

1930

Blackberry and muscadine grape culture at Hammond, Louisiana

B Szymoniak

Follow this and additional works at: <http://digitalcommons.lsu.edu/agexp>

Recommended Citation

Szymoniak, B, "Blackberry and muscadine grape culture at Hammond, Louisiana" (1930). *LSU Agricultural Experiment Station Reports*. 352.

<http://digitalcommons.lsu.edu/agexp/352>

This Article is brought to you for free and open access by the LSU AgCenter at LSU Digital Commons. It has been accepted for inclusion in LSU Agricultural Experiment Station Reports by an authorized administrator of LSU Digital Commons. For more information, please contact gcoste1@lsu.edu.

MAY, 1930

LOUISIANA BULLETIN No. 213

**BLACKBERRY AND MUSCADINE
GRAPE CULTURE
AT
HAMMOND, LOUISIANA**

BY
B. SZYMONIAK



**LOUISIANA STATE UNIVERSITY
AND
AGRICULTURAL AND MECHANICAL COLLEGE
AGRICULTURAL EXPERIMENT STATIONS**

C. T. DOWELL, Dean and Director

BLACKBERRY CULTURE

B. SZYMONIAK, Horticulturist In Charge

The blackberry and dewberry plants grow wild throughout Louisiana, yet only few are grown commercially, due to the fact that the wild varieties are not generally suited to shipping. Blackberries prefer soils and locations near banks of rivers or along the edges of woods wherever humus and moisture conditions of the soil favor their development. In planting a commercial blackberry patch similar conditions should be provided as near as possible. The turning under of leguminous crops, frequent cultivation and application of barn yard manure or a complete commercial fertilizer on moisture retaining soil would assure these requirements.

MAC DONALD BLACKBERRY

The MacDonald Blackberry is recommended for the southwest section of the United States; it is being grown commercially on a large scale in Texas. This variety was therefore selected for testing at this station under the following conditions:

1. **Soil.**—A clay loam subsoil was selected that could be well drained. Biloxi soybeans were planted and turned under in the fall. After flat breaking the land, barn yard manure was applied at the rate of 10 tons per acre, supplemented by 200 pounds of superphosphate.

2. **Planting.**—The rows which were made up in February were five feet apart and on these the plants were put out. Three rows of MacDonald blackberry were interplanted with one row of Lucretia dewberry for pollination. The MacDonald blackberry is an imperfect flowered variety and therefore requires a perfect flowered variety for the setting of fruit. The plants were set three feet apart requiring 2904 plants per acre.

3. **Fertilizers and Cultivation.**—The plants were kept clean and in April soybeans were planted between the rows. In May when the plants had established themselves an application of nitrogen fertilizer was applied as a top dressing. The amount of cultivation depended upon the season, but the grass was kept out and Biloxi soybeans were turned under for humus in the fall. In the following spring the plants were cultivated by plowing the soil toward the plants and an application of complete fertilizer was given. This was done each spring thereafter.

The first season the plants bore at the rate of 50 crates per acre (24 pints).

4. **Harvesting and Marketing.**—The third growing season and for a period of three years thereafter the average yield was 150 crates per acre, the low yield being due to dry weather and adverse weather conditions. The fruit was picked and graded in the field, care being taken not to put in over ripe or undersize fruit. This eliminated the expense of sorting and packing of the berries later as is done with the strawberries. The picking was done in the morning and shipment made along with strawberries in refrigerator cars.

The report received from Chicago and Detroit markets was that they arrived in good condition though there was a very small demand for blackberries at that time. The local market was very poor and it was often impossible to sell the fruit. The season of picking lasted two or three weeks depending on the weather conditions, dry weather causing small fruit and a short season while a wet season improved and prolonged the picking season but interfered with the pollination during the blooming time and consequently reduced yields.

5. **Pruning.**—Each season after the fruit was picked the old canes were cut out and four new fruiting canes were allowed to grow. When the season was wet they made a vigorous growth and required cutting back again to a height of three feet during the summer. Further cultivation and care were given as in the previous season.

LUCRETIA DEWBERRY

The Lucretia dewberry was handled in the same way as the MacDonald blackberry. It, however, was allowed to trail on the ground; blackberries naturally making an upright growth. The dewberry is usually trained on stakes or wires but for our purpose the berries were allowed to trail on the ground to save expense. The fruit was larger than the blackberry and ripened about one week later but was not as prolific as the blackberry.

RENEWING THE PATCH

After five years the patch became infested with a disease known as "witches brooms". Another site was selected and reset in the new patch. These plants came from vigorous suckers formed at the base of the mother plants.

While the blackberry has not proven very profitable, it is possible that if it were grown cooperatively, it could be made to be a money crop supplementing the strawberry crop of Louisiana.

MUSCADINE GRAPE CULTURE

The muscadine grape is native to Louisiana, growing wild along streams on a variety of soil types but prefers light sandy loams with clay subsoil. It belongs to the *Rotundifolia* species of American grapes and differs from the bunch grapes in that it forms small clusters of fruit containing 4 to 8 berries that shed off easily.

THOMAS VARIETY

The Thomas variety was selected for testing because of its fine quality. The flesh of this variety was found to be tender and juicy, the skin thin and of a dark red color, ripening about the middle of August and continuing until about the middle of September. The growth was vigorous and the vines were free from injury by insects or diseases.

1. **Soil.**—The muscadine grape does not thrive on heavy clay soils but prefers well drained sandy loam with clay subsoil under which conditions it grows naturally. For this reason care was taken to select the foregoing type of soil. Organic matter was added to the soil by growing leguminous crops during the summer and by plowing this mass under in the fall. The land had been in cultivation previously and was in a loose friable condition to receive the young plants.

2. **Planting.**—One year vines, well rooted and pruned for planting, were received from a nursery. Ridges were plowed up fifteen feet apart and the young plants set out ten feet apart in the row. The plants were set deeper than they grew in the nursery, care being taken not to kink or bend the roots, leaving a slight depression in the nature of a water basin. Loose soil was placed around each vine to form a mulch after the dirt had been pressed tightly around the roots. The roots were never allowed to dry out. Early spring was the time of planting. Soon after the plants began to grow, an application of commercial fertilizer was made near the plants. This consisted of 200 pounds of superphosphate and 100 pounds of nitrate of soda per acre. The young vines were carefully cultivated during the early season and a cover

crop of cow peas planted broadcast in June. In planting the Thomas variety one male vine was interplanted to each ten vines of the variety plants. It was found that the plants near the male vines set fruit more abundantly due to pollination. It is therefore recommended that more male vines be interplanted increasing the number to one per eight vines of the variety planted. It has been observed that both wild and domestic bees are active on the blooms of the grape vines and are responsible for this pollination and the setting of fruit.

CULTIVATION AND FERTILIZATION

After each season of growth of the grape vines each spring the soil was plowed away from the vines after being fertilized with superphosphate and nitrate of soda, and the weeds near the vines were hoed out. Later in the season in May or June the soil was again plowed and worked toward the plants. Cowpeas were broadcast at this time in the vinyard and harrowed in on the plowed ground. Where the grape vines were spaced farther than 15 feet apart, watermelons and cantaloupes were grown as an intercrop.

The main idea followed in the cultivation was to give deep plowing in the spring to send the roots down into the ground so that the vines could withstand the dry season. The vines never suffered from drouth where they were so treated. Where vines received no cultivation and no cover crops, but were merely hoed to keep out weeds, there were some that died out and others became defoliated during the summer causing the fruit to dry up and drop off. After the third season of growth the amount of fertilizer was increased to 600 pounds of superphosphate and 200 pounds of nitrate of soda per acre.

PRUNING AND TRAINING

Pitch pine posts nine feet long and six inches in diameter were set two feet deep between each vine. The posts were braced at the ends of the rows. Number 10 wire was used to form a trellis. The two wire and three wire horizontal arm system was used in training the grape vines and in the six years of growth it was found that the two wire system was more satisfactory than the three wire system. In the two wire system the lower wire was placed 40 inches from the ground and the upper wire 36

inches above the lower, while in the three wire system the spacing was 24 inches apart.

The best time for pruning the muscadine vines was found to be in December and January. Vines pruned in February and March had a tendency to bleed. When the one year old plants were set out they were already pruned in the nursery otherwise they would have to be pruned to one short spur of 3 or 4 buds. During the first season of growth only one stem was allowed to grow, all other growth was cut out during the growing season. On this main stem which reached the top wire at the end of the first season's growth, lateral branches were allowed to form at each wire only, all other growth was cut out during the growing season. This pruning and training is important as it is in the first two years of the growth of the vines that this can be best done. At the end of the first year's growth of the vines the lateral branches were pruned back to short spurs of 3 to 4 buds.

During the second season the vines made a growth from each spur left the previous winter and it was necessary to go over the vines in July and cut out all growth except that coming from the spurs left to form the horizontal fruiting arms, six fruiting arms on the three wire trellis and four on the two wires. By the end of the second season the lateral arms were fully developed reaching to the adjacent vines, and had a lateral growth of young shoots 2 to 3 feet long. During the winter this growth was cut back to short spurs and some to long spurs. Each winter thereafter the previous season's growth was pruned back to spurs on which the fruit was borne. The short spur method was found to be more desirable. Further pruning consisted in cutting out old wood and suckers that formed at the base of the vines or on the main stem.

Where the growth of the old arm was reduced in vigor it was cut and a new fruiting arm allowed to take its place.

PICKING AND MARKETING

The Thomas variety produced about one pound of fruit per vine the third year after planting. The fourth year of growth they averaged 3 pounds per vine, fifth year 4 pounds per vine, sixth year 6 pounds and seventh year 10 pounds per vine. Individual grape vines grown under garden conditions have produced an average of 40

pounds of hand picked fruit on seven year old vines. The foregoing low yields are given from the vines grown under field conditions from 551 Thomas plants.

Grape vines planted 10 ft. apart in rows 10 ft. apart would require 435 vines per acre. At seven years of age under field conditions on light sandy soils an average of 4350 pounds of grapes at 4 cents per pound would bring a return of about \$175.00.

The fruit was picked by hand as soon as it began to ripen which was about the middle of August and placed into the hampers which would hold 50 pounds of grapes. The ripening of fruit continued for a period of three to four weeks. During a dry season the crop was short, the season lasting only 15 to 20 days, while during a normal season the condition of the fruit was better and the season longer.

The clusters would not all ripen at the same time but each berry of the first set crop of blooms would ripen first and if not picked would drop off. All fruit was sold locally, none being shipped as there was little demand for it. The surplus was made into unfermented grape juice according to the formula of U. S. Farmers bulletin No. 1075 and 1454. The grape juice was of a light yellow color and a delicious flavor, but there was no market for it even at \$2.00 per gallon.

VARIETIES

The Thomas variety proved to be of best quality for eating and for the manufacturing of grape juice. The fruit is dark red in color, medium size, thin skin and soft pulp. When pressed fresh it makes a golden yellow juice. It is excellent for making jellies, jams, preserves and pastes in accordance with U. S. Farmers Bulletin No. 1454.

Memory is another variety that produced fruit of excellent quality with dark blue berries, vigorous vines but is not so prolific as the Thomas.

Luola is similar to the Memory variety.

The Scuppernong was found to be next to Thomas in quality. The vine is vigorous and healthy producing fruit a little larger than Thomas. The color of the fruit is bronze-greenish containing russet blotches. The flesh is soft and juicy, sweet and of very good quality. This variety has not yielded as well as the Thomas.

Kilgore was originated at Willard North Carolina by Charles Dearing. It proved to be of excellent quality, producing abundantly of a light green colored fruit, sweet and juicy with very little pulp.

The James and Flowers variety were excellent for jelly making, prolific but not very good flavor. Fruit is dark blue to black in compact clusters and ripens later than the Thomas.

Other varieties were tested but found undesirable for home or commercial use.

PROPAGATION

All varieties of muscadine grapes were found to be difficult to grow from cuttings. The Thomas variety was more easily propagated than the Scuppernong variety. Cuttings 12 inches long were made during the winter from previous seasons growth and planted 10 inches deep in well-prepared garden soil, care being taken to insert the cutting slant wise so that the lower end of the cutting would not extend into the clay subsoil. The soil was well firmed and later cultivated to keep out weeds and to conserve moisture. During dry weather it was found necessary to irrigate them especially when they started to grow in the spring.

Layering is the best method of propagating muscadine grapes. This consists of covering the current season's growth in July. The rooted stems are dug up during the winter or spring and set out wherever desired. They do not make as vigorous plants as those propagated from cuttings. In case the soil or climatic conditions are not favorable for transplanting, the newly rooted plants can be heeled in and kept until Spring at which time they may be transplanted. The best way to establish a Muscadine vinyard is to obtain plants one year old from a reliable nurseryman.

