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EXTENSION

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- Eric Stafne

Mississippi *Vaccinium* Journal

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Inside this issue:

Frozen

The Polar Vortex proved to be a devastating event for all those affected — humans, animals, and plants. The real question for our blueberry plants is this: at what stage of growth were they at when the cold weather hit, how cold did it get, and how long did the cold persist? Based on my observations, many southern highbush blueberries were already in bloom in Poplarville. I assume that to be true farther north as well. Even if that is not the case, bud swell would have occurred. At that stage we need to know the lowest low temperature. It could spell trouble for sure. Rabbiteye cultivars were not as far along, although I have seen bud swell in some spots. The true outcome from the freeze event won't be known for some time yet. I will look at buds next week to see how much damage I see, but the full effect will show up in our yields (or lack thereof). Hopefully, we will all warm up and winter will let its grip of us go soon.

Weather Disaster Assistance

The USDA Offers Disaster Assistance for Producers Facing Inclement Weather. Contact your local Farm Service Agency for details. Additional information can be found online using the links provided in the email below.

Poplarville Service Center

Farm Service Agency Office

(601) 795-4409 Ext. 2

310 Highway 26 E Suite B

Poplarville, MS 39470-3304

Contact

Dirk Dedeaux

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The International Highbush Blueberry Conference 2021 online

The International Highbush Blueberry Conference for the last few years has been a platform where the whole blueberry Poland and Europe met. Of course, the most important point of this event was and still is the substantive part of the conference itself. The opportunity to meet and learn about the companies' offer or simply a chance to talk to colleagues from the industry and has always been important. The current situation related to the Covid-19 pandemic excludes this possibility. However, let's not waste the chance to get a new portion of knowledge about blueberries.

In 2021, the International Highbush Blueberry Conference will be held for the 9th time and for the first time online. There is no other option, given the pandemic condition that has swept the whole world. As organizers, we decided not to squander a chance for further development of the blueberry business. We switched the Conference to online modes to continue providing you with the latest knowledge in the field of blueberry cultivation.

A two-day formula

The International Highbush Blueberry Conference 2021 will last two days and will be held on March 3 and 4, 2021. At the first day lectures will start at 2 pm and the entire block will be devoted to the topic of "Optimal fertilization of blueberries". We considered this issue extremely important for growers, and at the same time crucial when it comes to the size of the obtained crops. In addition, it must be remembered that by fertilizing, we must not only provide blueberries with the nutrients they need, but also control pH of the soil and substrate. Thus all key aspects such as the method of fertilization, the fertilizers used, their doses and dates of application are very important here. The group of invited specialists will be talking about all these subjects on March 3.

The next day, March 4, will be full of various, but still very currently important topics concerning both blueberry cultivation, sales opportunities, and all the risks connected to running business in the branch. We will start at 9.00 am and, with some breaks, the conference will last until 4.30 pm. During and after the lectures, you will be able to ask lecturers questions and participate in discussions. All lectures will be broadcast and translated (POL / ENG / POL) live. Recordings of lectures for registered participants will also be available in the next 10 days after the Conference.

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International Conference, cont.

At the same time, participants will be able to use the EXPO zone. In this virtual world of exhibitors, you will be able to visit the stands of chosen companies, see their offer, download information materials, contact a representative or ask for a special offer. Yes, this will not replace the formula of live meetings and talks with representatives of particular companies, but it will certainly give you an opportunity to learn about the newest offers of firms participating in the blueberry market, as well as a chance to learn about new products and solutions necessary for the efficient existence and development of this sector. The EXPO zone will operate for the entire two days (March 3 and 4), and will also be available to registered participants at a later date.

You need to register!

In order to participate in the IX International Highbush Blueberry Conference you need to register in advance. We have prepared several participation possibilities for the participants. You can choose a free package that only entitles you to enter the EXPO zone. In order to take an active part in the Conference and listen to all the lectures prepared, it is necessary to make a paid registration. Early registration until February 20 pays off as tickets are cheaper by that date (only 40 euros). In addition, all participants of the Conference will receive a publication "Modern blueberry cultivation 2021". Articles published in it are written in Polish with abstracts in English.

Because we will not be able to meet outdoors this year, we have planned a film coverage of a plantation combined with blueberry pruning shows during the lectures. It will be carried out by Mariusz Padewski, technical advisor at Fall Creek Farm & Nursery.

We welcome you to participate in the most important blueberry industry events. #IloveBlueberry https://konferencjaborowkowa.pl/en/home/

2021 Mississippi Blueberry Education Workshop

Eric T. Stafne, MSU-ES

Topics and Speakers:

On February 11, 2021 the 2021 Mississippi Blueberry Education Workshop took place via Zoom. It was recorded and will be *available soon* (**this has been delayed due to the polar vortex, so hopefully by February 24 — fingers crossed**). We had a great line-up of topics and speakers. If you did not see the information prior to the meeting. Let me know if you want more of these meetings.

Hosting Duties, Updates, and Speaker Introductions

Dr. Eric Stafne

Extension and Research Professor

Mississippi State University

Pruning Blueberries and Associated Plant Diseases

Renee Holland

Area Blueberry Agent

University of Georgia Extension

Pruning is a very important horticultural practice in blueberries to help promote a strong framework in the architecture of the plant, to better the longevity of the plant, and to increase fruit yields and quality. Pruning can help remove diseased or damaged plant tissue that can serve as a source of microbial pathogens, if not removed from the plant and the field area. Research has shown the benefits of increased yields and reduced leaf diseases through pruning practices. We want to be mindful of our selection of pruning tools for the particular pruning technique or job, maintenance of those tools, and the disinfestation of the tools to prevent the movement of pathogens from plant to plant and field to field.

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Workshop, cont.

Eric T. Stafne, MSU-ES

Weed Management and Chemical Mowing for Blueberry Production

Dr. Matt Bertucci

Assistant Professor

Sustainable Fruit and Vegetable Production

University of Arkansas Dept. of Horticulture

Dr. Bertucci will describe the fundamentals of weed management in blueberry production, focusing on weed biology and integrated weed management strategies. He will also discuss the chemical options for slowing turf growth in row middles to reduce mowing frequency as harvest nears.

The dirt on nitrogen fertilization in blueberries

Cheyenne Sloan

Soil science student at Washington State University

Northwest Research and Extension Center

This presentation will provide an overview of how soil and soil organic matter could impact nitrogen fertilization practices. Topics will include the importance of nitrogen in a blueberry fertility management program, what is soil organic matter (SOM), mineralization, and a brief overview of a research project looking at the effects of nitrogen fertilizer rate at varying SOM levels.

Spotted-Wing Drosophila (SWD) biology, advances in SWD Control, and surveillance of emerging berry pests

Dr. Blair Sampson

Research Entomologist

USDA-ARS Thad Cochran Southern Horticultural Laboratory, Poplarville, MS

Presented is an update on SWD science and approaches to this fly pest's management in blueberry fields as well as reports of new, emerging pests of berry crops that have the potential to economically impact southern blueberry producers.

Follow up: A short evaluation of the course will be available after the course. The presentations will be recorded and available for later viewing (**after February 24**).

Innovative harvesting system could be a game-changer for the blueberry industry

AURORA, Ore. – In Oregon – part of the best blueberry growing region in the world – it's expensive for pickers to hand-harvest the delicate fruit for fresh market.

New harvesting technology developed by Wei Qiang Yang, associate professor and berry Extension agent for Oregon State University Extension Service, could reduce the average cost of harvesting fresh blueberries from more than $12,000 to $3,000 an acre.

"This is a huge step forward for the industry," Yang said. "It's a breakthrough for moving away from hand labor to machine harvesting fresh blueberries. There's nothing else like it."

Called a soft catch system, the mechanism boasts a soft surface for catching the delicate berries in contrast to the hard polycarbonate surface of traditional over-the-row machines (OTR), which have been used to harvest blueberries for processing – not fresh market – for 30 years. At $250,000, Yang's machine is only affordable for large growers, but the system could be retrofitted for older OTR harvesters.

Most machine-harvested blueberries go to processors to be made into jams and other products. A fresh-market crop, however, needs gentle handling to keep berries from bruising. Yang's invention catches the fruit, so the berries are in good shape for shipping to stores. In addition to a pleasing taste, blueberries are known as a "super food" with many health benefits.

Oregon and Washington produce more blueberries than anywhere in the world, with Oregon harvesting 150 million pounds annually, which pencils out to be more than $120 million in farm gate value. Yang said Oregon has the highest yield per acre in the world because the climate and soil conditions of the Willamette Valley are perfect for growing berries.

Yang, who is based at OSU's North Willamette Research and Extension Center, works closely with Willamette Valley growers, recognized the high cost of hand-harvesting blueberries. Competition with the nursery and housing industries and a lack of workers generally means fewer workers, leading to fewer berries picked during harvest. Sometimes, Yang said, a grower may need 200 pickers, but can only hire half a crew.

When the laborers work on large farms, they can hand-harvest millions of pounds a season, which translates into huge expenses at a rate of 50-85 cents per pound of high-quality blueberries for the fresh market.

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Innovative Harvesting System, cont.

"Machine-harvested fruits with the soft catch system will have similar quality as hand-picked fruits," Yang said. "Therefore, the cost of picking fresh quality blueberries will be reduced by more than 70%, which will reduce the amount of hand labor and increase the profitability and competitiveness of blueberry farms in Pacific Northwest."

Of the four soft catch prototypes that have been made, three were obtained by Oregon growers for on-farm trials. Others have been manufactured by the OTR harvester companies as an attachment for the OTR harvesters. Yang continues to fine tune the soft catch system, most importantly making the surfaces easier to clean and disinfect than traditional OTR machines.

"Equally important in a global marketplace is to produce safe and high-quality fruit that maintains its freshness from picking to eating," Yang said. "The berries must be free of pathogens that can affect human health."

To be successful in the marketplace, the soft catch system also needs to gather blueberries that are of the size and quality of hand-picked berries. During packing, the blueberries go through a sorting machine that rejects off-colored, bruised, damaged or fruit smaller than the U.S. Department of Agriculture requires. If they aren't acceptable, that's a loss for the grower.

The magic number is 75% of the harvest making it through sorting, Yang said. When that happens, the soft catch system gains even more traction in the blueberry and farm equipment industries. Already, innovative growers have started to embrace the soft catch technology, Yang said.

Plans for the future include field days in southern Oregon and the Willamette Valley to demonstrate the technology and solicit grower and packer feedback. He also plans to write an Extension publication on machine harvesting for fresh-market berries.

"Improving profitability will in turn help preserve these high-value industries and the rural economies and livelihoods in which they are based," Yang said.

By: Kym Pokorny

Public Service Communications Specialist

Oregon State University

2021 Coastal Research & Extension Center Virtual Producer Advisory Council Meeting

You are invited to participate in the Mississippi State University Coastal Research and Extension Center (CREC) annual Producer Advisory Council Meeting (PAC). The PAC meeting allows producers and community leaders like yourself to communicate concerns, identify needs, and express opinions and feedback to allow Mississippi State University to better meet your needs. We value your advice and counsel which is used to help guide, develop, and improve our agriculture and natural resource research and outreach educational programs under the direction of the MSU Mississippi Agricultural and Forestry Experiment Station and the MSU Extension Service.

Because of the COVID-19 pandemic, this year we will alter our normal PAC meeting format. We will have our 2021 PAC commodity session updates delivered online rather than in-person by MSU faculty and staff posted for your viewing

Click here to register www.coastal.msstate.edu/advisory

After registering, you will be automatically directed to the Commodity Session Videos page.

Watch as many Commodity Session Videos as you like. After each video, you will be asked to complete a survey. A link will be provided on the Commodity Session Videos page video as well as on the YouTube Channel where the videos are located (the link will be in the description section under the videos).

Videos will be available February 8 – February 28, 2021.

Complete a Survey about the Video Session you watch . Each survey completed gives you one entry. Entrants may have more than one entry but can only win one of ten $50 Visa gift cards courtesy of MS Farm Bureau Federation.

Winners will be notified by March 5, 2021. Mailed in and online surveys must be postmarked or completed by March 1, 2021, to be eligible. All survey responses will remain confidential and your name, phone number and/or email will not be shared with anyone. Employees of Mississippi State University are not eligible to win.

Thank you to our Partner

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Blueberry Freeze Damage and Protection Measures

This short publication from North Carolina State University details what happens when blueberry plants freeze, especially blossoms and the critical temperatures for damage. You can read the entire thing here: https://content.ces.ncsu.edu/blueberry-freeze-damage-and-protection-measures#:~:text=Cold%20Susceptibility&text=During%20the%20winter%2C%20dormant%20flower,swell%20progresses%2C%20cold%20tolerance%20decreases. The part below is especially pertinent to our current situation:

"Blueberry blossoms and small berries are considered hardier than the blossoms of most fruits. Temperatures must drop below 28°F for economic losses to occur on highbush blueberry (Vaccinium corymbosum L.). The temperature at which freeze injury begins to occur depends on the stage of development from dormant flower buds through young fruit. During the winter, dormant flower buds of highbush blueberries will survive temperatures as low as -20 to -30°F while the less hardy rabbiteye (V. ashei Reade) have survived -10°F but are often damaged below 0°F. As flowerbud swell progresses, cold tolerance decreases. By the time individual flowers begin to protrude from the bud, temperatures below 20°F will begin damaging the most exposed flowers. When corollas have reached half of their full length, temperatures below 25 to 26°F will kill the complete flowers. However, at this stage, blossoms on rabbiteye blueberries may receive corolla damage at temperatures as high as 30°F. The corolla withers, but usually remains attached. The withered, unopened corolla prevents bee pollination and otherwise undamaged flowers drop rather than developing into fruit. Corolla damage to unopened highbush flowers that prevents pollination is seldom a problem with highbush blueberries. When the blossoms are open, a temperature of 27°F for more than a few minutes causes damage. Immediately after corolla drop and before the berry begins to swell is the most sensitive stage. A few minutes below 28°F will result in damage. As the berry begins to enlarge, susceptibility is similar to the critical temperature of 28°F for open blossoms."

With the temperatures experienced in our region, damage to flowers and even buds is certainly possible. The totality of the damage will not be known right away, but for southern highbush the potential for botrytis is in play.

If you have any observations you wish to share about the extent of the freeze damage please let me know.

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Archived Newsletters at http://extension.msstate.edu/newsletters/mississippi-vaccinium-journal

The Mississippi *Vaccinium* Journal is a quarterly, digital publication of Mississippi State University Extension Service. Subscriptions may be obtained by sending an email address to eric.stafne@msstate.edu.

Southeast Regional Blueberry Integrated Management Guide

You can request a hard copy of the Blueberry IPM Guide. Dr. Rebecca Melanson has 25 copies ordered through the print shop.

Southeast Regional Blueberry Integrated Management Guide (A publication by the Southern Region Small Fruit Consortium.) (PDF) 2021 GUIDE NOW AVAILABLE! Those involved in commercial blueberry production in Mississippi can send an email request for a FREE hard copy of this guide by emailing Dr. Melanson at rebecca.melanson@msstate.edu

In the header of the email state your interest is the Blueberry IPM Guide and please provide your name, farm name, and complete mailing address.

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