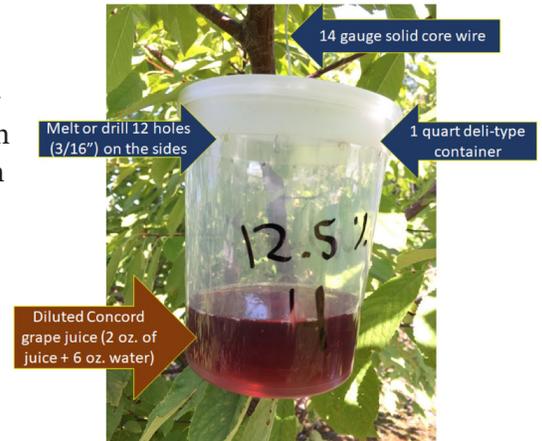




## The Quick and Dirty Guide to Spotted Wing Drosophila (SWD) Management in Blueberries

### Monitoring (adults)

Early season monitoring lets you know when SWD is first active. There is no threshold for this pest at this time. First trap captures, however, are an indicator that, if you have ripe fruit in the field, its time to start planning your season long battle against this fruit fly. The trap to the right uses a grape juice dilution (developed and photographed by Dr. Jaime Piñero, UMass Extension Fruit Team, SSA) to monitor for the presence of adult SWD. For full SWD management and monitoring recommendations please visit the [New England Small Fruit Management Guide](#) online.



### Canopy Management

Maintaining an open under story allows sunlight to penetrate through to the ground while increasing air flow. Both of these will aid in population reduction within the planting. SWD are small and dry up quickly, so prefer to hang out and reproduce in cooler, darker, more humid spaces like the one pictured to the left here. Cane thinning and weed management are key practices to this end. Bonus, this practice will also help reduce disease pressure.



Blueberry under story overrun with weeds, sunlight does not penetrate to the ground, cull fruit remain on the ground, and humidity is high.

### Sanitation

Remove cull fruit. While cleaning out the under story will drastically reduce the spotted wing drosophila population in the planting, leaving cull fruit to rot under the bushes will provide breeding grounds for this pest. Fruit that has been allowed to fall and remain under the bushes will not only increase hiding place for adults, but will also provide females plenty of opportunities to lay more eggs, increasing the overall population available to damage fruit.



Weeds cleared out, sunlight penetrates and air moves through. Cull fruit still should be removed.

### Chemical Management

Even with both practices effectively accomplished, there is no help for the situation but to implement an insecticide application schedule. Following is an abbreviated table of materials with short pre-harvest intervals, and their toxicity to beneficial insects.

Short List* of Insecticides for Spotted Wing Drosophila				Relative Toxicity to Beneficials			
Trade Name	IRAC (rotation group)	PHI (days)	REI (hours)	Bees	Predatory Mites	Predatory Beetle	Aphid Midge
Admire Pro	4A	3	12	H	L	M	L
Brigade WSB	3	1	12	?	?	?	?
Delegate	5	3	4	L	M	L	L
Entrust (organic)	5	3	4	L	L	L	L
Exirel	28	3	12	H	L	L	L
Mustang Max	3	1	12	?	?	?	?

\*Please see the [full list of materials](#) available for small fruit SWD management online.

### **Monitoring (larvae)**

Once the berry season is underway, it's good to know what the potential level of actual SWD infestation in the fields is. Fruit sampling once a week will give you an indication of the effectiveness of the management program you have implemented as well as infestation level.

-**Salt flotation** is a fairly simple way to determine larval infestation in berries. In larger plantings, at least 100 *sound* fruit should be collected from each field. These fruit should then be placed in a shallow pan or dish, pressed so the skins burst (don't mash them all up, just a gentle squish will do), cover berries with warm salt water solution, then place hardware cloth (or other large gauge mesh) on top to keep the berries submerged. Larvae will float to the top. Eeww. But, effective. For more details, please visit the SWD information page [here](#).

### **Harvest and Storage**

-Harvest often and thoroughly! Remove cull fruit from the field to reduce breeding sites. In pick your own operations, it has been suggested that customers may be enlisted to help by giving them containers to put cull fruit in, rather than tossing it to the ground.

-Once fruit has been harvested, refrigerate immediately! Be sure to tell pick your own customers to refrigerate their fruit as soon as they can as well. Refrigeration will slow, possibly even stop, the development of larvae.

### **Resistance Management**

Because of the speed and volume of this pest's reproductive capacity, materials should be rotated with every spray application. So, you should have an insecticide plan in place that allows you to use several different IRACs on a 7-10 schedule (more with heavy rains) throughout the season. SWD is difficult enough to manage without adding insecticide resistance challenges to the equation!

*E. Garofalo*

*July 2019*



**UMass  
Extension**



United States Department of Agriculture  
National Institute of Food and Agriculture