

How do I manage Spotted Wing Drosophila (SWD) on my farm?

Ripening and ripe fruit are susceptible to SWD attack, but they appear to be only mildly attracted to unripe fruit. **If adult SWD are present on your farm, manage them aggressively.**

Aggressive management entails:

1. Excellent sanitation: Fruit should be harvested frequently and completely. Unmarketable fruit should be removed from the field and either frozen, “baked” in clear plastic bags placed in the sun, or disposed of off-site. This will either kill larvae or remove them from your farm.
2. Canopy and water management: Prune to maintain an open canopy. This may make plantings less attractive to SWD and will facilitate pesticide applications. Leaking drip lines should be repaired, and overhead irrigation should be minimized.
3. Insecticide treatments: Insecticide treatments should begin when scouting reports in the region alert growers to the first fly finding. Treatments should be applied at least every seven days and repeated in the event of rain. Choose the most effective insecticides with pre harvest intervals that work for your picking schedule. Rotate insecticides according to their modes of action. Check the 2013 Cornell Guidelines for the latest list of approved pesticides. (see tables below) Growers should be careful to avoid exceeding maximum applications per season which may be difficult for organic growers.
4. Monitor success of insecticide treatments with baited traps: Use red cups with holes no larger than 5mm in size. Bait can be apple cider vinegar or a yeast/sugar mix – whatever is easier for growers to accurately monitor. Traps should be hung in mid-canopy or on the north side of the row. Monitor these traps weekly.
5. Regular fruit sampling: at least 100 fruit per block per harvest should be observed for infestation. Talk to your local CCE agent about a scouting program.
6. Cool berries immediately: Chilling berries immediately after harvest to 32° -33°F will slow or stop the development of larvae and eggs in the fruit. U-Pick customers should be encouraged to follow this strategy to improve fruit quality at home.

Insecticides for 2013

Blueberries:

1. *Spinetoram* [**Delegate WG**] (EPA # 62719-541) with 2(ee) recommendation. Recommended rate is 3-6 oz/A. Restrictions: Preharvest interval = 3 d; Do not apply more than a total of 19.5 oz/A per year; Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram, spinosad). If additional applications are necessary, rotate to a different class of material; Do not make more than 6 applications per calendar year; Minimum treatment interval is 6 d. **IRAC group: 5**
2. *Spinosad* [**Entrust, Entrust SC**] (EPA # 62719-282, 62719-621) with 2(ee) recommendations. OMRI listed. Recommended rate 1.25-2 oz/A for Entrust and 4-6 fl oz/A for Entrust SC. Restrictions: Preharvest interval = 3 d; Do not apply more than a total of 9 oz/A of Entrust or 29 fl oz/A Entrust SC per year; Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram, spinosad). If additional applications are necessary, rotate to a different class; Do not make more than 6 applications per calendar year or more than 3 applications per crop; Minimum treatment interval is 6 d. **IRAC group: 5**
3. *Azadirachtin* [**AzaSol, Molt-X**] (EPA # 81899-4, 68539-11). Recommended rate is 6 oz/A in 50 gallons of water/A for AzaSol and 10 fl oz/A for Molt-X. Restrictions: Preharvest interval 0 d. **IRAC group: UN (unknown)**

4. *Bifenthrin* [specifically **Triple Crown**] (EPA NO 279-3440). This product is a mixture of three active ingredients including bifenthrin, zeta- cypermethrin and imidacloprid. Bifenthrin is a synthetic pyrethroid and is the same active as is found in Brigade. Recommended rate is 6.4-10.6 fl oz/A. Restrictions: Triple Crown is a Restricted Use Pesticide; Preharvest interval is 5 d; Minimum application interval is 7 d; Maximum amount of Triple Crown allowed per crop season is 31.0 fl oz/A. See maximum usage table on label when applying more than one of these active ingredients. Minimum spray volume is 20 gal/A of water by ground or 5 gal/A by air. **IRAC groups: 3A, (bifenthrin and zeta-cypermethrin) and 4A (imidacloprid)**

5. Bifenthrin [specifically **Brigade WSB**] (EPA #279-3108) with 2(ee) recommendation. Recommended rate 5.3 to 16 oz/A. Restrictions: Brigade WSB is a restricted use pesticide. Preharvest interval is 1 d; Do not make applications less than 7 d apart. Do not apply more than 0.5 lb active ingredient per acre per season. **IRAC group: 3A**

6. *Fenpropathrin* [**Danitol 2.4EC**] (EPA #59639-35). Recommended rate 16 fl oz/A. Restrictions: Danitol is a restricted use Pesticide; Preharvest interval is 3 d; No not exceed 32 fl oz/A per season. **IRAC group: 3A**

7. *Phosmet* [**Imidan 70-W**] (EPA # 10163-169). Recommended rate 1.33 lb/A. Preharvest interval = 3 d. Do not apply more than 7 1/8 lb/A per year. Do not make more than 5 applications per year. **IRAC group: 1B**

Caneberries:

1. *Spinetoram* [**Delegate WG**] (EPA # 62719-541) with 2(ee) recommendation. Recommended rate is 3-6 oz/A. Restrictions: Preharvest interval = 1 d; Do not apply more than a total of 19.5 oz/A per year; Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram, spinosad). If additional applications are necessary, rotate to a different class of material; Do not make more than 6 applications per calendar year; Minimum treatment interval is 4 d. **IRAC group: 5**

2. *Spinosad* [**Entrust, Entrust SC**] (EPA # 62719-282, 62719-621) with 2(ee) recommendations. OMRI listed. Recommended rate 1.25-2 oz/A for Entrust and 4-6 fl oz/A for Entrust SC. Restrictions: Preharvest interval = 1 d; Do not apply more than a total of 9 oz/A of Entrust or 29 fl oz/A Entrust SC per year; Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram, spinosad). If additional applications necessary, rotate to a different class; Do not make more than 6 applications per calendar year; Minimum treatment interval is 5 days. **IRAC group: 5**

3. *Azadirachtin* [**AzaSol, Molt-X**] (EPA # 81899-4, 68539-11). Recommended rate is 6 oz/A in 50 gallons of water/A for AzaSol and 10 fl oz/A for Molt-X. Restrictions: Preharvest interval 0 d. **IRAC group: UN (unknown)**

4. *Bifenthrin* [specifically **Triple Crown**] (EPA # 279-3440). This product is a mixture of three active ingredients including bifenthrin, zeta- cypermethrin and imidacloprid. Bifenthrin is a synthetic pyrethroid and is the same active as is found in Brigade. Recommended rate is 6.4 – 10.3 fl oz/A. Restrictions: Triple Crown is a Restricted Use Pesticide; Preharvest interval is 3 d; Minimum application interval is 7 d; Maximum amount of Triple Crown allowed per season is 10.3 fl oz/A. See maximum usage table on label when applying more than one of these active ingredients. Minimum spray volume is 50 gal/A by ground or 10 gal/A by air. **IRAC group: 3A**

5. *Bifenthrin* [specifically **Brigade WSB, Brigade 2EC**] (EPA #279-3108, EPA #279-3313) with 2(ee) recommendations. Recommended rate 8.0 to 16 oz/A for Brigade WSB and 3.2-6.4 fl oz per/A for Brigade 2EC. Restrictions: Brigade WSB and Brigade 2EC are restricted use pesticides. Preharvest interval is 3 d; Only one application may be made postbloom. Do not apply more than 0.2 lb active per acre per season. **IRAC groups: 3A, (bifenthrin and zeta-cypermethrin) and 4A (imidacloprid)**

6. *Fenpropathrin* [**Danitol 2.4EC**] (EPA #59639-35). Recommended rate 16 fl oz/A. Restrictions: Danitol is a restricted use Pesticide; Preharvest interval is 3 d; No not exceed 32 fl oz/A per season. **IRAC group: 3A**

7. *Malathion* [**Malathion 8 Aquamul**] (EPA #34704-474) for raspberries, blackberries, boysenberries, dewberries, and loganberries with 2(ee) recommendation. Recommended rate 2 pts/A. Restrictions: Preharvest interval = 1d. **IRAC group: 1B**

Strawberries:

1. *Spinetoram* [**Radiant SC**] (EPA # 62719-545) with 2(ee) recommendation. Recommended rate is 6-10 fl oz/A. Restrictions: Preharvest interval = 1 d; Do not apply more than a total of 39 fl oz/A per year; Do not make more than 2 consecutive

applications of Group 5 insecticides (spinetoram, spinosad). If additional applications are necessary, rotate to a different class of material; Do not make more than 5 applications per calendar year; Minimum treatment interval is 4 days. **IRAC group: 5**

2. *Azadirachtin* [**AzaSol, Molt-X**] (EPA # 81899-4, 68539-11). Recommended rate is 6 oz/A in 50 gallons of water/A for AzaSol and 10 fl oz/A for Molt-X. Restrictions: Preharvest interval 0 d. **IRAC group: UN (unknown)**

3. *Fenpropathrin* [**Danitol 2.4EC**] (EPA #59639-35). Recommended rate 16 – 21.33 fl oz/A. Restrictions: Danitol is a restricted use Pesticide; Preharvest interval is 2 d; Do not make more than 2 applications totaling 42.67 fl oz/A to the same planting in 12 consecutive months. **IRAC group: 3A**

4. *Bifenthrin* [specifically **Brigade WSB**] (EPA #279-3108) with 2(ee) recommendation. Recommended rate 8.0 to 16 oz/A. Restrictions: Brigade WSB is a restricted use pesticide. Preharvest interval is 0 d; Do not apply more than 0.5 lb active per acre per season. For ground application, apply full cover spray in minimum of 50 gallons of finished spray per acre. **IRAC group: 3A**

5. *Spinosad* [**Entrust, Entrust SC**] (EPA # 62719-282, 62719-621) with 2(ee) recommendations. OMRI listed. Recommended rate 1.25-2 oz/ for Entrust and 4-6 fl oz/A for Entrust SC. Restrictions: Preharvest interval = 1 d; Do not apply more than a total of 9 oz/A of Entrust or 29 fl oz/A Entrust SC per year; Do not make more than 2 consecutive applications of Group 5 insecticides (spinetoram, spinosad). If additional applications are necessary, rotate to a different class; Do not make more than 5 applications per calendar year; Minimum treatment interval is 5 d. **IRAC group: 5**

6. *Malathion* [**Malathion 8 Aquamul**] (EPA #34704-474) only with 2(ee) recommendation. Recommended rate 2 pts/A. Restrictions: Preharvest interval is 3 d. **IRAC group: 1B**