All-Seasons Approach to Monitoring & Managing Spotted Wing Drosophila Webinar

APRIL 12, 2016 | 10am - 11:30am Pacific Time

What factors can you address that contribute to Spotted Wing Drosophila (SWD) RISK?

- **Be aware of SWD levels in field**
  - Monitor early, weekly, and record fly activity using traps with a homemade bait or pre-made commercial lure; determine presence & numbers → **uspest.org/swd**
  - Assess fly distribution on whole farm
  - Know that no thresholds of trap counts have been established to predict damage
  - Visit the OSU-IPPC degree day model to forecast and predict timing of SWD activity: → **http://uspest.org/cgi-bin/ddmodel.us**
  - Check suspect fruit often by sampling for larvae in fruit
  - Learn to correctly identify *Drosophila suzukii* adult identification webinar: →**http://www.gpdn.org/webinar_2012** ODA identification key to adult fly: → **www.oregon.gov/oda/shared/documents/publications/ippm/spottedwingdroshilaikey.pdf**
- **Minimize favorable habitat for SWD**
  - Use drip irrigation (less humidity) compared to overhead irrigation
  - Repair irrigation lines to avoid unnecessary moisture for SWD
  - Fill low spots on farm to eliminate pools of water and improve drainage
  - Prune and aerate fruiting plants to reduce humidity, increase air flow, and create unfavorable habitat for SWD; too much pruning can reduce yield

- **Know and address fruit susceptibility**
  - Protect fruits, if flies are present in traps and fruit are ripening (first color) or ripe
  - Target first activity in the spring to minimize increase in future populations
  - Take notes on which varieties are more or less vulnerable during the season
  - Know that softer, thinner-skinned, sweeter fruit are more vulnerable to attack
  - Avoid injury of fruit in field: damaged & compromised fruits can attract females
- **Conduct timely fruit harvests**
  - Pick often: shorten picking interval; adjust harvest schedule
  - Be thorough and remove all ripe fruit to avoid egg-laying
- **Modify storage of post-harvested fruit**
  - Use soft-sorters to remove berries that have been softened by SWD
  - Store fruit immediately in cooler at low temperatures (30-34°F) and as long as you can (> 4 days) to kill and/or slow development of SWD; hydro-cooling can quickly drop the temperature of berries
  - For processing, freeze berries to kill the eggs, larvae, and pupae
  - For fresh market, refrigerate berries to stop further development
- **Improve sanitization of fruit in the field**
  - Remove overripe fruits hanging within plant that attract egg-laying females

- Eliminate leftover hanging or fallen fruit early to minimize population build-up, food resources, and breeding sites for SWD

- ◯ **Plan ways to clean-up fruit in the field**
  - Clean up infested fruit by crushing, removing from field, bagging, or solarizing by sealing fruit under clear plastic to cook larvae
  - Clean up fallen fruits from scattered fruit trees and abandoned orchards, if possible, that may provide food for late-fall feeding
  - Use black weed mats under plants to cook fallen fruit and minimize pressure
- ◯ **Address late-season fruiting crops prone to increased SWD population pressure**
  - Protect late-season fruits with fine netting (0.98-1 mm), when feasible
  - Tighten up spray intervals, harvest often, send post-harvest fruit to cold storage
- ◯ **Know the insecticides registered for SWD**
  - Use effective rates for SWD control
  - Consider reduced and border sprays versus cover applications on low pressure years
  - Ensure adequate coverage on fruit and foliage; particularly inside plant
  - Consider ground sprayers & aerial applications for better coverage
  - Reapply after rains; know residual activity
  - Apply treatments in early morning or evening when SWD are most active
  - Create a rotation plan for chemical classes to avoid insecticide resistance
  - Know the PHI's, REI's, & MRL's for export markets of each insecticide
  - Follow the label, it's the law
- ◯ **Consider landscape management**
  - Identify 'hot spot' areas around farm (using trap counts) that can provide food, refuge, and alternate egg-laying sites
  - Trap both the crop and close proximity perimeter to obtain comparison of #'s
  - Increase trapping to reduce adult numbers, particularly early in season
  - When proven, use baited sprays, such as an attract and kill technology
  - Remove and replace bordering wild host plants that support SWD, however this strategy has not been tested and may not be practical
  - Enhance your environment with flowering plants or build beetle banks that support beneficial insects such as parasitoids (tiny wasps), spiders, predatory bugs and beetles
- ◯ **Monitor weather that affects SWD survival**
  - Take note when warm temperatures persist over winter months to help predict fly survival, and the risk of higher spring activity, and quicker population build-up
  - Be aware that when a period of high temperatures (>86F) persist during the summer, populations of SWD are negatively affected; however when cooler temperatures and precipitation returns, SWD may reappear
- ◯ **Add cultural practices to complement the SWD tool box**
  - Design a vacuum system for removing SWD adults within the crop
  - For small-scale growers, use fine netting over crop after pollination and before coloring to create a barrier and eliminate fly entry
  - Explore repellants to discourage SWD from laying eggs in fruit
- ◯ **Stay informed as recommendations and provisionary guidelines are subject to change. Watch for updates.**
  - Do your part on area-wide management; management by everyone is needed

➢ **uspest.org/swd/**

➢ **spottedwing.org**