

Cultural Control Continued...

- Remove or bury cull fruit. Keep equipment and processing areas free of old fruit.



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Pile of culled blueberries

- Be aware of host plants in adjacent fields and encourage neighbours to manage SWD.
- Overripe fruit are more likely to be infested with SWD. Pick early, clean and often.

Chemical Control

Control with insecticides will be necessary if trapping shows that adult SWD flies are present in the area when berries begin to ripen. Adult flies are the target and are killed by direct spray contact or when they are exposed to residues of insecticide on the treated fruit and leaves.

The following products received emergency registration for SWD control effective from June 1 to November 30, 2011. **Read the product labels for complete user instructions at www.al.gov.bc.ca/pesticides/k_4.htm#2**

Minimum re-application interval: 7 days for all products except Entrust, which is 5 days.
Re-entry interval: 12 hours for all products except Ripcord, which is 2 days.

Delegate WG (spinetoram) at 200 g/ha (80 g/acre) for blueberry, raspberry and blackberry and at 280 g/ha (112 g/acre) for strawberry. Do not apply more than 3 times per season.
Blueberry: 3 day pre-harvest interval (PHI)
Raspberry/Strawberry/Blackberry: 1 day PHI
There is currently no residue tolerance for Delegate in Japan. Check with you packer before using.

Ripcord 400 EC (cypermethrin) at 150-175 mL/ha (60-70 mL/acre). Do not apply more than twice per season. PHI is 2 days.
Avoid spraying Ripcord when temperatures are above 25°C.

Malathion 85E (malathion) at 1.0 L/1000 L of water.
Blueberry: 2 day PHI
Raspberry/Blackberry: 1 day PHI
Strawberry: 3 day PHI
Malathion works best if the temperature is 20°C or more.

Entrust 80W (spinosad) at 100-132 g/ha (40-53 g/acre). Do not apply more than 3 times per season.
Blueberry: 3 day PHI
Raspberry/Strawberry/Blackberry: 1 day PHI
Entrust is OMRI approved for organic production.

Further Information:

- British Columbia Ministry of Agriculture:** <http://www.al.gov.bc.ca/cropprot/swd.htm>
- Oregon State University:** <http://swd.hort.oregonstate.edu/>
- Washington State University:** <http://www.mountvernon.wsu.edu/ENTOMOLOGY/pests/SWD.html>

For more information, contact B.C. Ministry of Agriculture at 604-556-3001.

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Spotted Wing Drosophila (*Drosophila suzukii*), a small fly pest in British Columbia



S. Fitzpatrick, AAFC

**INFORMATION FOR
BERRY PRODUCERS**

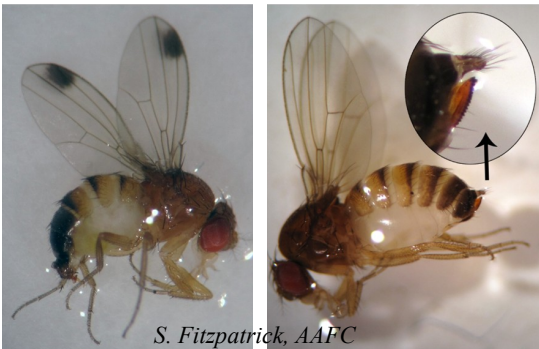


Spotted Wing Drosophila

Spotted wing drosophila (SWD) is a small fly that can cause significant damage in berry and tree fruit crops.

Identification:

Adult flies are brown, 2-3 mm long with red eyes and clear fly-like wings. Male flies have black spots on the end of each wing. Females have no spots, but have a saw-like egg laying device (ovipositor) which enables them to cut into fruit and lay eggs inside.

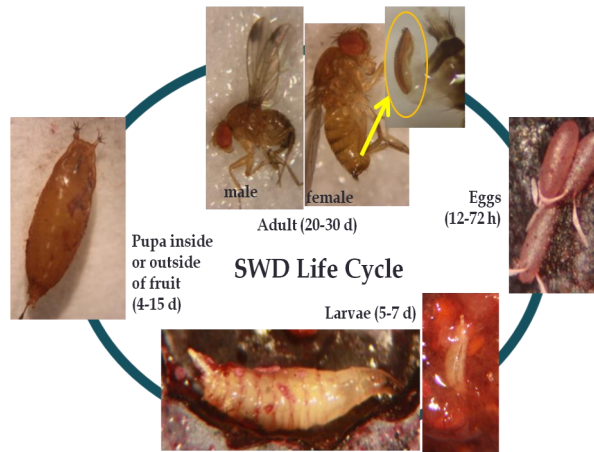


Spotted wing drosophila adult male with wing spots.

Spotted wing drosophila adult female. Inset shows ovipositor.

Life Cycle:

Spotted wing drosophila overwinters as adult flies. In spring, flies become active, mate and lay eggs in ripening fruit. A generation can take 8-21 days, depending on temperature. Up to 5 generations per year are expected in British Columbia.



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Hosts:

Numerous crops can be infested with SWD, including blueberry, raspberry, strawberry, blackberry, cherry, peach and grape. Alternate non-crop hosts can include blackberry, other berries and seedling cherry.



Blackberry



Salmonberry



Thimbleberry

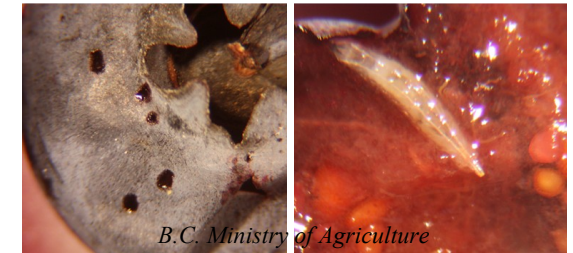


Seedling cherry

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Damage:

Unlike most small flies which infest decaying fruit, SWD females lay their eggs inside ripe fruit before harvest. Larvae hatch and begin to feed within the fruit, causing softening and fruit collapse. Contaminated fruit is unmarketable.



Spotted wing drosophila egg laying/larval breathing holes in blueberry

Spotted wing drosophila larva in blueberry



Spotted wing drosophila-infested blueberry fruit with pupae

Management: Cultural Control

- Alternate hosts near crop fields should be controlled or mowed to prevent fruiting.



Wild hosts near berry field

K. Johnson