



**MISSISSIPPI STATE
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EXTENSION SERVICE**

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Put a Spring in Your Step

This Spring we seem to be taking two steps forward and one step back. The cold temperatures of late March really hurt some growers around the state. I have heard estimates ranging up to 50% crop loss on early varieties. The later blooming varieties appear to be unscathed for the most part. The damage was not relegated to one part of the state, but rather in a wide swath. It seems that with each passing year the weather gets more and more unpredictable. How is this unpredictability going to affect the blueberry industry? Unfortunately we don't know the answer to that right now. If temperatures keep rising we may see more pests like the Spotted Wing Drosophila invade our area, but on the other hand we may lose others. Whether or not you believe in climate change (or at least the root cause of it), the climate is different. If it stays on its present course we may need to re-evaluate how we manage our blueberry fields. But until then, let's enjoy the warmer weather and the bounty that Springtime brings. I know we could all use a little sunshine in our lives.

Spotted Wing Drosophila and Other Pests

Eric T. Stafne, Fruit Extension Specialist, MSU-ES

In case you missed the last issue of this newsletter and the workshop itself, below is the link to all the presentations during the Emerging Pest Workshop.

<http://msfruitextension.wordpress.com/category/blueberries/2013-emerging-pest-workshop/>

There you can access all the slides given during the presentations. You can see photos of the Spotted Wing Drosophila and other pests too. If you have not already done so, I encourage you to take a look and familiarize yourself with the pests. They are not going away, so learning to control them is paramount. On Page 2, are current spray recommendations for SWD. They have been in the past couple of issues, but I want to leave them so that anyone who missed the issues can still make use of it now.

Spotted Wing Drosophila: A New Invasive Pest

Blair Sampson, Eric T. Stafne, John Adamczyk, Stephen Stringer, and Donna Marshall

Table 1. Insecticides that may help manage populations of Spotted-Wing Drosophila (SWD) and other *Drosophila* species on Mississippi berries. Insecticide registrations are constantly being revised, so please be sure to apply only those recommended products legal for your State and crop by checking the label.

Insecticide Product ¹ (trade name)	Chemical Name (active ingredient)	IRAC classes	Product applied per acre	Re-entry Interval ²	Pre-harvest Interval ³	Labeled for use on?				Comments
						Blueberry	Blackberry	Strawberry	Raspberry	
Brigade WSB	Bifenthrin	3A	16 oz	12 hrs	0 d	yes	yes	yes	yes	
Mustang Max	Z-Cypermethrin	3A	4 oz	12 hrs	1 d	yes	yes	no	yes	No more 6 applications per season
Mustang I.5EC	Z-Cypermethrin	3A	4.3 oz	12 hrs	1 d	yes	yes	no	yes	
Danitol 2.4EC	Fenpropathrin	3A	16 oz	24 hrs	3 d	yes	yes	yes	yes	
Pyganic 1.4EC	Pyrethrins (organic)	3A	16 – 64 oz	12 hrs	0 d	yes	yes	yes	yes	
Malathion 57EC	Malathion	1B	1.8–3 pints	12 hrs	1 - 3 d	yes	yes	yes	yes	1d PHI for blueberries
Imidan 70W	Phosmet	1B	1.3 lbs	24 hrs	3 - 7 d	yes	yes	no	yes	An excellent first application
Delegate WG	Spinetoram	5	6 oz	4 hrs	1 – 7 d	yes	yes	no	yes	3d PHI for blueberries
SpinTor 2SC	Spinosad	5	6 oz	4 hrs	1 – 7 d	yes	yes	yes	yes	3d PHI for blueberries
Entrust SC	Spinosad (organic)	5	2 oz	4 hrs	1 – 7 d	yes	yes	yes	yes	3d PHI for blueberries

¹Mention of a trademark, warranty, proprietary product or vendor does not constitute a guarantee by the USDA or MSU and does not imply approval or recommendation of the product to the exclusion of others that may be suitable.

²Re-entry interval (REI) is the time after a pesticide is sprayed when personnel can safely re-enter the field.

³Pre-harvest interval (PHI) is the time that must elapse after spraying before harvesting can resume. PHI may vary for a product depending on the crop that it is sprayed on.

Chill Hours Report for 2012-2013

Eric T. Stafne—Fruit Extension Specialist, MSU-ES

One of the last things one might consider when choosing a blueberry cultivar is chilling requirement. A chill hour can vary depending on the model used, but the most common model in this region defines it as the number of hours below 45 °F. This is a requirement for the plant to satisfy its dormancy and thus to grow and fruit normally the following year. In regions where cold temperatures are more common, plants can remain in a quiescent (waiting for a warm up) phase even after their chill hour requirement has been met. However, in warmer climates this may not be the case, so early flowering is a problem in low-chill cultivars. Five locations in the state kept chill hour measurements for the 2012-2013 fall/winter season: Wayne Co., George, Co., Jones Co., Copiah, Co., and Lee Co. Two other locations had malfunctioning instruments and thus could not keep the hours.

There are some tweaks we could make to further refine the model here in Mississippi, but I think the numbers we obtained this year are fairly representative of the chill hours received. Some of the limitations are: reporting is not all done on the same day or even regularly (for some sites), and there are no designated begin and end dates.

<u>Location</u>	<u>End Number of Chill Hours Recorded</u>	<u>Last date recorded</u>
Copiah Co.	1054	March 26
George Co.	727	March 20
Jones Co.	976	February 27
Lee Co.	1517	March 26
Wayne Co.	1242	March 12

As you can see, Copiah, Wayne, and Jones Counties are all similar, within a 100 chill hours of each other (if extrapolated out to the last date). As one would expect George Co. had the fewest and Lee Co., the most. We also need to figure out a way to get this information to you on a more regular basis. Mississippi does not have a climate center like other states do. Southeastern U.S. states (including Alabama) have an online system that delivers that information with a click of the mouse. I can at least post it on my blog site (msfruitextension.wordpress.com) and perhaps we can get it on the Gulf South Blueberry Growers' Association site (although this is still in the works). If you have any suggestions, please let me know.

Freeze Damage Evident on Mississippi Blueberries

John Braswell and Eric T. Stafne, GSBGA and MSU, respectively

The freezing weather we experienced last week, March 26 – 28, has done serious damage to the blueberry crop. The nighttime temperatures ranged between 23 and 28 degrees, or lower, in South Mississippi. The crop was about halfway through the bloom period. Fully open flowers and small fruit were lost to the freeze. ‘Brightwell’ and ‘Prince’ seem to have survived better than other varieties. This may be due to slightly better cold tolerance, avoidance, or, in the case of ‘Prince’, prolific flower production. Growers with wind machines came through with very little damage on protected fields. Farms in the coastal counties also seem to have less damage. It is estimated that up to 50% of the Mississippi Blueberry crop in the primary growing areas has been lost to the freeze.

Since the freeze, surviving buds have opened and bee activity is good. The blooms emerging are the later buds on later varieties so the crop will mature later than usual. The bloom period was already about 3 weeks behind an average year. Usually we have significant bloom the first week of March and this year, bloom didn’t start until late March. In addition to the late bloom, the freeze will make the crop even later. Blueberry harvest is expected to begin the first week of June. Fruit from ‘Prince’ and protected fields may come in a few days earlier.

If you have freeze damage, it would be wise to make an application of Captan, CaptEstate, Elevate, Switch, or Pristine to protect your plants from Botrytis. The Botrytis fungus can grow on the freeze damaged blooms and move into the fruit clusters and stem tips. Some mummy berry leaf strikes have also been seen, so an application of Indar would be prudent if you have a history of mummy berry in your fields.

This is a disappointing development. Hopefully the flowers coming out now will develop into a good crop and we will have a relatively good season. This was a good test for the wind machines. The lack of damage in protected fields is impressive when compared to fields with no protection. This was a good test event for those considering whether or not to invest in this technology. (All photos by Jessica Sibley, MSU-ES).



Cold damage, cont.

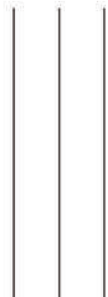
John Braswell and Eric T. Stafne



FDA Food Safety Modernization Act

The MSU Coastal Research and Extension Center (CREC) will host an FDA Food Safety Modernization Act workshop. For more details see below. Click the link to the attached document for dates and registration.

The FDA Food Safety Modernization Act (FSMA) was signed into law by President Obama on January 4, 2011, to better protect public health by helping to ensure the safety and security of the food supply. FSMA is the first major legislative reform of FDA's food safety authorities in more than 70 years. FSMA is aimed to ensure the U.S. food supply is safe by shifting the focus from responding to contamination to preventing the contamination. On January 16, 2013, the FDA announced the establishment of two rules. One of these rules is the rule to establish standards for the growing, harvesting, packing, and holding of produce for human consumption (the produce safety proposed rule).




CREC Experimental Seafood Processing Laboratory
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Pascagoula, MS 39567

Mailstop 9390

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U.S. DEPARTMENT OF AGRICULTURE
Mississippi State University
PO Box 5446
Mississippi State MS 39762

OFFICIAL BUSINESS



**“INTRODUCING THE
FDA FOOD SAFETY
MODERNIZATION ACT
(FSMA) TO
MISSISSIPPI’S
PRODUCE INDUSTRY”**

MARCH 27, 2013
APRIL 5, 2013
APRIL 26, 2013

10:00 AM – 12:00 NOON

LOCATION:
COASTAL RESEARCH AND
EXTENSION CENTER
1815 POPPS FERRY ROAD
BILOXI, MS

FDA Food Safety Modernization Act

The purpose of this workshop is to introduce the Food safety rule to the Mississippi's produce industry so that the produce industry can evaluate and comment on the proposals. The produce industry will have until May 16, 2013, to comment before the rule is finalized.

TARGET AUDIENCE

- Individuals involved with the fruits and vegetables industry from farm to fork
 - Extension agents who will return to their counties and transfer information to their clients
 - Any other individuals or interested parties
- ADMISSION: NO FEE



INTRODUCTION

The FDA Food Safety Modernization Act (FSMA) was signed into law by President Obama on January 4, 2011, to better protect public health by helping to ensure the safety and security of the food supply. FSMA is the first major legislative reform of FDA's food safety authorities in more than 70 years. FSMA is aimed to ensure the U.S. food supply is safe by shifting the focus from responding to contamination to preventing the contamination. On January 16, 2013, the FDA announced the establishment of two rules. One of these rules is the rule to establish standards for the growing, harvesting, packing, and holding of produce for human consumption (the produce safety proposed rule).



PURPOSE

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ADMISSION: NO FEE

Discrimination based upon race, color, religion, sex, national origin, age, disability, or veteran's status is a violation of federal and state law and MSU policy and will not be tolerated. Discrimination based upon sexual orientation or group affiliation is a violation of MSU policy and will not be tolerated.

PLEASE DETACH THIS SECTION AND RETURN TO:

Coastal Research and Extension Center
Experimental Seafood Processing Laboratory
3411 Frederic Street
Pascagoula, MS 39567

Please check the date(s) planning to attend:

- March 27, 2013
- April 5, 2013
- April 26, 2013

If you choose to email, please send to:
bmahmoud@ext.msstate.edu

NAME _____

COMPANY _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

PHONE _____

EMAIL _____

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Botrytis Blight after the Freeze

Eric T. Stafne, Fruit Extension Specialist MSU-ES

Another issue with having freeze damage is botrytis blight. This fungal disease can infect flowers, twigs, and fruit. Cool, wet weather is perfect for development of this disease (it is rainy and cool as I look out my window this morning). The NC Blueberry Journal blog has a nice discussion of this topic that you can find here (http://ncblueberryjournal.blogspot.com/2012_02_01_archive.html). Choices for control include CaptEbate, Pristine, Switch, and Elevate — as well as others. Always read the label before applying.

