

# Mississippi *Vaccinium* Journal

Volume 7, Issue 3

July-September 2018

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- Eric T. Stafne

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## Finally, A Good One

After several years of problematic weather and poor markets, 2018 was finally a year that smiled upon Mississippi blueberry growers. Of course there was the usual late freeze to hamper some of the efforts but overall the quality of the fruit harvested was excellent and the market prices held up due to poor crops in other states. Sure, we can't count on this type of good fortune every year; however it would be great to not have frequent disasters either.

In this issue of the Mississippi *Vaccinium* Journal I cover various topics related to spray applications after harvest, food safety, grant writing and other things too. So, enjoy the rest of the summer and bask in the satisfaction of a job well done. And maybe, just maybe in 2019 there will be another good one coming on.

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## Reboot: Gulf South Blueberry Growers Assoc.

Don VanderWerken has worked hard to try to get the dormant Gulf South Blueberry Growers Association back up and running. Ever since Dr. Braswell stepped down as secretary, the association has stagnated. In May, the first blueberry field day was held in quite some time at the MSU McNeill Research Station in McNeill, MS. The goal was to introduce producers to new and promising selections in the USDA-ARS breeding program headed by Dr. Stephen Stringer. The turnout was excellent on a hot (but dry) day as attendees strolled through the blueberry bushes, tasting the latest creations. There are several new potential varieties in the pipeline of release. The latest is 'Gumbo' which is characterized as a large and vigorous bush, having a large berry with a small dry scar, and high yield. It will be available in the near future as soon as plant numbers can be propagated to satisfy the marketplace. If you are interested in learning more about the GSBGA then contact Don at [donvdw1@gmail.com](mailto:donvdw1@gmail.com) or 504-782-0779.

## Are Summer Post-pruning Sprays a Smart Strategy?

Eric Stafne

MSU-ES, Fruit Specialist, Poplarville, MS

It isn't often that I get a question about summer post-pruning sprays on blueberries, but maybe I should. In other crops, such as grapes, post-pruning fungicide sprays are becoming de rigueur. As trunk and cane diseases like *Botryosphaeria* become more common, controlling them is essential to plant longevity. That begs the question — are blueberries as susceptible to these diseases as grapevines?

Septoria leaf spot is always a concern. Some years it is not too bad, and other it seems to wreak havoc in some varieties. A study by [Ojiambo et al. \(2006\)](#) in Georgia showed that infections of Septoria can affect fruiting in the following year. In this study, Premier showed a significant decrease in flower buds and their potential to produce fruit as the amount of Septoria infection increased. Whether or not that became a problem of economic importance was not discussed but it was noted that there was a “marked drop” in yield potential once 50-60 infections were observed per leaf.

The [2018 Southeast Regional Blueberry Integrated Management Guide](#) states:

“During fruit maturation and/or immediately following harvest, fungicide applications may be warranted for control of leaf spots and suppression of dieback diseases and root rots. Start applications as soon as leaf spots are first observed...Hedging cuts can serve as an entry point for many stem pathogens. At the end of each day of hedging, application of broad-spectrum fungicides may be beneficial.” Many fungicide options are available (see link for more details), including commonly used products like Agri-fos, Indar, and Pristine (among others).

Overall I believe this is a good strategy to keep plants healthy, especially southern highbush varieties. It is still unknown how all varieties react to summer pruning and if they are indeed more susceptible to invasive pathogens. However, an additional fungicide spray immediately after pruning may act as an insurance policy against long-term problems. Other crop producers have found out the hard way that pruning cuts act as a convenient entry point for pathogens. As difficult as it is already to grow southern highbush varieties in Mississippi, a extra spray (or two) may help extend their lifespan. As for rabbiteye varieties, they tend to be more resilient, but as the study above showed, severe infections of Septoria can lead to yield loss. But there is still a lot we don't know about other diseases — can these pruning cuts lead to increases in *Botryosphaeria* or even *Xylella* infections? Based on what we do know this seems plausible.

The main point is to control a disease IF it is of economic importance, especially post-harvest. Keeping plants healthy improves crops and lifespan. If that isn't part of the economic equation, then I don't know what is.

## SWD Affected by Weather During Growth Cycle

Eric T. Stafne, MSU Extension

An interesting article by Julianna Wilson, Rufus Isaacs, Larry Gut, Michael Haas in the [Michigan spotted wing Drosophila update for June 19, 2018](#) has some good information regarding the research being done at Michigan State University. Below is a short paragraph on what they are finding about the weather and how it affects SWD population build-up.

“We have learned SWD develops into an adult “winter form” in the fall that prepares it to survive winter conditions, but these adults hiding in the soil and leaf litter are still sensitive to extreme cold. The past winter had some significant cold periods in late December, and it also included some events that were very cold without snow cover. This spring, we had a rapid warmup followed by a very cold period in April and then mid-90 degree conditions around Memorial Day. From our limited experience of different winter/spring conditions, it seems this pest is affected by how suitable that part of the yearly cycle is, and that affects how quickly SWD builds populations in the spring.”

They go on to say:

“This type of variation from year to year highlights the value of monitoring for SWD so growers know whether this will be a high or low pressure year by the time the fruit start to ripen.

That said, given how quickly this pest can reproduce and how devastating infestation can be, if your crop is at a susceptible stage, apply a cover spray of an insecticide that is rated excellent against this pest to protect fruit and maintain populations at current low levels. Also, rotate insecticide chemistries once you begin your spray program. A slow start likely means this pest will be easier to manage this year than last year.

There may be some fields and orchards that are able to have fruit harvested before SWD populations build to levels where sprays specifically targeting this pest are needed. By trapping for flies and sampling fruit using the salt test in the days prior to harvest, growers can determine how well their program is working.”

Obviously there is still a lot we don't know about this pest. However, we are rapidly learning about the best ways to keep it in check. I had several questions this year on why SWD seemed to be missing — well it was just late to the party.

## Blueberry Harvester Food Safety

Eric T. Stafne, — MSU Extension

Mechanical harvesting of blueberries is commonplace in many commercial production regions. With labor shortages becoming worse, it is a strategy that more producers would like to employ for the fresh market. Commonly, food safety hazards are linked to human contact, but mechanical harvesters may also lead to safety issues especially if they are not cleaned and maintained properly. Possible contaminants include yeast, mold, coliform, fecal coliform, and enterococcus. Here are some tips to minimize food safety problems:

- Know when and where the harvester was used last to rule out potential contamination through contact with high risk sources such as compost or manure.
- Make sure the harvester is in good working order. Any broken, damaged, or leaking parts could lead to fruit contamination.
- Always clean and sanitize the harvester before and after each harvest, especially any surface that comes into contact with the fruit. These may include catch plates, conveyer belts, walls, “fish scales”, etc. Also clean and sanitize the harvester when it is moved between fields.
- No drinking, eating, or smoking should be done while operating the harvest machine. These activities may create physical hazards (e.g. plastic or glass contamination) or other contamination.

To best minimize microbial contamination and subsequent fruit loss, harvest when the fruit is dry and during the coolest part of the day. Also, after the fruit is harvested avoid dropping and vibrating the fruit as much as possible that can create bruises or other damage (Fig. 1). Do not over pack fruit in lugs or other field containers. The fruit should be no more than 4 to 5 inches deep so that it does not become crushed. Handle all fruit delicately and cool it as soon as possible by getting it out of the field once it is harvested.

Once the fruit is out of the field and into the packing facility, other food safety awareness is needed. But, the above information regarding blueberry harvester food safety can mitigate many potential problems before the fruit is packed and shipped.



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## FUNDING, FINANCING, AND GRANT WRITING FOR LOCAL FOODS DEVELOPMENT

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July 31, 2018

9:30 a.m. - 2:30 p.m.

Forrest County Extension Office

952 Sullivan Drive, Hattiesburg, MS



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### TOPICS:

- Federal & State Funding Resources
- Preparing for Business Lending
- Grant Writing

**REGISTRATION FEE: \$35**  
Lunch Included

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**REGISTER BY JULY 25, 2018**

at <https://fs8.formsite.com/MSUGCD/form131/index.html>

Mail Checks & Make Payable To:  
Center for Government and Community Development  
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Box 9643, Mississippi State, MS 39762

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## Ergonomics in Mechanized Blueberry Harvest

Eric Stafne, MSU-ES

Machine harvest of blueberries is more cost effective and productive, especially in a reduced labor market. Fruit quality of berries coming through mechanical harvesters is improving with technology advances and better cultivar selection. Even though manual (hand) harvest is still common for fresh market berries, mechanized harvest is becoming more prevalent. Both systems involve human intervention, thus there are concerns about ergonomics. Ergonomics is how humans interact with various elements in their work and living environment. These include equipment, facilities, and other products.

In mechanized harvest of blueberries, there must be a balance between field productivity and human safety. As with any machine, there are moving parts that humans come in contact with. The goal of studying ergonomics is to reduce injuries involved with its use and to enhance the effectiveness and efficiency of work.

Work-related injuries related to mechanical harvester use can come in several forms. These include:

- Repetitive injuries, such as with continually lifting lugs or flats;
- Single load injury that occurs at a one-time event;
- Constant repetitive injury that may involve stooping or bending over for long periods.

By studying ergonomics related to mechanical blueberry harvest, products can be improved to enhance usability, thus reducing the potential for reduced human performance or injury. Researchers are doing just this type of work. Stay tuned for more details.