Managing Spotted Wing Drosophila in Berry Crops

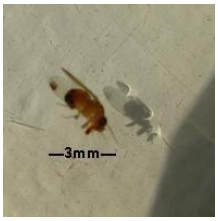

Figure 1: Male SWD. Photo by A. Mintenko

Berries are susceptible to Spotted Wing Drosophila (SWD) infestation from the time colour starts to appear on the berry all the way through harvest. However, there are no benefits to applying chemical controls before berries begin to colour up. Producers should expect SWD population numbers to increase with moist or warm weather and as food sources for SWD from wild bush fruit hosts and ripening commercial berry fields start occurring. Producers should monitor for the presence of SWD with traps or the salt water test method. Berry producers have many chemical control options to manage SWD (see tables below). It is important to rotate every application through different insecticide chemical groups to avoid potential insecticide resistance. Repeat with an alternate insecticide group type as listed on the label (every 5-10 days).

SWD Background Information

Spotted Winged Drosophila (***Drosophila suzukii***) (SWD) are a vinegar fly of East Asian origin that can cause damage to many soft-skinned fruit crops. SWD pierce seemingly healthy fruit and lay their eggs, which hatch in about three days. The larvae feed on the fruit and emerge as adults after six to 28 days. Early detection is critical because symptoms often do not appear until after the fruit is harvested. Commonly confused with the common fruit fly, *Drosophila melanogaster*, SWD differ as they attack unripe and ripe fruit, whereas the common fruit fly feeds on overripe and rotting fruit. SWD most commonly affect strawberries, raspberries, saskatoons, cherries and plums.

Figure 2: SWD larvae on strawberry.

Monitoring for SWD with Sentry Traps

Monitor traps weekly once berries have started changing colour and ripening. Most producers use apple cider vinegar (ACV) and a drop of dish soap as a bait mixture. The ACV attracts SWD adults while the drop of dish soap breaks the surface tension of the water making it easier for the flies to be pulled into the bait. See link for making SWD ACV traps: [monitoring-for-spotted-wing-drosophila.pdf (perennia.ca)]

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Salt Water Test for Larvae

Test berries for larvae using a mixture of one part salt to 16 parts water. Place ripe (but not over ripe) berries in a large zip-lock type bag with the salt solution. Gently break up the berries and look for small, white larvae floating in the solution. Salt Water Test for SWD OMFRA

Cultural Control

Harvest ripe berries frequently and cool berries quickly after harvest. At cool refrigerator temperatures SWD stops growing in the berry and eventually die. For raspberries, keep rows narrower to reduce favourable habitat for SWD. For all berry crops, if possible, remove unmarketable fruit and crush in alleyways.

Chemical Control

Weekly applications of approved insecticides are quite effective at controlling SWD and protecting the berry harvest from damage. If SWD are present, then control measures should start when berries begin to colour up. It is important to constantly rotate every application through different insecticide chemical groups to avoid potential insecticide resistance issues with SWD.

The following insecticide control options are a guide only. Always refer to the product label for usage and rates before applying the product.

2024 Strawberry SWD Management Chart
(products with Pre-Harvest Interval (PHI) of 3 days or less)

Group	Product	REI*	PHI**
1B	Malathion 85 E	12 hours	3 days
3	Up-Cyde 2.5EC	12 hours	2 days
5	Delegate	12 hours	1 day
5	Entrust or Success	When dry	1 day
5	Scorpio Ant and Insect Bait†	12 hours	1 day
28	Exirel	12 hours	1 day
28	Harvanta 50SL	12 hours	1 day

2024 Raspberry SWD Management Chart
(products with Pre-Harvest Interval (PHI) of 3 days or less)

Group	Product	REI	PHI
1B	Malathion 85 E	12 hours 24 hours for hand harvest	1 day
3	Up-Cyde 2.5EC	12 hours	2 days
5	Delegate	12 hours	1 day
5	Entrust or Success	when dry	1 day
5	Scorpio Ant and Insect Bait †	NA	NA
28	Exirel	12 hours	1 day
28	Harvanta 50SL	12 hours	1 day

2024 Saskatoon Berry SWD Management Chart
(products with Pre-Harvest Interval (PHI) of 3 days or less)

Group	Product	REI	PHI
1B	Malathion 85 E	12 hours	2 day
3	Up-Cyde 2.5EC	12 hours	2 days
5	Delegate	12 hours	1 day
5	Entrust or Success	When dry	1 day
5	Scorpio Ant and Insect Bait †	NA	NA
28	Exirel	12 hours	3 days
28	Harvanta 50SL	12 hours	1 day

***REI = re-entry interval, **PHI = pre-harvest interval**
†Scatter bait on soil near plant avoiding contact with plants/ berries, replace after heavy rain.

Insecticide information from: Pesticide Label Search - Health Canada (hc-sc.gc.ca)

Contact Us

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