MISSISSIPPI STATE UNIVERSITY EXTENSION

Mississippi *Vaccinium* Journal

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Time Marches On

My dad is a big fan of Ernest Hemingway novels, so we had many copies around the house while I was growing up. One of those was "For Whom the Bell Tolls". The title was taken from a poem by John Donne. Part of the short poem states, "Each man's death diminishes me, For I am involved in mankind." In this issue we pay tribute to one of the fallen pioneers of the blueberry in Mississippi, Luis Monterde. There are also articles on grafted blueberries, stem blight, the upcoming Annual Blueberry Education Workshop and more. So please read this issue and reflect on our fellow blueberry enthusiasts. We have lost too many of our industry stalwarts recently. But as John Donne's poem concludes the bell tolls for us all at some point and "No man is an island, Entire of itself." Thus, the blueberry plants (and blueberry people) are counting on us all to do our best for ourselves and each other.

Annual Blueberry Education Workshop

The Mississippi State University Extension Service will be hosting a full-day conference for all blueberry growers in Mississippi and the surrounding area. The date will be January 23, 2020 at the MSU Forrest County Extension Office in Hattiesburg and will run from approximately 9-3pm (subject to change).

Right now things are in the planning stages with more information to follow in the coming months, but topics will include information on marketing, new cultivars, intro to winemaking, and more.

If you have received this newsletter via email, you will get notification of the conference details. The conference will also be advertised via other outlets as well. Stay tuned for more information.

Blueberry Farmer, Former Council Member Luis Melvio Monterde Dies at 77

Blueberry farmer and former USHBC council member Luis Melvio Monterde died Sept. 26 at age 77 in Lumberton, Mississippi. Born Feb. 19, 1942, in Banes, Cuba, Monterde came to the U.S. in 1959. He became a heavy-duty diesel technician and worked for several years in that field. In 1968, he joined the staff at Bass Memorial Academy, a Seventh-day Adventist Church boarding high school in Lumberton, and dedicated his life to the academy's staff and students. Planting his first blueberry bushes in 1980, Monterde went on to establish B&M Blueberry Farm and B&M Imports, and was one of the first farmers in Mississippi to grow blueberries commercially. Working closely with researchers at Mississippi State University's (MSU) South Mississippi Branch Experiment Station in Poplarville, he helped pioneer the state's blueberry industry and was a founding leader of the Miss-Lou Blueberry Growers Co-Op.

"Luis essentially started the entire commercial blueberry industry for Mississippi and Louisiana. At the time, in the early 1980s, blueberries were grown here only as a hobby," notes Tim Goggins, grower and president of Miss-Lou Blueberry Co-op. "Luis' imagination saw an economic development opportunity and through his diligence and tact, he built the first regional modern commercial packing shed. Over time, he also designed and patented a box frozen blueberry processing line.

"Luis enjoyed helping and teaching others to establish blueberry ranches throughout the Gulf Coast region. He was instrumental in providing input and feedback to USDA-ARS research on developing other types of rabbiteye blueberry varieties," Goggins added. "Although the blueberry industry has seen many challenges, Miss-Lou continues to survive due to Luis' initiative, sound judgment and meticulous attention to processing quality berries. His high professional standards, resourcefulness, devotion to the growers and outstanding ability reflects great credit upon himself, his family and all Miss-Lou blueberry growers."

Monterde served on the board of directors of Lamar County Farm Bureau and was a dedicated county board member for many years. He was also a vice president of the Mississippi Farm Bureau Federation (MFBF) Horticulture Commodity Advisory Committee, a member of the MFBF Labor Committee, past president of Miss-Lou Blueberry Growers Cooperative and a member of the board of directors of the Federal Crop Insurance Corporation.

A memorial service is planned for March 28, 2020, in Lumberton, Mississippi.

Are Grafted Blueberries in our Future?

Jeff Williamson, Rebecca Darnell — University of Florida

This original article is available here: https://www.growingproduce.com/fruits/are-grafted-blueberry-plants-in-floridas-future/. While much of content is focused on Florida, there are elements that can potentially translate to Mississippi, Louisiana, and Alabama as well.

Florida produces early-season blueberries for the fresh market during March to early May and was once the only region in North America producing significant quantities of blueberries during this period. Historically, prices were high for Florida blueberries due to the high demand and limited supply. More recently however, increased blueberry production from other regions such as Mexico during the traditional Florida market window has reduced fruit prices for Florida growers.

To make matters worse, production cost\ for early-season southern highbush blueberries in Florida and the lower Southeast U.S. are high. Freeze protection systems are needed, and soils are often not suitable for blueberry production without the addition of large quantities of pine bark. Additionally, Florida blueberries have traditionally been hand-harvested. Hand harvesting is the single greatest cost for Florida growers in established plantings, representing more than 40% of the total.

Because of the high cost of hand-harvesting, there is increased interest in mechanically harvesting blueberries for the fresh market. Some of the newer southern highbush cultivars have fruit and bush characteristics that are better suited for machine harvesting than the older standard cultivars such as 'Emerald' or 'Jewel.' While machine harvesting substantially reduces harvest costs, there are some yield losses associated with it. Berries dropped on the ground (ground drops) during machine harvesting is one example of lost yield during machine harvesting. Training and pruning plants to a narrow crown at an early age can reduce ground drops, but this requires labor and does not eliminate the problem.

Ongoing research at UF/IFAS is evaluating the use of sparkleberry (*Vaccinium arboreum*) as a potential rootstock for commercial blueberry production. Sparkleberry is a small native tree with several characteristics that may make it suitable as a potential blueberry rootstock, including: 1) graft compatibility; 2) monopodial or single trunk growth habit; 3) greater tolerance to low soil organic matter and high pH soil than blueberry; and 4) deep, expansive root system with greater drought tolerance than blueberry.

Grafted, cont.

Our research has been underway for approximately eight years. Initially, two plantings with grafted and own-rooted plants were established in North-Central Florida using pine bark amended and non-amended sandy soils. The plant material consisted of 'Meadowlark' and 'Farthing' plants grafted on sparkleberry seedlings or grown on their own roots. Initially, the grafted plants were smaller and yielded less than the own-rooted plants. However, by year three and subsequently, plant growth and berry yield of grafted plants was greater than own-rooted plants when grown in non-amended soil and yields of grafted plants in non-amended soil were similar to own-rooted plants grown in amended soil. This suggests that using sparkleberry as a rootstock might eliminate, or significantly reduce, the need for soil amendment. There was a tendency for grafted plants to produce slightly larger fruit than own-rooted plants although this difference was not always observed. No consistent differences in internal fruit quality were observed between grafted and own-rooted plants.

Although plant water status was not measured, the deep expansive root system of grafted plants probably reduces diurnal drought stress, which is known to occur during hot weather, even in irrigated fields. Moreover, eight years after planting, the own-rooted plants had a higher mortality rate in the field than the grafted plants.

The original plantings used sparkleberry seedlings as the source for rootstock plants. The seedling population was variable for important traits that are needed for a suitable rootstock plant. Selections from the original sparkleberry seedling population were made based on their performance in the original trial and were clonally propagated for further study. These selections are currently being tested on several cultivars. Each cultivar/sparkleberry combination is being evaluated independently. The goal is to identify sparkleberry clones that perform well as rootstocks with the commercially important southern highbush blueberry cultivars used in Florida. To date, our results are encouraging but still preliminary.

Grafted, cont.

Unfortunately, there is no shortcut to evaluating these cultivar/rootstock combinations under field conditions for multiple years. There are still challenges to address including identifying the best grafting procedure(s), developing efficient nursery production practices, and understanding how cultural requirements for grafted blueberry plants may differ from traditional own-rooted plants. Continued field testing and economic analysis are needed to clearly define the potential benefits of using sparkleberry as a blueberry rootstock and determine if they offset the additional costs of grafted nursery plants.

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Mississippi State University Joins the Southern Small Region Fruit Consortium

Eric Stafne — MSU

In fall of 2019, Mississippi State University joined its fellow Southeastern U.S. universities in the Southern Region Small Fruit Consortium. If you are unfamiliar with it, the mission of the Southern Region Small Fruit Consortium (SRSFC) is to promote the small fruit industry through education, research and outreach via regional collaboration employing the expertise of the member institutions. The crops currently covered by the consortium include: blueberries, bunch grapes, caneberries (blackberries and raspberries), muscadines, and strawberries.

The SRSFC is administered by a Steering Committee comprised of: one administrator from each institution-executive committee; two faculty from each institution; one grower representative from each of the member states; coordinator of the SRSFC (non-voting member); and the National Program Leader (NIFA). This steering committee approves the annual budget, reviews and ranks grant proposals, assists with agent training, contributes to the SRSFC web site, and attends the annual meeting.

The SRSFC has provided partial and full scholarships to agents from the member states to attend the sponsored annual agent trainings. Full scholarships (all expenses paid) are offered to four or five agents from each member state.

The SRSFC Grant program goal is to provide funding in support of applied research with small fruits in the member states with a maximum award of $5000. The grant (research and extension) process is competitive but as a member institution each small fruit faculty member is eligible to apply for up to two grants (no more than $5000 per grant) annually. Most of the grants involve Co-PI's or cooperators in two or more states. Awards are credited to the lead PI's institution.

The SRSFC has also been an advocate and taken leadership roles in pursuing registrations of pesticides for small fruit crops through the IR-4 program and manufacturers (e.g. state label registration).

The SRSFC also publishes many IPM guides that you are probably already familiar with. They are updated annually and available to anyone here: https://smallfruits.org/ipm-production-guides/

With Mississippi State University becoming a member, we believe it will enhance our knowledge and ability to server our small fruit growers throughout the state. Our goal is to better educate our agents and specialists so they in turn can deliver that information to the growers. Dr. Christine Coker and Dr. Rebecca Melanson are also serving in leadership roles. If you have questions about the Consortium feel free to contact me (Eric Stafne).

Characterization and Pathogenicity of Stem Blight Complex Isolates Associated with Stem Blight Disease on Vaccinium Species

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Species of Botryosphaeria and Neofusicoccum are major pathogens of blueberry worldwide. Accurate identification of these species is essential for developing effective management practices. A multigene sequencing strategy was used to distinguish between six isolates of stem blight pathogens collected from two different regions of the United States. The temperature growth study revealed that the optimal temperature for growth of five of the tested isolates ranged from 25 to 30 °C, although no significant difference was detected for the growth of Neofusicoccum spp. isolate SD16-86 at 20, 25, 30, and 35 °C. In vitro fungicide assays showed four fungicides, cyprodinil + fludioxonil, propiconazole, pyraclostrobin + boscalid, and azoxystrobin, were effective against the tested isolates with isolate SD16-86 being less sensitive compared with the other isolates. In a detached stem assay, none of 39 blueberry accessions displayed immunity or a high level of resistance to the two tested isolates, and no significant difference in lesion length was detected among the seven tested Vaccinium species inoculated with the two isolates.

Full text of this work is available at: https://journals.ashs.org/hortsci/view/journals/hortsci/54/7/article-p1199.xml

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Delta Agricultural Weather Center

The Delta Agricultural Weather Center is located at the Delta Research and Extension Center in Stoneville, Mississippi. The Center is a joint effort between the Mississippi Agricultural and Forestry Experiment Station and the Mississippi State University Extension Service. The purpose of this Center is to provide historical and up-to-date weather data and products to aid farmers in making agricultural decisions.

On March 31, 1996, the National Weather Service located at Stoneville, closed its doors. Through volunteer efforts, weather data collection continued as it had since 1915 so there would be no gap in historical data.

It was soon apparent there was a need for public access to weather data and a Federal Extension grant was secured to fund a central weather project. This grant allowed the Delta Agricultural Weather Center to become fully operational in May 1998. The Center began operation with three on-farm sites recording weather information daily. Other sites were added and continued to be added throughout the entire Delta region.

The Center currently has 19 fixed weather stations and 20 seasonal stations. The automated weather stations measure precipitation, temperature, relative humidity, wind speed and direction, solar radiation, and soil moisture and soil temperature at various depths. Wind data are available every 15 minutes. All other parameters can be found on an hourly and 24-hour basis.

Data and tools are available at: deltaweather.extension.msstate.edu. The site includes current daily weather information, historical weather information, DD50 and DD60, planting date information for cotton, corn, rice, and soybeans, and pond temperature predictions as well as other tools.

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