Commercial Blueberry Production Methods in Hillsborough County

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More inquiries are received on starting up a commercial blueberry operation than are received for any other fruit or vegetable commodity in Hillsborough County. Hillsborough County is located along the west central coast of the state and is in climate zone 9. Florida Ag Statistics records show there were around 1,500 acres of blueberries in the entire state in 2000–01. The 2004–05 Florida Ag Statistics reported 2,500 acres in the state. In 2006 Hillsborough County had 325 acres with approximately half of the acreage established in the last 10 years or less. The size of the farms in the county varies from ¼ acre to almost 30 acres with most being 5 acres or less. The south central part of the state has a unique market window from mid-March to early May. This is the only place in the world with fresh blueberry production at that time of year. This has allowed growers to sell at a high price. Many new growers who may or may not have growing experience are attracted to the hopes of continued high returns and the ability to be competitive in the market even though they may only be a small farm. Growers in this area are using three cultural management systems. The three systems are mulched rows, broadcast mulch high intensity plantings, and container production. Container production has been very popular in this area. Reasons for using each system and pros and cons of each will be discussed.

Blueberry (Vaccinium spp.) is one of the few fruits that is native to North America. The blueberry industry started in Florida more than 100 years ago with growers transplanting rabbiteye blueberry (V. ashei) from the wild. These early blueberry plantings were not successful and the Florida blueberry industry waited many years to start again. In 1976, the University of Florida released the first Southern Highbush blueberry varieties which are interspecific hybrids of V. ashei, V. corymbosum, and V. darrowi. Southern highbush blueberries are well suited to Florida’s growing conditions. The fruit ripen 4 to 6 weeks before rabbiteye blueberries, and allow growers to take advantage of a market window from April 1 to mid-May where Florida is the only place in the world producing fresh blueberries. Due to this market window, acreage of Southern highbush blueberries in Florida has continued to increase. According to Florida Agricultural Statistics Service in 2000–01 there were approximately 1,500 acres of blueberries in the state. By 2004-05 there was a total of 2,500 acres in the state.

Hillsborough County is located in the southwest central part of the state. The climate is zone 9 on the USDA Plant Hardiness Zone Map. The blueberry industry in the county is approximately 30 years old. Blueberry growers have an ideal climate for production to hit the market window and there are numerous packinghouses in the area that handle blueberries. In 2006–07 there was approximately 325 acres of blueberries in the county and farms and acreage are increasing all the time. More requests are received for blueberry information by the Extension office than for any other commodity.

Farms are a mix of urban and rural locations, with size ranging from ¼ of an acre to almost 30 acres. Farming experience of growers varies greatly. Some are very experienced in growing other crops and are diversifying into blueberries. Others have no prior experience with farming. The smallest farms are usually growers’ backyards that have been turned over to their farming efforts.

Blueberries have three basic requirements that need to be met to ensure good growth and production. These are acidic soil (pH 4.0 to 5.5), high organic matter (2% to 3%), and good soil drainage. To fulfill these three requirements, growers have developed three production methods that are used in Hillsborough County. The three production methods are containerized production, mulched rows, and broadcast mulch with high intensity plantings. All three methods use finely ground pine bark as a growing media. Using pine bark provides the low pH and high organic matter growing conditions blueberry requires. Most growers use pine bark alone but some will use a peat/pine bark mix.

Production Methods

CONTAINERIZED PRODUCTION. Many small growers use this method. Growing containers are nursery containers or barrels cut in half. Size is from 15 to 25 gal. Two key areas of container growing to consider are adequate drainage holes and sufficient water since plants can easily get too dry in containers. Blueberries are shallow-rooted and it is critical to keep the growing media moist but not soggy and not let plants dry out. Watering systems commonly used in container-grown blueberries are nursery-type spitters, microjets such as used in citrus, drip tape stretched across the top of the row of containers, and overhead irrigation. Row middles are typically grass that is mown or the whole growing area is covered with nursery cloth.

Each system has advantage and disadvantages. There are several advantages to containerized production, including the ability to control the pH, organic matter and drainage. This allows use of marginal land that in times of very heavy rainfall has drainage issues. A big advantage to growing in containers is that plants
are easily moved. This allows growers to move their operation or increase spacing between containers if needed or to even sell plants if they decide to get out of the business. Maintenance, such as weeding and pruning, is easier due to the containers’ raised height.

Disadvantages are the limited root volume and the cost of larger containers. It is critical to pay attention to irrigation. One thing that can be an advantage or a disadvantage is that containers can be laid on their side for hurricane preparedness, which might protect the plants from wind damage but requires a significant amount of labor to lay them down and then stand them back up. Containerized plants could blow over in high wind, which is not as likely to happen with field culture.

**MULCHED ROWS.** Mulched row is the most common growing method used in the state. Finely ground bark or in some cases a bark/peat mix is laid down in rows that are 6 to 8 inches deep and 3 to 4 ft wide. Row middles are usually 8 to 10 ft wide or a width to accommodate equipment. Irrigation can be provided by a variety of methods—overhead sprinklers, microjets, or drip tape. If using drip tape, a tape on each side of the plant gives better coverage to the root zone than a single tape. Row middles are usually a mown grass strip.

Advantages of the mulched row system include the ability to provide the correct pH and organic matter by using pine bark. A big plus for this method is that it is usually the lowest initial cost per acre of the three production methods. It is a more traditional growing method and people seem to be more comfortable with managing this type.

Disadvantages are that it requires good soil drainage, so if land is marginal it would be a poor choice for this system. Mulch must be replenished on your beds eventually. Plants have limited root volume. Blueberry roots stay mostly in the mulched area and are not found in the surrounding soil, so roots are only as deep as your mulch.

**BROADCAST MULCH/HIGH INTENSITY PLANTINGS.** In this type of production system the pine bark mulch is spread over the entire growing area (minus roadways) to a depth of 4 to 6 inches. Spacing for plants in high intensity plantings are 2 ft within row and 5 to 8 ft between rows. Most systems use the 2 ft × 5 ft spacing. This method has the highest density of plants per acre of the three growing methods.

One advantage of this system is that you have the highest potential early production per acre in this method due to the greater number of plants, so you maximize your earning potential in the early years. This can help recoup your investment much sooner. This method also provides a greater area for plant root growth due to the expanded mulched area. The same advantage of providing the requirements of low pH and organic matter for good growth by using pine bark is also true for this method.

Disadvantages are that this is the highest initial cost per acre of the three methods mainly due to the greater amount of pine bark mulch required. This method also requires good drainage. A very important factor to consider initially is water flow patterns over your land. The mulch and young plants are easily washed away until plants have reached sufficient size that their roots have spread throughout the mulch to hold it in place. As with the other methods you will eventually need to add more mulch. As plants mature, maintenance is more difficult due to the overlapping growth of the bushes. Another problem with close-set plants is that there are higher picking losses as workers knock fruit off trying to get between the rows of plants.

**Conclusion**

Central Florida is an ideal location to grow Southern Highbush blueberries. Using any of these three production methods, growers in this area can provide the three requirements that blueberries need to grow well: low pH, high organic matter, and good soil drainage. Choice of production method can be used to tailor the operation to fit the growing conditions of the site.