be applied per vine and a similar amount in early June. The next year 1/2 to 3/4 pound per vine should be applied just before growth begins (usually in late March in the Tifton area) and a second application of 1/4 to 1/2 pound about three months later.
After the vines begin to bear, the amount of fertilizer needed is determined by vine growth. A second application should be made about mid-June if the plants set a heavy crop and appear to need additional nutrients. On average soils two to three pounds of a 4-8-8 or 4-8-6 fertilizer should be sufficient for the spring application and half that amount for the June application.

The use of either heavy applications of stable manure, of commercial fertilizer, or of leguminous cover crops in the vineyard may result in excessive vine growth and thus create a favorable condition for the development of fruit diseases and also make pruning more difficult. Consequently these practices are not recommended on average soil types.

Cultivation: Muscadine roots grow near the soil surface, therefore, cultivation must be shallow to prevent injury to the root system. A disc harrow is well suited to vineyard culture. On soils which are inclined to bake, weed growth may be allowed to cover the ground much of the summer, being harrowed down at intervals to reduce competition with the grapes.

A scooper and scraper may be used in young plantings but as the vineyard grows older, they should be replaced with a harrow or some other shallow tillage implement.

Pruning: Fruit is produced on current season growth out of laterals that grew the previous season. The lateral shoots should be pruned back to about two strong buds. The diagram below shows a vine partially pruned. Each year weak spurs and shoots are removed and the vigorous shoots headed back to two strong buds. The old sour clusters increase in size each year and when they become too large, may be reduced by removing part of the cluster. Pruning should be done in the fall soon after frost but if it cannot be done at that time it may be delayed until late winter without injury to vines.

![Diagram Showing Partially Pruned Muscadine Vine](image)

Harvesting: Grapes may be harvested either by hand picking or by shaking the fruit onto sheets. Hand picking is necessary unless the fruit ripens uniformly and is easily removed from the vine. The Hunt variety is adapted for shaking whereas Yuga which ripens over a long period and adheres tightly to the vine, is not adapted.

Uses: In addition to their use as a fresh fruit, muscadines may be converted into a wide range of products which include jams, jellies, and pie stock.