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Ch-ch-ch-changes

Beginning with this issue the Mississippi *Vaccinium* Journal transitions to a triannual publication. There are several reasons for this that I won't go into here, but from now on you will receive this newsletter in April, August, and December. In this issue there is a recap of the 2023 Mississippi Blueberry Virtual Education Workshop with a link to the recording. Also I discuss the freeze (as it stands of this writing). Of course this isn't good news and it is still too early to know the majority of the impacts but it deserves some introduction and context as we go forward into the spring and summer harvest months. Some new resources are introduced too, all hopefully helpful in making producing blueberries and easier endeavor. Let's hope the freeze wasn't as bad as it seems and that a reasonable crop is still possible.

University of Florida Blueberry App Available

First released in 2020, but updated regularly since then, the University of Florida blueberry app is available for both iOS and Android operating systems at the Apple Store and the Google Play Store. The guide is designed to help blueberry growers with various production issues on southern highbush blueberries, although those with rabbiteye bushes will find useful information as well. The guide includes a diagnostic key, descriptions of symptoms, disease/insect life cycles, recommended management practices, an image gallery and links to blueberry publications. To read more about the app and links to the download it, go here:

<https://blogs.ifas.ufl.edu/news/2020/12/09/uf-ifas-developed-blueberry-app-to-help-growers-battle-diseases-and-pests/>

2023 Spring Freeze Update

Eric T. Stafne, MSU Fruit Specialist

The freeze that occurred on March 20 was devastating to blueberries in Mississippi. The extent of that devastation is still to be determined, but after a few days we can definitely tell that some berries are not going to make it. How much is lost? This is still difficult to project. Usually the crop ends up being more than we think initially. It really depends on the variety, stage of growth, minimum temperature, and other factors. I would estimate we are looking at 50% loss or more, but that is just a broad guess right now. Some varieties in some locations will be a near complete loss whereas others will have a crop. One key thing is the stage of development because closed flowers appear to be fine, whereas open flowers and set fruit at the time of the freeze are damaged.

Fruit quality can vary a lot with a freeze. Some berries may have scarring on the skin which is still edible, but not commercially viable to sell. In some cases the fruit will collapse, rot, and fall off. Fruit that developed after the freeze may be a little larger if the overall crop size is reduced.

The freeze is devastating for commercial growers. The overall crop will be reduced tremendously and even if there is some fruit in the field it may not be economically viable to harvest it .

Homeowners will probably end up with some crop but it may be smaller than usual. Most of what is grown in Mississippi is rabbiteye blueberry varieties so those tend to be later developing than southern highbush varieties. Early rabbiteye varieties were hit hard but later season varieties are likely to be better off. Since growth was initiated about 2 weeks early this year the timing of the freeze coincided with a lot of already set fruit and also full bloom in some varieties.

If there is no harvestable crop, then pruning can be done earlier in the season (late spring or early summer). This can help initiate more growth and set more fruiting buds for next season.

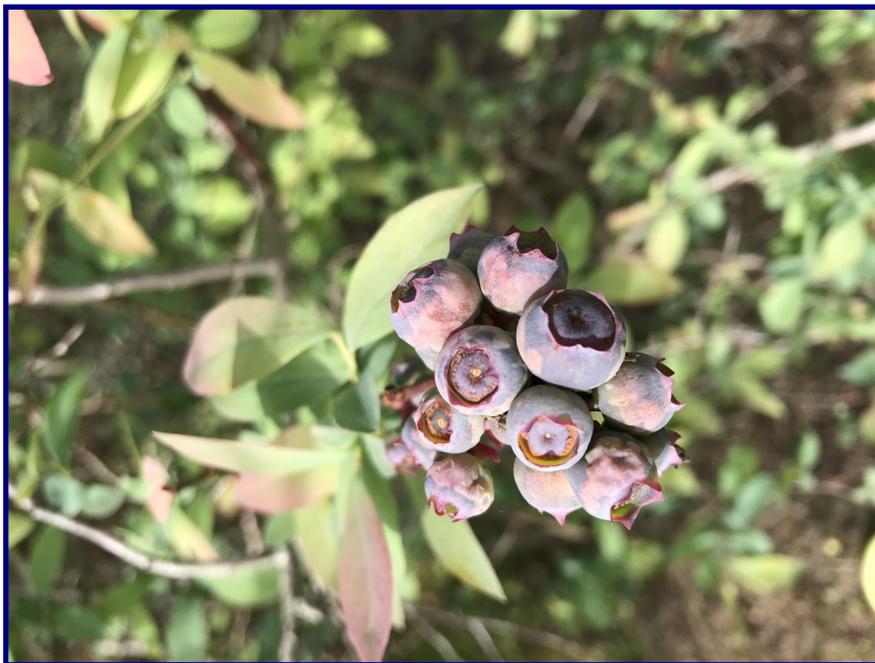
Images on the left shows cold damaged flowers and on the right, cold injured leaves (red).



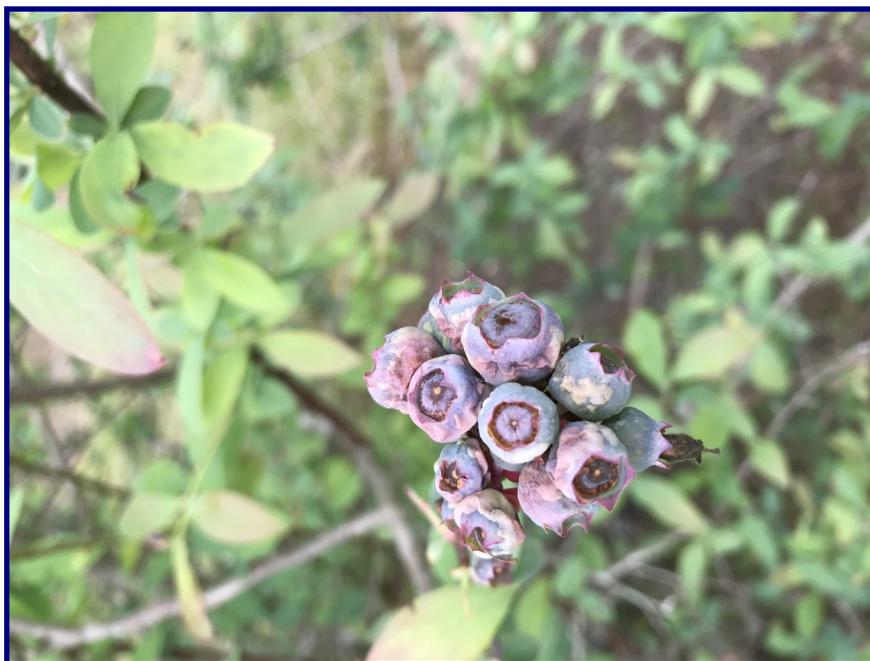
Freeze Update, cont.

Eric T. Stafne

These two photos show the same cluster of fruit on 'Prince'. The first was taken the day after the freeze.



The next photo was taken 3 days after the freeze. Notice the further deterioration.



‘USDA-Spiers’ Rabbiteye Blueberry

S.J. Stringer, A.D. Draper, B.J. Sampson, H.F. Sakhanokho, and E. Babiker — USDA-ARS

‘USDA-Spiers’ produces an abundance of medium-to-large (greater than 2.0 g), attractive, light-blue, and very firm berries with resistance to rain-induced splitting. Mature ‘USDA-Spiers’ bushes are moderately spreading with narrow crowns, and compared with most rabbiteye blueberry cultivars, grow more slowly, and require little pruning to manage excessive vegetative growth. Twelve-year-old ‘USDA-Spiers’ plants at Perkinston, MS, had an average height and width of 1.82 and 1.56 m, respectively, and are significantly shorter than most other rabbiteye cultivars. Plants leaf normally in the spring, even after mild winters, and mature plants often develop berries on long racemes on the perimeter of the bush’s leaf canopy. In southern Mississippi, ‘USDA-Spiers’ flowers in early-to mid-March and berries ripen in late May to mid-June. Comparisons of flowering dates with that of known cultivars suggest that ‘USDA-Spiers’ has a chilling requirement ~ 400 h below 7 °C. ‘USDA-Spiers’ propagates readily from both softwood cuttings taken in late spring and the new growth of late summer, as well as hardwood cuttings in the winter. ‘USDA-Spiers’ should be planted with other rabbiteye blueberries having similar bloom periods to obtain optimum pollination and fruit set and is expected to perform well in hardiness zones 8a to 9a where rabbiteye blueberries are grown. ‘USDA-Spiers’ was named in honor of Dr. James M. Spiers who conducted blueberry research aiding in establishing the rabbiteye blueberry industry along the US Gulf Coast and who was the founding Research Leader at the USDA-ARS Small Fruits Research Station and the USDA-ARS Thad Cochran Southern Horticultural Laboratory in Poplarville, MS.

‘USDA-Spiers’ is a public domain blueberry cultivar. A limited supply of rooted cuttings and cutting wood is available to certified nurserymen. Written requests for plant materials should be sent to either Dr. Stephen Stringer or Dr. Ebrahiem Babiker, USDA-ARS Thad Cochran Southern Horticultural Laboratory, P.O. Box 287, Poplarville, MS 39470. Genetic materials of this release are deposited in the National Plant Germplasm Repository at Corvallis, OR, where they are available for research and commercial development.

To read more, including photos and data, please see the original article that was posted here:

<https://journals.ashs.org/hortsci/view/journals/hortsci/58/3/article-p338.xml>

2023 Mississippi Blueberry Education Workshop

Eric T. Stafne, MSU-ES

Topics and Speakers:

On January 26, 2023 the 2023 Mississippi Blueberry Virtual Education Workshop took place via Zoom. We had a great line-up of topics and speakers. Let me know if you want more of these meetings. On the next pages see information on the speakers and their topics. Access the recording here: <https://vimeo.com/799250671>

Splitting in blueberries: what do we know and what can we do?

Amanda Davis

Senior Faculty Research Assistant II—Berry Crops

North Willamette Research & Extension Center

Oregon State University

Description: Blueberry splitting can be a major production problem for growers. We will review some of the causes, what we know and don't know about splitting, and outcomes of a research study conducted in Oregon that aimed to reduce splitting and improve fruit quality using a commercial biofilm product.



-Continued-

Workshop, cont.

Blueberry breeding in Alabama – update on breeding, blueberry stem blight, and yield prediction

Dr. Sushan Ru

Assistant Professor of Small Fruit Breeding and Genetics

Department of Horticulture

Auburn University

Description: I will present the status of the blueberry breeding program at Auburn University. Specifically, I will talk about breeding targets, germplasm collection, and ongoing research projects. Preliminary results on blueberry stem blight screening and high-throughput yield prediction will also be presented.



-continued-

Workshop, Cont.

Effects of Plant Growth Regulators on Blueberry Ripening Rate and Fruit Quality

Dr. Joshua VanderWeide

Assistant Professor

Department of Horticulture

Michigan State University

Description: Fresh blueberry pricing is determined by market demand at a particular harvest date. In Michigan, a significantly earlier harvest would increase the market price of late-season fruit before imported berries arrive. Two popular varieties were subjected to treatments using plant growth regulators (PGRs) involved in the endogenous ripening process with the goal of advancing maturity compared to an untreated control treatment. Aggregate berry samples collected during ripening were evaluated for individual weight, diameter, firmness, total soluble solids, pH, and titratable acidity. Additionally, individual berries were also collected at harvest maturity to evaluate the uniformity of individual berry weight, firmness, and total soluble solids. The impact of these PGRs on blueberry ripening rate and fruit quality will be discussed. Future evaluations will include the quantification of anthocyanins and aroma volatiles in both cultivars.



Workshop, Cont.

Is Sap Analysis a New Tool to Determine Plant Nutrient Status?

Dr. Zilfina Rubio Ames

Assistant Professor & Small Fruit Extension Specialist

University of Georgia

Tifton Campus

Description: Recently producers had added sap analysis to their routine soil and leaf samples. Sap analysis are generally performed at overseas laboratories, which provide growers with minimal guidance on how to interpret the results or relate them to soil or leaf sample analysis. Educating growers on how to interpret sap analysis to adjust fertilization management practices can help growers to better manage fertilization, reduce production cost, and increase fertilizer use efficiency.





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Mississippi State Delta Agricultural Weather Center

The Center currently has 31 fixed weather stations and various seasonal variety trail mobile stations. The automated weather stations measure precipitation, temperature, relative humidity, wind speed and direction, solar radiation, and soil temperature at various depths. Real time weather data is available every 15 minutes. All other parameters can be found on an hourly and a twenty-four-hour basis. The webpage is: <http://deltaweather.extension.msstate.edu/>

Below is the map of all current weather stations. Note that most are in the Delta and northern MS. The stations in south MS are in Biloxi, Poplarville, Beaumont, and White Sand. It is anticipated that more stations will be added in the future.

