

Small Fruit Update



News and opinions from [Peerbolt Crop Management](#) and [BerriesNW](#) sent out weekly during the growing season, and sporadically when we have something to share in the off season.

July 27, 2010

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Other links

Videos of the week:

- Autonomous grape vine pruner: [Click here](#).
- Autonomous robotic weeders: [Click here](#).
- The Greenseeker, A precision fertilizer applicator: [Click here](#).

Upcoming Meetings

[The Weather Cafe](#) by Rufus La Lone
[Small Fruit Cold Storage Report](#)

Alert

[Spotted Wing Drosophila](#), all berries: This week has seen another increase in trap numbers.

This new pest poses unique difficulties for growers because we don't have any track record by which to accurately predict potential economic risk to our berry crops.

- While losses have been incurred in some u pick, fresh market, and home owner plantings, no conventional commercial growers have reported any economic crop damage attributed to SWD.
- Some organic growers have had good results using Entrust for SWD management and have not had any crop losses.
- Some other organically managed fields have reported damage.
- Growers are encouraged to pay very close attention to SWD through the rest of the season as the insect's population will continue to increase. In addition, Himalayan blackberries will ripen, providing a widespread regional host for SWD.

See the more extensive [SWD weekly update](#) below for in-depth SWD information.

Disseminating information for:

Washington

[Washington Red Raspberry Commission](#)
[Washington Blueberry Commission](#)
[Washington Strawberry Commission](#)

Oregon

[Oregon Raspberry and Blackberry Commission](#)
[Oregon Blueberry Commission](#)
[Oregon Strawberry Commission](#)

British Columbia

[Fraser Valley Strawberry Growers Association](#)
[Raspberry Industry Development Council](#)
[B.C. Blueberry Council](#)

Regional Reports

These reports are from individuals within the region and are their particular observations. They are included to give an impression of the present 'state of the industry' and regional activities.

British Columbia, Fraser Valley

- **Blueberries:** (7/26) Dukes are being machine harvested last week and this week. Quality good but yield is certainly off. SWD numbers really building now and preventative sprays have been going on in last week and are planned for the week coming up. Getting into field rows is a real problem in mature plantings. Aerial spraying not really an option here unfortunately. SWD is not the only pest issue. A Duke field of mine had seven bears in it. Lousy pickers and zero personalities.
- **Raspberries:** (7/26) Raspberries seem to have peaked last week around Thursday (22nd). Plants are starting to look beat up in a lot of fields. Should wind down by next weekend, I think

Skagit County, Northern Washington

As others are finding, the SWD has arrived in force. Numbers jumping up this week. About half males and half females. We're bringing in the helicopter early next week to give them a cover spray, and see if we can knock down the numbers.

- **Blueberries:** (7/23) Dukes are a mixed bag. Some sizing at the end, some not. The overall crop is off 30% and the market very tough to figure out. Blue Crop timing is ahead of normal. The quality looks good, but yield is off. Elliotts look the closest to normal.
- **Raspberries:** (7/23) Raspberries are winding down. There really wasn't a "peak" as usual, but biggest volumes are coming about now at the end. IQF is a very tough deal this year—maybe 50% of the fruit? Anybody got any good news?

Willamette Valley, Oregon and SW Washington

- **Blueberries:** (7/23) At Salem, the second pick blues are looking nicer than the first. We still have some issues with smaller than normal fruit. Bird pecked fruit is becoming more common. A single SWD showed up in the traps last week, and we dutifully responded with an aerial spray. Fruit coming into the plant appears disease free. Cull piles appear SWD free. Minor insect issues on incoming fruit this week include Syrphid fly larvae, spiders, and slugs.
 - We are on the second pick of Bluejay and Bluecrop.
 - The third pick of Duke will probably be by machine.
 - The second pick of Draper is coming soon with first pick of Liberty following shortly.
 - Machine harvest started this week with Hardiblack and Rubel.
- **Raspberries:** (7/26) Harvest is finishing up quickly. Most fields are done. Yields down, quality overall was poor until after the heat wave when it improved considerably. Made it through with few insect or disease problems. SWD numbers were up throughout the season and a lot of growers went on with a second insecticide application about two weeks into the harvest. Post harvest trap numbers jumped this week and infested fruit can be found in some fields. Post harvest cleanup sprays going on to prevent spread to adjacent blackberry and blueberry fields.

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Meeting Information

- **Cancelled:** July 27–29 — 3rd annual PNW Engineering Solutions for Specialty Crops Conference ~Tri Cities, WA. [See site for details.](#)

Industry News/Resources

Websites

- [Safe Fruit and Veggies.com](#). This website has been developed by The Alliance for Food and Farming to rebut the "Dirty Dozen" list put together annually by the Environmental Working Group.

Newsletters

- **The Source**, market updates from The Produce News for 7/26: [Click here](#).
- **Michigan State IPM Fruit Newsletter** for 7/27: [Click here](#).
- **New Jersey Blueberry Bulletin** for 7/21: [Click here](#). From Dr. Gary Pavlis, one of our most qualified blueberry scientists and editor of this newsletter, (My italics and bolding—T.P.) "Readers of this newsletter are aware that fertilizer recommendations for blueberries are based on leaf analysis. ***We have found that there is no correlation between the soil analysis and the amount of nutrients that actually enter the blueberry plant.*** Soil analysis is useful to determine pH, and maintain pH in the proper range, 4.5 - 4.8. Thus leaf analysis is critical to maintain the blueberry plant in a healthy, efficient, productive condition."
- **British Columbia Blueberry IPM Newsletter** for 7/23: [Click here](#).

National

- **(Fresh) Blackberries and raspberries receiving more promotions:** [Click here](#) (7/22, The Packer)

- Maine's 'super fruit' – blueberries – making strides in the frozen food market: [Click here](#) (7/23, Bangor Daily)
- Specialty Crop Producers Provide Feedback on Farm Bill Programs: [Click here](#) (7/22, GrowingProduce.com)
- Dole relocates research facility: [Click here](#) (7/23, The Produce News)
- 'Lab on a chip' *E. coli* detection: [Click here](#) (7/23, Western Farm Press)
- Alliance rebuts pesticide shouts with a whisper: [Click here](#) (7/23, The Packer)
- Growers look to industry groups over FDA for GAPs information: [Click here](#) (7/26, The Packer)

Crop Protection Materials Information

- U.S. Farmers may face 'severe restrictions' on pesticide use: [Click here](#) (7/24, Fresno Bee).

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Pest Alerts

- [Anthracnose Ripe Rot](#), blueberries: The cool, wet spring has led to ideal conditions for this disease to get established. Infected fruit won't show symptoms until it ripens. Then it turns soft and leaky with salmon-orange colored spores appearing—often when fresh fruit is on display. Not a pretty site. For processed fruit, cooling as quickly as possible can suppress symptoms.

Ongoing Pest Management Information

- [Birds](#), blueberries.

Insects/Mites

- [Twospotted Spider Mites](#), raspberries. [Strawberry Crown Moth](#), southern strawberries/caneberries.
- [Orange Tortrix Leafrollers](#), southern blackberries and raspberries: The larval hatch that causes our major crop contaminant problems has started in caneberry fields in SW Washington and Oregon.
- [Aphids/Scorch virus](#) northern blueberries, [Root Weevils: Black Vine](#), [Rough Strawberry](#), and [Strawberry Root Weevils](#), [Yellow Mites](#), northern raspberries, [Redberry Mite](#) evergreen blackberries, [Blueberry Gall Midge](#), blueberries.

Diseases

- [Phytophthora Root Rot](#) raspberries. Stress on root systems compromised by root rot is showing up a lot right now, following the first major heat wave of the season.
- [Alternaria Fruit Rot](#), blueberries.
- [Powdery Mildew](#), strawberries, [Blackberry Rust](#) (Phragmidium Rust) evergreen blackberries, [Yellow Rust](#), raspberries, [Shock virus](#), blueberries, [Scorch virus](#), British Columbia blueberries, [Mummyberry](#) blueberries.

Spotted Wing Drosophila Update for 7-27-10

This Update is a collaborative effort with contributions from OSU, USDA-ARS, WSU, and Peerbolt Crop Management.

- [Click here](#) for information links from PCM.
- [Click here](#) for the OSU SWD website.
- [Click here](#) for the BC Ministry of Agriculture and Lands SWD website.
- [Click here](#) for the WSU, Mt. Vernon SWD website.

Management material Update

- **Delegate WG:** A special 2ee (recommendation) label has been issued for Delegate for managing SWD in berries, grapes, stone fruits and pome fruits: [Click here](#) for the label.

SWD In Europe

- European Plant Protection Organization's (EPPO) SWD information site: [Click here](#).
- EPPO's Reporting Service, including the June first recovery of SWD in strawberries in France: [Click here](#).

General SWD Comments

- Total trap counts for the Oregon and SW Washington survey jumped from 145 to 472 this week. Over a 300% increase.
- Other regions also report big increases in trap counts.
- Most of the increase in the Oregon and SW Washington survey came in raspberry and blackberry fields, but the increase was seen across the board.

- In this same survey we're moving out of most strawberry and cherry sites, as the crops finish, and moving traps into more late season blueberry and caneberry fields, because they're the ones at highest risk of crop losses at this point.
- It appears that, with large increases in trap counts and much higher incidences of actual larval infestations, we are reaching a critical stage when the risk of losses has greatly increased.
- Conventional commercial growers, in general, have been adhering to a spray regime that so far has prevented any major losses.
- However some organic growers as well as some fresh market, u pick and home gardeners have verified infestations and fruit losses to varying degrees.
- Trap placement is of critical importance. Place traps out of the sun and in cooler spots if possible. Traps placed in the sun can give false low counts.
- The Himalayan blackberries are ripening, and they are likely to provide a region wide source of breeding for SWD. We need to closely watch this dynamic to determine how critical it will be for growers to control nearby Himalayan blackberries in order to impact SWD populations. Now is the time to see whether that control will be worth the effort and expense.
- Placing berries in a sealed baggie at room temperature with no liquid added is proving to be an easy monitoring technique for checking for SWD larvae. The larvae generally emerge from the fruit within a day of bagging. Warmth also encourages them to come out.
- As blueberry and caneberry fields finish harvest, a post harvest insecticide treatment is recommended to prevent the field from harboring a breeding population of SWD.

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From Amy Dreves, OSU Entomologist, on observation sites:

- We are beginning to pick Spartans and Blue Ray in the Willamette Valley sites. No sign of damage when using baggie test and Fruit Dunk test. We have not found infestations in blueberry samples.
- We have found increased damage in some Obsidian blackberries, Tayberries, and Sylvan Blackberries. Also in some raspberries.
- We are closely monitoring two peach and nectarine sites. So far we've had low trap numbers. First harvest could be end of the week.

Northwest Monitoring Weekly Update for 7/19-7/23 — North to South

The following information comes primarily from public monitoring programs. Number of crop types, fields, and traps varies greatly so the numbers should be viewed as indicators only. This pest can be very site specific. Any treatment decisions should be based on monitoring data/observations gathered directly from the field to be treated and the individual grower's best judgment.

(Counts of ten to twenty are highlighted in Green, counts over 20 are highlighted in Red)

British Columbia:

- **From the B.C. Blueberry IPM Newsletter for 7/23:** "SWD trap catches are increasing rapidly in many berry fields in the Fraser Valley. Now is the time for growers to spray in East Chilliwack raspberries, Abbotsford raspberries, Matsqui blueberries, Surrey blueberries, Pitt Meadows blueberries, and Maple Ridge blueberries. Sprays should be repeated at 10-14 day intervals, and applied between pickings where necessary. The insecticides registered for SWD in British Columbia are Delegate, Malathion, Ripcord, and Entrust. Entrust sprays can be used by organic growers."
- [Click here](#) for the entire newsletter that includes a table of regional trap counts.
- **SWD Monitoring Report for Southern Interior of British Columbia:** [Click here](#).

Whatcom and Skagit Counties, Northern WA:

WSU Extension in Whatcom and Skagit Counties have organized an SWD public monitoring program placing traps in fields of growers who have volunteered to share information. [Click here](#) to go to an interactive mapping site with trap numbers and locations.

- **Whatcom County:**
 - **Whatcom County: Blackberry: 11 males, 7 females. Blueberry: 1 male, 1 female. Raspberry: 65 males, 73 females. Cherry: 1 female. Salmonberry: 5 males, 11 females. Strawberry: 6 females. Jostaberry: 5 males, 11 females.**
 - **Commercial raspberry and blueberry berry fieldmen report (7/23):** Verbal reports are that trap counts are climbing quickly this past week with traps placed in cooler, shady locations and nearer the ground getting much higher counts than those placed 'on the wire'.

- **Skagit County:** As of 7/25: **Blackberry: 10 males, 3 females. Blueberry: 1 male, 1 female. Raspberry: 9 males, 20 females.** [Click here](#) to go to the new Skagit Count SWD website with an interactive survey map.

SW Washington and Western Oregon (Monday, 7/12 – Friday, 7/16)

The Washington berry commissions and the Oregon Department of Ag. along with the USDA, OSU extension, and Peerbolt Crop Management have supported and organized the survey from which the following information is taken. Grower identification as well as specific field sites are anonymous. There are well over 600 traps in total. [Click here](#) to go to the PCM SWD site for charts of county quadrants being scouted and regularly updated monitoring data from these counties. [Click here](#) to go to the OSU Extension SWD population county mapping site.

- **Clark, Cowlitz and Lewis Counties, Southwest WA: Blackberry: 15 males, 8 females. Blueberry: 0 males, 7 females. Cherry: 4 males, 3 females. Raspberry: 34 males, 28 females. Strawberry: 3 males, 2 females.**
- **Multnomah and Washington Counties, OR: Blackberry: 12 males, 11 females. Blueberry: 2 males, 6 females. Boysenberry: 1 male, 0 females. Raspberry: 47 males, 17 females. Strawberry: 9 males, 11 females. Wild habitat: 5 males, 5 females.**
- **Yamhill and Clackamas Counties, OR: Blackberry: 20 males, 7 females. Blueberry: 2 males, 2 females. Lonicera: 2 males, 0 females. Raspberry: 17 male, 12 females. Strawberry: 1 male. Other caneberry: 1 female.**
- **Polk and Marion Counties, OR: Blackberry: 16 males, 11 females. Blueberry: 1 male, 1 female. Cherry: 5 males, 8 females. Strawberry: 1 male.**
- **Linn and Lane Counties, OR: Blackberry: 3 females. Blueberry: 4 males, 2 females. Raspberry: 7 males, 9 females. Strawberry: 13 males, 4 females.**
- **Benton County, OR: No report as of 7/26**
- **Douglas County, OR: Blueberry: 1 male, 4 females. Peach: 2 females. Cherry: 4 males, 5 females. Fig: 1 female. Strawberry: 5 males, 5 females.**
- **Jackson and Josephine Counties, Southern OR: Blueberry: 10 males, 8 females. Cherry: 3 males, 1 female. Fig: 1 male, 2 females. Peach: 2 males. Raspberry: 1 male. Strawberry: 9 males, 9 females.**
- **Wasco County: No report as of 7/26.**

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Weekly Summaries of SW Washington/Western Oregon—Public SWD Monitoring Program

This table shows recorded catches over the last 9 weeks. There are survey factors that have varied somewhat over the nine weeks, including number of fields, number of traps, type of crops. There are also field factors such as insecticide treatments and amount of ripe fruit in the field that have impacted the insect trap dynamics. These numbers should be viewed within that context. Still, some overall trends seem to stand out such as the male to female ratios, overall trap counts and the increased activity of the last week—up over 50% over the previous week.

Dates	Total Males	Total Females	Overall Total	Percent females
6/7-6/11	15	29	44	66%
6/14-6/18	11	51	62	82%
6/21-6/24	16	35	51	69%
6/28-7/2	32	63	95	66%
7/5-7/9	47	44	91	48%
7/12-7/16	75	70	145	48%
7/19-7/23	263	209	472	44%

Ongoing Spotted Wing Drosophila Management Information

Timely Harvesting. It is important to harvest fruit in a timely fashion to avoid susceptibility to SWD. The spotted wing Drosophila appears to prefer ripe fruit.

Field Sanitation. A key to managing SWD is going to be keeping fields as clean of potential fruit hosts as possible. Getting improved fruit handling and cull disposal protocols in place early could mean the difference between a successful season and a train wreck. Remove any intact, over-ripe, and/or culled fruit from areas in and around the fields.

Adjacent habitat & Urban Site Infestations. Some habitat adjacent to berry fields and some urban sites in Western Oregon and Washington have been confirmed to have high SWD trap counts as well as fruit that is heavily infested with SWD larvae. There is a high probability of ‘hotspots’ in both urban areas and unmanaged habitats that can act as a source for a large number of SWD to move into a commercial field when the fruit is at the vulnerable stage.

Pesticide tank mixes. In an effort to manage the risk involved with this new pest, some growers are using combinations of pesticides that they have not used in the past. Before applying an unfamiliar tank mix, be sure to check with your supplier, crop consultant, or other advisor to be sure it won’t cause damage. Some mixes have the potential for unexpected, economically damaging effects—just the thing we’re trying to avoid by using them.

SWD Management Recommendations Updated 6/22/10

Entomologists from the USDA-ARS, WSU, OSU have collaborated to produce updated SWD management plans for blueberries and caneberries. They've been posted on the OSU SWD website.

- For the blueberry management plan, [Click here](#).
- For the caneberry management plan, [Click here](#).

Other related links on the site:

- SWD Chemical control considerations: [Click here](#). Includes many links and information including pollinator conservation information and alert postings)
- Insecticides registered in Oregon and Washington along with relevant SWD management information for each: [Click here](#). (includes relevant MRL issues, PHI's, REI's, efficacy, etc.)

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Crop work

All crops—

- Can put out monitoring traps for Spotted Wing Drosophila
- If ripe fruit is in the field, can monitor for SWD larvae by using a 'baggie' test on fruit samples. [Click here](#) for example of the procedure.
- Weed management.

Blueberries—Harvest ongoing in all regions

- Scout for fruit disease symptoms and/or disorders.
- Scout for leafroller larvae feeding.
- Scout for aphids and treat as needed, particularly in northern growing areas where aphids vector Scorch virus.
- Scout for weevils and weevil notching.
- Scout for virus symptoms and send in samples for testing as needed.
- Maintain bird damage management.

Blackberries—Harvest ongoing in Oregon and SW Washington

- Scout for virus symptoms and send in samples for testing as needed.
- Can apply post harvest insecticide just after harvest SWD management.
- Can apply fungicides for fruit/blossom rot in late season crops.
- Can apply clean up insecticide just before harvest for crop contaminant management.
- Scout for Phragmidium Rust in evergreen blackberries.
- Scout for Cane and Leaf Rust.
- Scout for leafroller larvae and treat as needed to prevent fruit contaminant problems.

Raspberries—processed harvest wrapping up in SW Washington and Oregon, and ongoing in Northern Washington and B.C.

- Can apply post harvest insecticide just after harvest SWD management.
- Scout for Yellow Rust and assess treatment options.
- Scout for spider mites and treat as needed.
- Scout for virus symptoms and send in samples for testing as needed.
- Put out pheromone traps for leafrollers.
- Scout for aphids and treat as needed.
- Scout for leafroller larvae and other insect crop contaminants.
- Scout for ripe fruit fungal diseases.

Strawberries—Processed harvest is finished in all regions

- Post harvest—Treat post harvest for SWD if needed especially if field is in close proximity to other ripening berry or stone fruit crops
- Have pheromone traps out for Strawberry Crown Moth in southern fields and treat as needed.
- Can treat post-harvest for SWD, root weevils, and/or Strawberry Crown Moth.
- Mow and renovate fields 2-4 weeks after harvest unless pest pressures require mowing and treating sooner than that.

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Archived Small Fruit Updates

(for older Updates [click here](#))

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