

The Blueberry Bulletin

A Weekly Update to Growers

June 4, 2020

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- ❖ Visit the Blueberry Bulletin webpage at njaes.rutgers.edu/blueberry-bulletin
- ❖ The 2020 Commercial Blueberry Pest Control Recommendations for New Jersey is available on njaes.rutgers.edu

BLUEBERRY CULTURE

Dr. Gary C. Pavlis, Ph.D.

Atlantic County Agricultural Agent

Grower visits this week throughout Hammonton did not reveal any major problems. I saw my first blue 'Duke' on June 4th but I still think that harvest is at least a week away, maybe 10 days. Overall crop size looks good but not extremely large. We experienced a mild winter in NJ and that usually translates into a big crop however I do not feel that is the case this year. The 'Bluecrop' does look a little heavier than the 'Duke' so the total may be larger than I think. As usual at this time of the year, I am seeing plants throughout NJ with new growth which is very light green and or reddish green. This is a nutrient deficiency, usually nitrogen, but it is normal. The plants are rapidly growing and doing so faster than the nutrients can be taken up. This will clear up in a few weeks as growth slows down.

Last applications of N-P-K should be going on over the next two or three weeks. After July 1 I do not recommend applying nitrogen. Our research at Rutgers shows that late applications of nitrogen increase stem blight, increase aphid numbers, and decrease winter bud hardiness.

Lastly, this is an excellent time to scout your fields for any problems that may exist. After harvest begins most growers are too busy to look for problems so now is the time to ID problems and address them. If you need any help do not hesitate to call me.

BLUEBERRY INSECT

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

Mr. Dean Polk, IPM Agent – Fruit

Ms. Carrie Denson, IPM Program Associate – Fruit

Plum Curculio (PC): As of this writing, most growers have applied at least one application targeting plum curculio. In some cases the applications were followed by significant rains. In other cases low rates of pyrethroids were used, which do not give the best control. These are the likely reasons why in some areas we are still seeing some residual PC activity. This insect has been active for a very long time this season. The first berries to become infested are now blue and soft, and are starting to drop from the bush. Other injuries are only a few days old, and may not drop before harvest. When adults and fresh egg scars are no longer seen, then you can safely move on to other concerns. Some of the newest injury is being seen on Burlington County fields. There is little change in most Hammonton fields. The image

below (Figure 1) illustrates the length of time this insect has been active, with an old injury on a blue fruit ready to drop accompanied by a green fruit with a recent egg scar on the left.

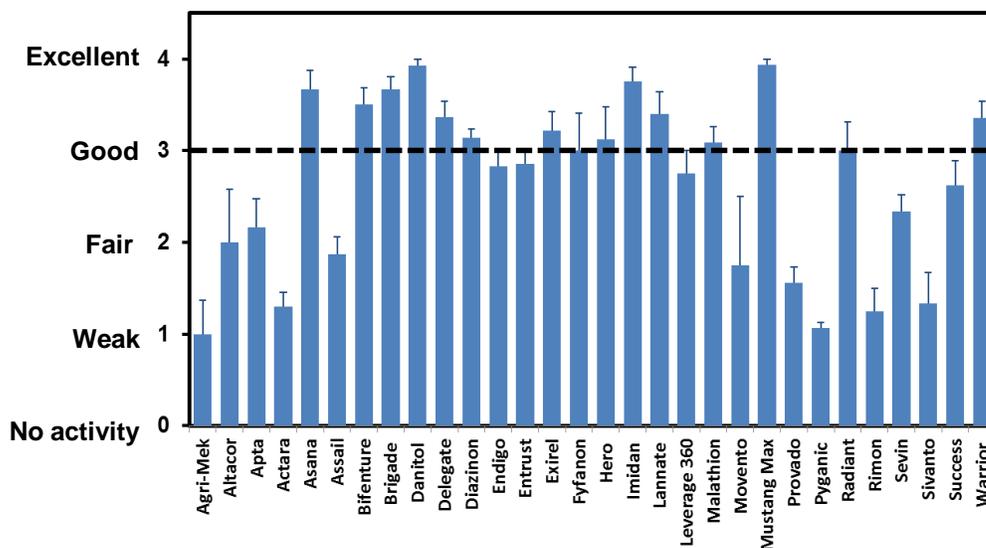


Figure 1. Old PC injury on right and new egg scar on left (6/2/20).

Aphids: If plum curculio has been well controlled, the next week to 10 days will be good timing for aphid control. Aphid counts have increased to an average of 3.6% new growth infested with colonies, with a high of 22% on the lower shoots. Because the reproductive capacity can be fast, we define a terminal as infested if there are one or more aphids on the terminal. At the present time most positive terminals have only single aphids.

Spotted Wing Drosophila (SWD): Trap captures remain very low, but the percentage of traps with captures has gone up over the last week. This indicates that while the populations are low, they are becoming more widespread. SWD insecticides will be needed as varieties become susceptible and start to color. With the frost injury we had, some of the first picking of Duke was nipped off, so instead of Bluecrop being right behind, some fields of Duke and Bluecrop may be picking at the same time. Some Bluecrop is starting to show a blush. Any fields starting to color should have something effective for SWD. In many cases this will be Assail, since it is effective for aphids and OK on low populations of SWD.

Figure 2 shows a ranking of insecticides based on their efficacy against SWD. Very effective materials include: a) any pyrethroid (Group 3A) – Brigade/Bifenture, Asana, Danitol, Hero, Mustang/Mustang Maxx; b) the organophosphates (Group 1B) – Imidan, Malathion, and Diazinon; c) the carbamate (Group 1A) – Lannate; d) the spinosyns (Group 5) – Delegate and Entrust; and e) the diamide (Group 28) – Exirel (see note below on Verdepryn). As a general rule, the neonicotinoids and other materials meant for sucking insects like aphids, do not work well against SWD. As indicated above, Assail does have some SWD activity, and if used early in the season on very light populations, can suffice as the first SWD spray if primarily targeting aphids.



Information provided by Michigan State University, North Carolina State University, Washington State University, University of Maine, University of California Berkeley, Rutgers University, Oregon State University, University of Georgia, Cornell University, and University of Florida.

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

Figure 2. Ranking of insecticides based on efficacy against SWD (data provided by Dr. Rufus Isaacs, Michigan State University)

Lep larvae and Cranberry Fruitworm (CBFW) Injury: Total worm injury to fruit has decreased, and no CBFW injury has been seen to date.

Insect Incidence							
Week Ending	% Bud Feeding		CBW/Bush (Beating Tray)		Leps./Bush (Beating Tray)	PC/Bush (Beating Tray)	Gypsy Moth/Bush (Beating Tray)
	Avg	Max	Avg	Max	Avg	Avg	Avg
3/27	12.8	40	0.68	8.3	.01		
4/3	0	0	0.8	7.6	0.0		
4/11	0	0	2.06	19.6	0.003		
4/18	-	-	-	-	0.01		
4/21	-	-	-	-	0.005	0.004	
4/28	-	-	-	-	0.007	0.002	
5/4	-	-	-	-	0.013	0.022	0.001
5/11	-	-	-	-	0.03	0.004	0.022
5/18	-	-	-	-	0.03	0.03	0.00
5/25	-	-	-	-	0.02	0.01	0.002
5/30	-	-	-	-	0.005	0.02	0.004

CBW = cranberry weevil; PC = plum curculio; CBFW = cranberry fruitworm; SWD = spotted wing drosophila

% Injury Fruit				
Week Ending	% LEPS Injured Fruit		% PC Injury Fruit	
	Avg	Max	Avg	Max
5/11	0.05	0.1	0.2	0.3
5/18	0.06	0.8	0.13	1.4
5/25	0.122	1.1	0.43	3.8
5/30	0.17	1.4	0.70	5.6

Traps								
Week Ending	CBFW- Atlantic County		CBFW- Burlington County		SWD- Atlantic County		SWD- Burlington County	
	Avg	Max	Avg	Max	Avg	Max	Avg	Max
5/11	0.1	1	0	0				
5/18	0	0	0	0				
5/25	0.1	1	0.25	1	0.8	7	0	0
5/30	0	0	0.25	1	.75	5	.55	1

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VERDEPRYN 100SL a New Insecticide Registered in Blueberries

Verdepryn 100SL (cyclaniliprole), from Summit Agro USA, is a new insecticide registered in blueberries. Verdepryn belongs to the same insecticide class as Altacor and Exirel (anthranilic diamides). This a relatively new class of insecticides that act by impairing insect muscle contraction. It has a use rate of 8.2 to 11 fl oz/acre and the label lists spotted wing drosophila, cranberry fruitworm, blueberry maggot, and plum curculio, among others, as target pests. In our insecticide trials, this product has provided very good spotted wing drosophila control. Do not apply more than 33 fl oz of this product per acre per year. Verdepryn has a Pre-Harvest Interval (PHI) of 1 day and a Restricted Entry Interval (REI) of 4 hours.

Stinger for Control of Thistle, Goldenrod and Other Composite Weeds in Blueberries

Thierry Besancon, Rutgers Weed Science Extension Specialist

Stinger (clopyralid) has a 24(c) Special Local Need label for use in New Jersey blueberries that will expire in December 31, 2020. We have good expectation to get it renewed at the end of the year for the New Jersey blueberry growers!



Mugwort is also called wild chrysanthemum due to the scent when the leaves are crushed.

Weeds controlled by Stinger fall into two botanical plant families, composites and legumes. Common composite weeds found in our blueberry fields include thistles (including Canada), goldenrod species, aster species, common dandelion, mugwort (wild chrysanthemum), horseweed (marestail), boneset, groundsel, and ragweed species. Legume weeds include vetch clover species.

The maximum labeled rate of Stinger per application is 0.33 pt/A and the maximum rate per year application is 0.66 pt/A.

The rate required for efficient weed control varies depending on the target species. 2 fl oz/A will control seedlings of annual weeds such as common ragweed and annual vetch. 3 to 4 fl oz/A are needed to control

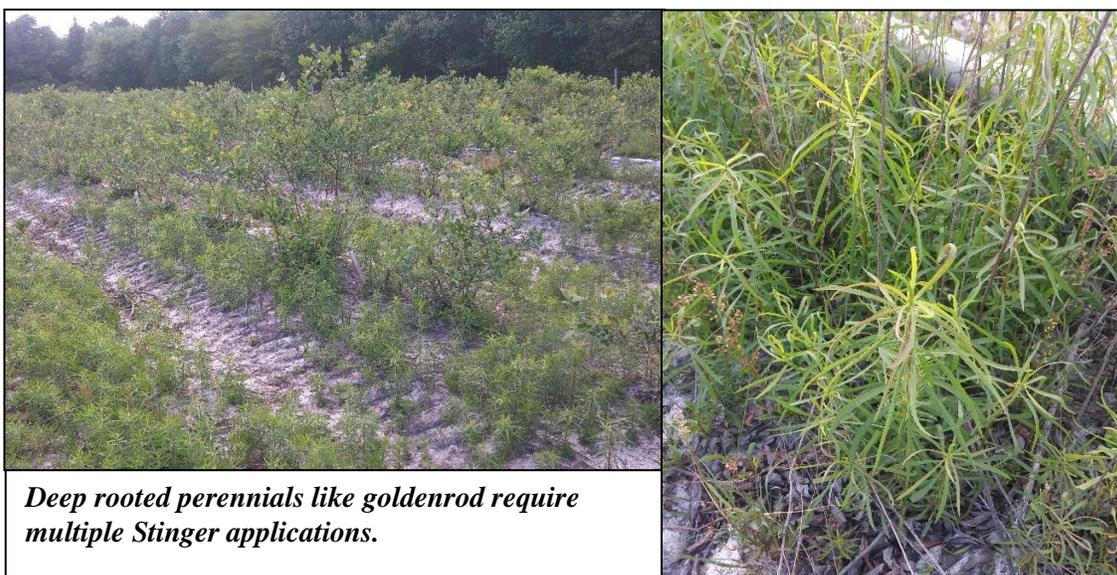
perennial clover species, horseweed, and groundsel. Most other susceptible perennial weeds require the full rate of 0.33 pt/A.

Optimum results controlling deep rooted and hard to control perennial weeds, including Canada thistle, perennial asters, goldenrod species, boneset, and mugwort will be obtained with splitting of Stinger application. Apply Stinger at the rate of 0.33 pt/A after blueberry bloom when the targeted weeds are emerging. Some weeds can “survive” for months on established existing foliage even though Stinger suppresses all new growth. Tank-mix with Gramoxone to increase the spectrum of weeds controlled and kill existing foliage of perennial asters, goldenrod species and mugwort. Be sure to spray adjacent sod and tilled row middles as well as the weed free strip under the blueberries. Mark the treated rows.

The application of Stinger timed to match the emergence of the perennial weed in the spring coincides with the time of year when the carbohydrate food reserves in the plant are at the lowest point. Treatment at this time reduces the chance of recovery and survival.

Apply 0.33 pt/A of Stinger to the marked rows, or sections of rows immediately after harvest in mid-summer. No growth of the target weed may be observed at the time of the second application.

Spray the second application even though no growth of the target weed is evident. The second application is essential for the elimination of the hard to kill established perennial weeds. If the second application is skipped, expect to see the weed re-emerge in late August or September. Time all applications to maintain a 30 days PHI (PreHarvest Interval).



Stinger is both a postemergence foliar absorbed herbicide and a residual herbicide. The initial twisting and curling observed after application to susceptible species is due to the foliar absorption. Control of established perennials is due to residual Stinger in the soil, which prevents re-growth from the roots. In certain species such as mugwort, Stinger prevents re-growth but does not kill the mature leaves. The plant will survive unless another herbicide such as Gramoxone or glyphosate is applied to defoliate the plant.

Do NOT apply Stinger in a hand held sprayer used to “spray until wet”. Stinger is a residual herbicide that must be applied on a rate per acre basis. When treating “patches” of perennial weeds, apply the recommended rate per acre with a calibrated sprayer. Treat ten to fifteen feet beyond the weed “patch” on all sides. Spray the sod or row middles adjacent to the weed “patch” in the row.

Do NOT use any other clopyralid herbicide than Stinger since other commercial products are not labeled for use on blueberry.

Use of sulfentrazone for postemergence control of yellow nutsedge

Thierry Besancon, Rutgers Weed Science Extension Specialist

Zeus XC (sulfentrazone) has control of yellow nutsedge and other sedge species listed on the label with postemergence applications in highbush blueberries. I am aware that some blueberry growers may have successfully experienced this type of application and that some retailers may want to promote it. Sulfentrazone is essentially absorbed by roots and **we do not have evaluation of blueberry tolerance to sulfentrazone applied postemergence in New Jersey low organic matter sandy soil**. Sulfentrazone is an excellent preemergence herbicide and we certainly do not want to lose it the same way we lost Prowl H₂O (pendimethalin) a few years ago because of inadequate timing of application with regard to crop phenology! Additionally, control of other emerged weed species will require the mixing of another postemergence herbicide as sulfentrazone has only residual activity on grasses and broadleaf weeds.

I also have been quoted advising against the use of sulfentrazone postemergence because it does not have good activity for nutsedge control. This is not what I explained at the Blueberry Open House when I was asked about using sulfentrazone postemergence. My answer was that in the absence of local weed control and crop tolerance data, I do not have a definite opinion about sulfentrazone activity for sedge control with postemergence applications. We simply need more data to guarantee the crop safety with this type of application and learn how to integrate it effectively in our blueberry weed management program!

We are currently and will keep working with FMC to evaluate crop tolerance and weed control with sulfentrazone applied POST in New Jersey highbush blueberry.