

The Evergreen Blueberry Production System in South and Central Florida

The two production systems used by Florida blueberry growers are the deciduous (or dormant) system and the evergreen system. Under the deciduous system, plants are allowed to go dormant in late fall and defoliate. Many growers using this system apply hydrogen cyanamide in early winter to help promote vegetative budbreak to support earlier flowering and fruit set, and to concentrate fruit ripening. With the evergreen system, the plants never go dormant, and one of the major production goals is to keep the prior year's foliage healthy and intact through harvest, to support early fruit maturity. Growers in north-central Florida primarily use the deciduous production system (unless growing in protected structures), growers in south-central Florida use the evergreen production system, and growers in central Florida typically use both the evergreen and the deciduous systems. This blog post will focus on the evergreen production system.

The primary advantage of the evergreen system is early fruit ripening and harvest, so growers can produce fruit early in the Florida market window (which typically spans early March through mid-May) when blueberry prices are at their peak. It is important to plant southern highbush blueberry (SHB) cultivars that are adapted to the evergreen system, that grow well in areas with mild winters and minimal chilling temperatures and have foliage that tends to remain intact throughout the fall and winter. See Southern Highbush Blueberry Cultivars from the University of Florida (<https://edis.ifas.ufl.edu/publication/HS1245>) and <https://www.blueberrybreeding.com/varieties> for more information.

In addition to planting cultivars that are well adapted to the evergreen system, certain production practices are important for success, including disease and insect control, and adjusted fertilization and irrigation procedures.

One of the most significant diseases impacting evergreen production is leaf rust. It tends to become more significant during fall and winter, and if uncontrolled can lead to defoliation. This can result in delayed or reduced floral bud initiation, delayed fruit maturity, and reduced fruit size. Uncontrolled leaf rust can also carry over from the previous year's foliage that persist in an evergreen system and infect developing leaves and fruit the following spring. Other fungal leaf diseases include anthracnose, Phyllosticta, Septoria, and target spot. Regular monitoring and preventative fungicide sprays, in a rotation with different modes of action, are important to minimize any foliage damage from these diseases. For more information see Florida Blueberry Leaf Disease Guide (<https://edis.ifas.ufl.edu/publication/PP348>) and 2022 Florida Blueberry Integrated Pest Management Guide (<https://edis.ifas.ufl.edu/publication/HS380>).

There are several insect pests that can injure blueberry foliage. The most significant of these is chilli thrips, which feed on young foliage from late spring through early fall, resulting in leaf bronzing, distortion, and in severe cases some defoliation. In September and October southern red mite populations typically increase and can cause significant bronzing injury to blueberry foliage, and in summer blueberry gall midge can damage young shoot tips. Regular scouting for the presence of these pests and preventative insecticide and miticide applications, in a rotation

with different modes of action, are necessary to minimize any foliar injury. For more information see Chilli Thrips on Blueberries in Florida (<https://edis.ifas.ufl.edu/publication/IN1298>) and Mite Pests of Southern Highbush Blueberry in Florida (<https://edis.ifas.ufl.edu/publication/IN1284>).

One of the main differences between the evergreen and deciduous systems is fertilization. Fertilization must continue through fall and winter in the evergreen system, instead of cutting off fertilizer from early fall through the end of December, which is usually done in the deciduous system. Sufficient nutrients (including nitrogen) must continue to be supplied in advance of plant needs in order to support a full and healthy canopy of foliage. Evergreen fertilization trials are currently underway at UF, which when completed should provide guidance on nitrogen and phosphorous rates, as well as the best timing for application of fertilizer. Regular leaf nutrient analysis, periodic soil nutrient analysis, and monitoring of pH levels should be performed to determine whether specific nutrients are in a sufficient range and are available to the plant. See Nutrition and Fertilization Practices for Southern Highbush Blueberry in Florida (<https://edis.ifas.ufl.edu/publication/hs1356>).

Irrigation practices in the evergreen system will also differ somewhat from those used in a deciduous system. During fall and winter, plant transpiration and water use are higher in the evergreen system than with dormant plants, since deciduous SHB plants typically defoliate during this time. Also, this is normally a time of reduced rainfall. Providing sufficient irrigation during this time is necessary to help support healthy evergreen foliage.

For more information on use of the evergreen system to produce blueberries in Florida, see Evergreen Production System for Southern Highbush Blueberries in Florida (<https://edis.ifas.ufl.edu/publication/HS1362>).

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