

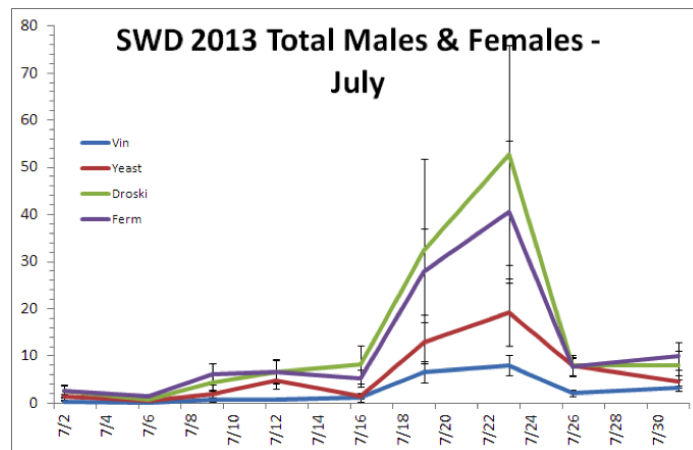
Regional Report  
**Impact of Spotted Wing Drosophila in NJ Blueberries**  
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SWD was first detected in in NJ highbush blueberries late in 2011. The following year was the first time growers treated for this insect, with 2013 marking the first year that most growers truly accepted the fact that SWD was a key pest requiring regular treatments. This summary outlines work under 3 parts:

- NJ IPM Program results from a cooperative lure study coordinated by Dr. Hannah Burrack in North Carolina.
- Salt water extraction data from commercial blueberry fields in 2013.
- An evaluation of insecticide programs used in 2013, and compared to 2010 and 2012.

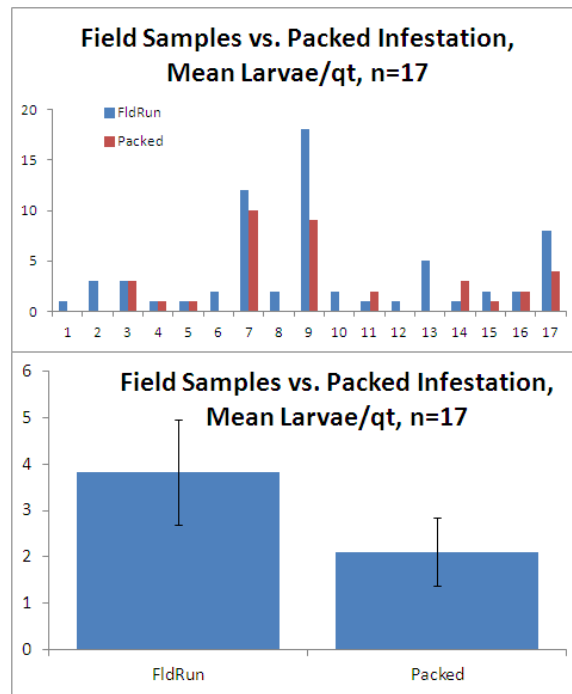
Cooperative bait study: Four bait types were used in 1L clear plastic deli container traps, hung 3 feet from the ground at row ends near wooded borders of blueberry fields. There were 4 treatments at each site, placed at 21 sites throughout Atlantic County, NJ. The fermenting bait and “DroskiDrink” with red wine consistently caught more SWD and caught them earlier than either vinegar or yeast and sugar baits.

Treatment	Ingredients – All solutions ~ 150 ml/1 L trap
ACV	Apple cider vinegar plus unscented dish soap, 2 drops
Yeast and Sugar	2 Tbsp yeast (8g), 8 Tbsp (40g) sugar, 24 fl oz water, .76 ml unscented soap
DroskiDrink	ACV 450ml, red wine (merlot) 150ml, muscovado sugar 12g
Fermenting Bait	Fermenting specimen cup sitting in drowning solution: In specimen cup – whole wheat flour 69g, sugar 8g, ACV 4ml, yeast 1.3g, water 100ml (4 oz mixture). Drowning solution – ACV 600ml, 95% ethanol 67 ml, unscented soap 3.3ml



Samples of fresh berries, 1 qt each were examined for presence of SWD larvae across all farms in the Blueberry IPM Program. A total of 325 samples were taken from field run fruit starting in early July, continuing through early August. Most samples were run from grower picked fruit and from the variety 'Bluecrop'. Where possible, 17 samples were taken from both

field run and packed fruit. The vast majority of samples were clean, but starting in late July as spraying stopped, some unharvested fruit was infested late in the season. In one field of unsprayed fruit, up to 760 larvae were present per qt of berries. Where paired samples from field run vs packed fruit were available, packing line equipment reduced larval numbers by about 50%.



Insecticide use: Pesticide use records were evaluated from 6 farms from 2010, '12 and 2013. Three farms were less than 100 acres and 3 farms were over 100 acres. The emergence of SWD as a key insect pest has changed grower spray programs from a blueberry maggot and aphid centered program to a SWD centered program. This has resulted in decreased use of neonicotinoid insecticides for aphids and blueberry maggot, to an increased use of OP's, pyrethroids and spinosyn (Delegate) materials. By 2013 the number of insecticide applications increased 62% and amounts of active ingredient used (as measured by lb or pt a.i.) increased by 2.5 to 3 times.

<b>Per Acre Blueberry Insecticide Use</b>			
	2010	2012	2013
No. Total Applications	5.17	6.83	8.0
Total AI/A3.01	3.01	5.92	8.6
No. OP/Carb Applications	3.17	5.17	5.67
Mean lb AI OP/Carb/A	2.82	5.58	8.15
No. Neonicotinoid Appl.	2.33	1.33	1.16
Mean lb AI Neonic./A	0.18	0.11	0.09
No. Pyrethroid Appl.	0	0.83	2.83
Mean lb AI Pyreth./A	0	0.04	0.29
No. Spinosyn Appl.	0	0.5	0.67
Mean lb AI Spinosyn/A	0	0.04	0.06