



Figure 1 Red Bunch, Muscadines, and White Bunch Grapes

## Growing Grapes in North Texas for Home Use

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In 2018, Dallas County Master Gardeners and Texas A&M AgriLife Extension established a research garden on Dallas County property in Garland, Texas. One of their first projects was to plant a grape vineyard with nine varieties of grapevine grown by a home gardener and studied for yield and successful adaptation to the harsh North Texas environment. When selecting varieties to plant, the assumption was made that home gardeners would want a low-maintenance variety of grapevine with high-quality fruit and attractive vines. All varieties planted self-fertilize and have some native American lineage to ensure hardiness.

The grapevines planted in the research garden do not include more well-known European varieties that may be sold in your local grocery or wine store. Those varieties are not adapted to North Texas soils and weather and are highly susceptible to Pierce's Disease; a bacterial infection spread from plant to plant by leafhopper bugs.

The vineyard is managed using Earth-Kind® techniques without soil amendments, pesticides, or additional watering except during extreme drought conditions.

Seventy-two plants, eight from each of 9 varieties, in three categories were planted in 2018:

1. Bunch grapes (red and white)
  - Red - Champanel, Herbemont, and Lomanto
  - White - Lake Emerald and Miss Blanc
2. Muscadines
  - Nesbitt, Tara, and Triumph
3. Bunch grape and muscadine hybrid.
  - Southern Home

Bunch grapes with native American lineage are easy to harvest and suitable for making jams, jellies, and wine. They are not recommended as table grapes because they have seeds. The Lake Emerald variety, in particular, has many seeds and small berries.

Muscadines are native to East Texas and thrive in acidic soils where the vines are hardy and disease resistant. They struggle in the highly alkaline soils of North Texas, however, and all eight of the Tara Muscadine plants failed to survive transplant into the research garden. They have not been replaced. But Muscadine grapes are large, delicious, have few seeds, and a home gardener might find it worth the effort to amend their soil and grow one or two vines.

The Southern Home hybrid is one of the only successful hybrids between a bunch grape and a Muscadine. It can tolerate clay soil and drought and has attractive leaves that resemble a Japanese maple. The grapes are large and suitable as table grapes or for making wine. The Southern Home hybrid is, therefore, an excellent choice for planting in a North Texas backyard.

Data on the weight of grapes harvested on each harvest date was first collected in 2019 when the research garden vineyard yielded 91 pounds of grapes. Data collection has continued, and in 2020 the vineyard produced 1,136 pounds.

The data shows that red-skinned bunch grapes produce the most fruit. White-skinned bunch grapes come in second, and the Muscadines that survived in the research garden were even less productive, probably due to the unamended, less acidic soil of North Texas they are growing in.

When looking at yield on individual harvest dates:

1. Red bunch grapes are harvested in late June through mid-July in North Texas.
2. Miss Blanc (white bunch) begin to ripen in mid-July, and Lake Emerald (white bunch) start to ripen in early August. Both white bunch grapes can be harvested into September or October.
3. Muscadine grapes begin to ripen in late July and can be harvested through October.
4. Southern Home grapes can be harvested from mid-August through October.

Take note that bunch grapes tend to ripen in a cluster, and each cluster should be harvested at once. Since the clusters all become ripe within a short interval, it's impossible to eat them all fresh, and you'll want to preserve them. Red bunch grapes are typically used to make jelly or wine; white bunch grapes are more often used to make wine and juice or augment red grape products. Herbemont is a red-skinned grape, but it's used to make white wine. When cooked with their skin, however, Herbemont grapes make purple jelly!

Muscadine grapes are large, have thick skins, and do not cling to a tight cluster. They are typically harvested individually. Muscadine grapes can be eaten fresh because they are delicious and may be harvested over a longer harvest time. They are becoming popular for making jelly and wine but remember the vines grow best in North Texas with soil amendments.

## **Pierce's Disease**

Pierce's disease is a severe challenge to grapevines in the United States, so a primary requirement for homeowners is to choose a disease-resistant variety. All of the types studied are disease resistant.

## **Self-fertile Varieties**

All of the varieties selected are self-fertile, which means that a homeowner can have successful grape production with a single vine.

## **Cost**

Non-patented varieties were chosen to reduce costs and increase availability.

## **Our Grape Variety Selections**

A total of 9 grape varieties were studied, including **Champanel, Herbemont, and Lomanto, red-skinned bunch grapes**, and **Lake Emerald and Miss Blanc**, which are **white bunch grapes**. Bunch grapes are known for their use in winemaking.

**Nesbitt, Tara, Triumph are Muscadines, native to Texas**, and a muscadine/bunch hybrid, **Southern Home**. Although bunch grapes and Muscadines have different chromosome counts and generally do not crossbreed, **Southern Home** is a hybrid.

### Our Experimental Production Method

The research vineyard was planted in 2018. The entire vineyard was maintained without soil amendments, pesticides, or additional watering **except during extreme drought conditions**. Our goal was to develop **the simplest vine growing method for homeowners**.

A total of 80 vines were initially planted, including eight “buffer vines,” which were planted at the ends of each row. The end rows were not included in the study because of their exposed locations. The **72 subject vines** were comprised of 8 plants, each of the nine previously mentioned varieties. The **placement of the varieties was intermixed** to remove any **impact of row location**.

Of the original 72 plants under study, eight plants did not survive the initial transplantation and have not yet been replaced. No plants were lost in years 2 or 3.

Harvest data collection began in 2019, the second leafing of the vineyard when **91 pounds of grapes were harvested**. Grape quantities were recorded by plant type and by date of the collection. The same data was collected for the 2020 period when the harvest was **1036 pounds**. Assessment of sugar content was recorded by grape variety and date of collection. The **sugar content study will be continued** during each of the subsequent years of the trial.

### Results

Figure 2 illustrates that the **red-skinned bunch grapes produce the most fruit**. The white bunch grapes produce the next most per plant, and the **muscadines are slightly less productive**. This lower production is likely because **Muscadine grapes** are known to **prefer more acidic soil**. Non-amended North Texas soils are commonly alkaline (high pH).

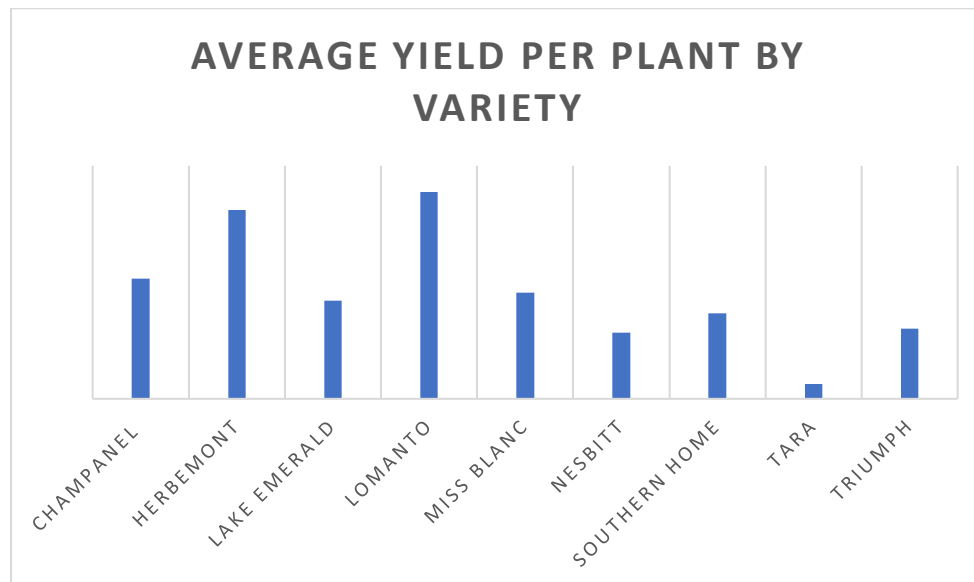


Figure 2. Relative Average yield per plant for each variety

**Bunch type grapes and muscadine grapes are harvested differently.** The bunch grapes will tend to ripen in a cluster, and the entire bunch cluster is gathered collectively. The clusters become ripe within a relatively short interval. Our study demonstrated that red bunch grapes should be harvested in late June through mid-July in the Dallas area. Bunch grapes tend to be small and have thin skins. All of the varieties in our study have seeds, which must be considered during food preparation.

The **white bunch grapes ripen later in the season.** It is more difficult to judge when white grapes are ripe visually, so **tasting and touch are essential for the homeowner's harvest process.** The grapes will ripen from the top of the cluster down, so when harvesting, if the grape at the bottom of the group is ready, the remainder of the bunch is likely ripe as well.

Red bunch grapes are typically used for jellies or wine production, whereas white bunch grapes are more often used for wines and juices or to augment red grape products. When making jellies, sugar is added, so the exact grape sugar content is less critical. When making wine, the grape sugar impacts the fermentation process; therefore, higher sugar content is desired.

**Muscadine grapes ripen in late July and are harvested through October.** Muscadine grapes are typically harvested individually, and they do not cling to a tight cluster. These grapes are large and **have thick skins, but they are delicious.**

A homeowner with many grapes should be prepared to harvest over a short period and choose to make jelly or wine. A homeowner looking for a fresh grape might be more likely to select a muscadine because of the longer harvest time and the larger grape size. Muscadine grapes are also suitable for jelly and home winemaking.

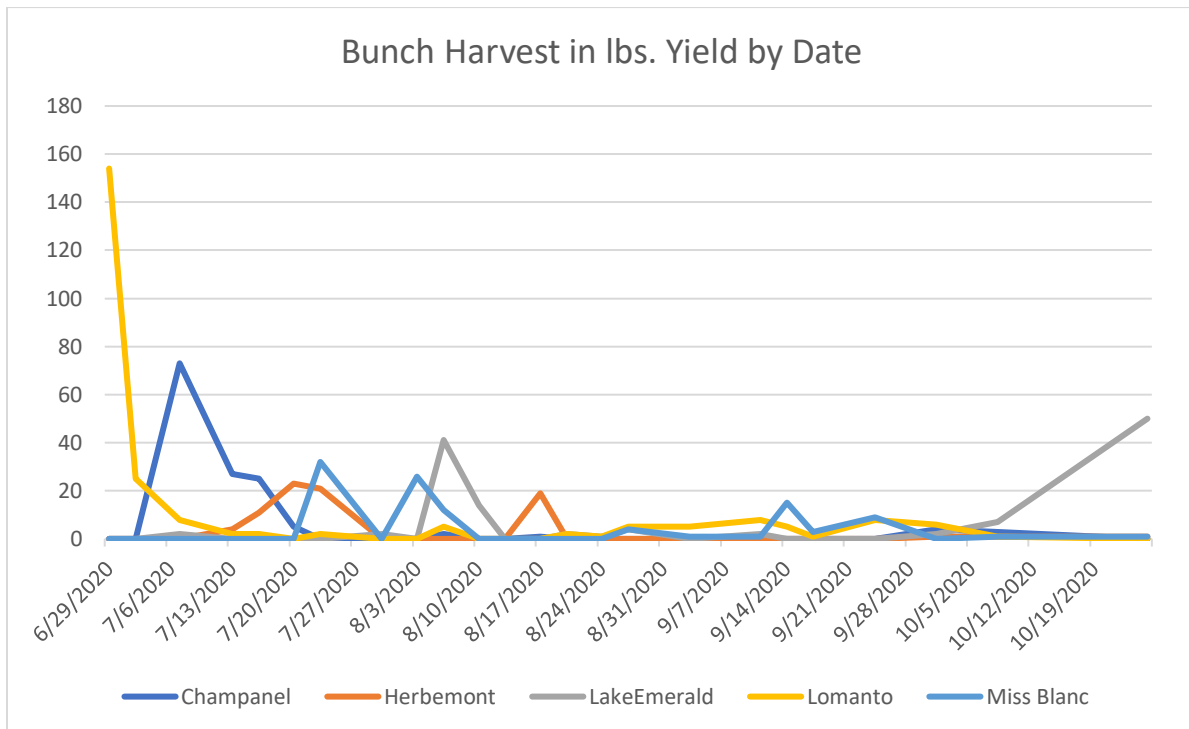


Figure 3. Bunch Harvest in-lbs. Yield recorded by date.

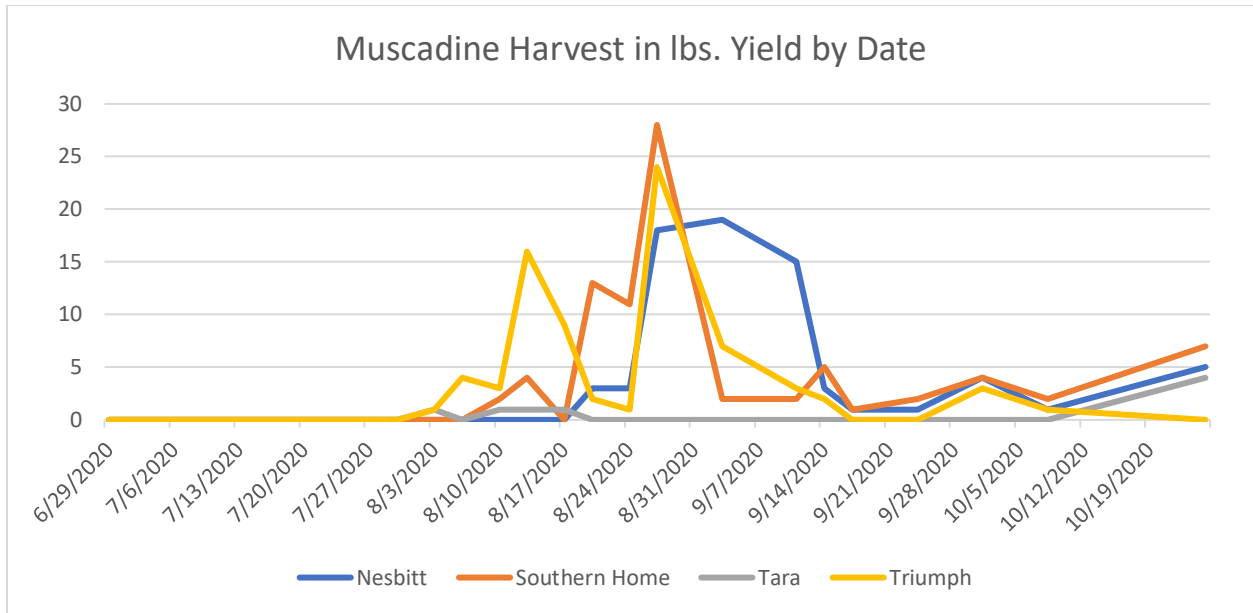


Figure 4. Muscadine Harvest in-lbs. on each date of collection.

### Future Research

Additional harvests will provide information concerning the **longevity and hardiness of the grape varieties** and the effects of seasonal weather conditions.

### Summary

#### Grapes can be successfully grown in the DFW – North Texas Region

A full sun location is necessary.

Careful selection of one or more of the grape varieties suitable for North Dallas will optimize the chances of success.

The taste, texture, and sugar content at harvest determine the grapes' use and, hopefully, the homeowner's satisfaction.