

# The Blueberry Bulletin

*A Weekly Update to Growers*

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## ***CULTURE***

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***Atlantic County Agricultural Agent***

Harvest is progressing very well. The rain has subsided and picking is at a fever pitch. Last picks of Duke are going well and Bluecrop and the new variety Draper are coming on strong. With July coming next week, I am reminded that the last applications of Nitrogen should end by July 1. After that, there is the possibility of increasing stem blight and decreasing winter hardiness of next year's flower buds. Other nutrient can continue to be applied. Tissue analysis should be done late July/early August. More information on how and when in future newsletters.

## ***INSECTS***

***Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University***

***Mr. Dean Polk, IPM Agent – Fruit***

***Ms. Carrie Denson, IPM Program Associate – Fruit***

**WARNING! WARNING! - Spotted Wing Drosophila (SWD):** Both males and females continue to be captured, and have recently increased in a number of fields. While this week has been dry, previous recent rains have made it challenging to control SWD.

- 1) Rain has washed off recent insecticide applications.
- 2) Soft ground has made it difficult to get in with ground sprayers.
- 3) Duke, which may not have been picked on time, became more attractive for egg laying females, thus increasing the population that is now putting pressure on 'Bluecrop.'
- 4) Machine picking leaves fruit on the ground and increases the hosts on which SWD females will reproduce, thus increasing population pressure.

**DO** keep fresh insecticide on the fruit. Fresh means 5-7 days between applications. **DO NOT** keep a 7 day program going if significant rains fall just after a spray. Some growers have a 10 day schedule, and 10 days is too long an interval, especially with any rain. 'Significant rain' may mean as little as 0.5". See John Wise's (MSU) chart reprinted below and from the June 13 newsletter. **DO** use supplemental applications if rains wash off the previous cover. **DO** rotate chemistries as much as possible. **DO** dial up your firmness sorters for firm fruit, so they kick out ANYTHING that resembles a fruit with even the slightest soft spot. SWD will make the fruit soft, and this can be detected with the sorter.

**Blueberry insecticide precipitation wash-off re-application decision chart. Expected spotted wing *Drosophila* control in blueberries, based on each compound's inherent toxicity to SWD, maximum residual and wash-off potential from rainfall.**

<b>Insecticides</b>	<b>Rainfall = 0.5 inch</b>		<b>Rainfall = 1.0 inch</b>		<b>Rainfall = 2.0 inches</b>	
	<b>*1 day</b>	<b>*7 days</b>	<b>*1 day</b>	<b>*7 days</b>	<b>*1 day</b>	<b>*7 days</b>
<i>Imidan</i>	<i>Sufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Sufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>
<i>Mustang Max</i>	<i>Sufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Sufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>
<i>Lannate</i>	<i>Sufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Sufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>
<i>Malathion</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>
<i>Delegate</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>
<i>Assail</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>	<i>Insufficient insecticide residue</i>

**\* Number of days after insecticide application that the precipitation event occurred.**  
**Insufficient insecticide residue = Insufficient insecticide residue remains to provide significant activity on the target pest, and thus an immediate re-application is recommended.**  
**Sufficient insecticide residue = Sufficient insecticide residue remaining to provide significant activity on the target pest, although residual activity may be reduced.**

**DO** run 1 qt samples of unsorted fruit from **every picking** from **every field**. If a sample comes up positive for an SWD maggot, then **re-run the sample from the same field and picking after it's sorted and packed**. Low numbers will be eliminated in the line if the sorters are set for firm fruit. Use the [Steve VanTimmeren's Filter Method](#) for fruit, and outlined below. A microscope is not necessary, but a magnifier or good hand lens helps: See also [Spotted Wing \*Drosophila\* IPM in Blueberries](#) on the NE IPM website:

**Salt Extraction Method.** Use 1 qt of fruit and place in a 2 gal Ziploc bag (or into two 1 gal bags). Gently press the berries to break the skins. Add saturated salt water to cover the fruit in the bag(s), squeezing out the air to keep berries immersed, and stand the bags for about one hour in a plastic tub so they are upright. Bend a piece of ¼" hardware cloth in a large funnel, and pour the contents of the bag through the funnel into a reusable stainless steel coffee filter. Then rinse the empty bag and berries with a sprayer to wash off any remaining larvae into the stainless steel coffee filter. Use a strong hand lens or a dissecting microscope to count the

larvae caught in the coffee filter. This method is detailed in: Van Timmerman, S., Diepenbrock, L.M., Bertone, M.A., Burrack, H.J., Isaacs, R. 2017. A filter method for improved monitoring of *Drosophila suzukii* (Diptera: Drosophilidae) larvae in fruit. *Journal of Integrated Pest Management*. 8(1):23; 1–7.

### Spotted Wing *Drosophila* Insecticides for Blueberries

Insecticide	Rate/A	REI	PHI	Max Allowed/Season
Asana	9.6 fl oz	12 hr	14 days	38.4 oz/ 2 appl.
Brigade WSB/Bifenture DF	16 oz	12 hr	1 day	.5 lb ai/3 appl.
Danitol	16 fl oz	24 hr	3 days	32 oz/ 2 appl.
Delegate	5-6 oz	4 hr	3 days/1 day	3 day-19.5 oz, 6 appl./1 day-17.9 oz, 3 appl.
Diazinon (50W)	1 lb	5 days	7 days	1 lb/1 appl. post bloom
Entrust SC	6 fl oz	4 hr	1 day	29 oz/6 appl.
Exirel	13.5 fl oz	12 hr	3 days	.4 lb ai/4 appl.
Hero	10.3 fl oz	12 hr	1 day	46.35 oz/.45 lb ai
Imidan	1 1/3 lb	24 hr	3 days <sup>1</sup>	7 1/8 lb/ 5 appl.
Lannate (SP)	1 lb	48 hr	3 days	4 lb/4 appl., ground
Malathion (8F, 8E)	2-2.5 pt	12 hr	1 day	5 pt/2 appl.
Mustang/Mustang Maxx	4-4.3 fl oz/4 oz	12 hr	1 day	25.8 oz/24 oz

<sup>1</sup> = Use a 10-15 day PHI for berries going to Canada.

**Blueberry Maggot (BBM):** Most blueberry maggot trap captures are “0”, but a few traps do register low populations. One trap at an unsprayed location had up to 8 flies per trap. Remember that the treatment threshold is 1 fly per trap. Just about ALL the insecticides that are being used for SWD control are also excellent for controlling BBM, with the lone exception of Delegate/Entrust, which is still OK, but only on low populations.

**Scale:** Scale presence on fruit has decreased this past week, indicating an end to the first crawler generation. We had an average of 0.09% of fruit with scale. Make sure to record those fields where you see scale on the fruit coming into your packing house. These fields should be treated during the 1<sup>st</sup> week of August, or when we see the second generation crawlers emerge.

**Aphids:** Aphid infestations have slightly increased since the previous newsletter, possibly owing to recent rains and vigorous shoot growth. The average level of shoot infestation was 2.28% of shoots infested with a maximum of 52% of shoots infested. Colony size has also increased to 2-5 aphids per shoot. This is important, since we saw a number of fields with **Scorch** symptoms several weeks ago. These plant should be removed. Where aphids have increased, especially in the presence of Scorch, separate additional applications of aphicides may be needed. The neonics – Admire, Assail and Actara; and Sivanto and Movento **Do Not** control SWD at this time of year.

**Oriental Beetle:** Oriental beetle adult emergence is well underway. The population is in the middle of laying eggs, which will hatch into young larvae that burrow down to feed on blueberry roots. Now that 'Duke' and other early varieties are mostly off, you have until the middle of July to get the Admire treatments on if not already done so. Of course if you have the mating disruption dispensers out, then you don't have to worry.

## *Traps*

### Atlantic County Traps

Week Ending	SWD	OB	BBM	SNLH
6/8	1.05	8.2	0	==
6/15	1.2	97	0	==
6/22	0.71	1381	0.21	0.21

### Burlington County Traps

Week Ending	SWD	OB	BBM	SNLH
6/8	0.07	2.91	0	==
6/15	0.83	69	0	==
6/22	0.7	750	0.33	0.33

## *Diseases*

**Anthraxnose:** Some low levels of anthracnose have been seen in the field and in the cull trays on the packing lines. The average field infestation was 0.04% of fruit infected with visible symptoms, with a maximum of just over 1%. This has not been a year to go easy on the fungicide sprays. Bluecrop is coming on, and it is even more susceptible than Duke to this disease, and most anthracnose is expressed after harvest and not while still in the field.

Visit the *Blueberry Bulletin* webpage at  
[www.njaes.rutgers.edu/blueberry-bulletin](http://www.njaes.rutgers.edu/blueberry-bulletin)