

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.

August 17, 2010

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Other links

[Video of the week](#): This link goes to our industry website. Click on the "Freezer Bag Test" link for a video of our most recent protocol for checking for SWD larvae in berries.
[Upcoming Meetings](#)
[The Weather Cafe](#) by Rufus La Lone
[Small Fruit Cold Storage Report](#)

Alert

[Spotted Wing Drosophila](#), all berries: The risk of fruit damage and economic losses to this new fruit pest continue to increase. For any berry crop still harvesting in the Northwest, it is highly recommended to take all appropriate measures to mitigate this risk.

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

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: (8/16) Incredibly hot in the Fraser Valley the last 4-5 days with temps to 35 C (95F) Saturday and Sunday. Later Bluecrop and ripe Elliotts getting soft. Some sunburned fruit and leaves. It's just not fun trying to work in this. Lots of smoke in the air drifting in from interior forest fires is making air quality a problem as well. The only good thing may be that SWD males are not very virile in this hot weather. We're looking forward to some cooling trend starting late Tuesday.

Whatcom County, Northern Washington

- **Blueberries:** (8/13) We're still fighting the SWD in blueberries. Helicopter will be in action this weekend. Dukes are done. Reka's are close to done. We're starting Bluecrop and 1613's (Hardiblu).
- **Raspberries** (8/13) Raspberries are all but done with post-harvest cleanup underway. Twenty percent crop reduction for most growers.

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](#)

Skagit Valley, Northern Washington

- **Blueberries:** (8/14) Duke are done. Bluecrop are mid way and Elliotts are still a ways off--maybe next week. No more fresh production until then, everything else is too soft to make grade. The coming heat should hasten the ripening of the Elliotts, but may stop or slow the sizing.
No rebound yet from SWD after early knock down insecticides. Test checks from the aerial application showed less than stellar results (at least in the lab), but we've not seen trouble in the field. Just lucky??? Maybe the early knock down prevented a big build up.
- **Raspberries/Blackberries:** (8/14) Raspberries are over. Blackberries are mid way with Chesters still to come.

Willamette Valley, Oregon and SW Washington

- **Blackberries:** (8/14) Marions and the like are all but done. Evergreens should start the end of next week; hope the heat does not sunburn very many, probably will affect size. Friday I found my first SWD larvae of this season in a Marion field near Brooks. The field has been done with harvest for about a week. Was surprised they would be in such shriveled up berries, not much there for them to survive on. I did not do an actual sample but at least 1 out of 15 berries had larvae. The last time it was sprayed was 6 weeks ago.
- **Blueberries:**
 - (8/14) At Salem we have both well pumps at their maximum to run as much mist as possible. We hoped to be all picked up before the heat, but got caught with just a little more second pick Liberty to go. Final picks of Bluecrop, Blueray and Draper are pending. Second pick Aurora and Elliott will follow. We had our first rejection of blueberry fruit due to SWD. A field visit just before final machine pick of Earlyblue revealed SWD. Berries with sunken sides was the key identifier. Only several of these berries could be found per bush and not every bush appeared infested. Infested berries were usually on clusters deep in the shade of the bush. Grower sheepishly admitted being 6-weeks out on last insecticide.
 - (8/13) (Organic production) We are having a great harvest so far, no SWD problems, but we have sprayed Entrust two to three times and applied GF-120 baits. We just finished the Dukes which had a heavier than normal crop, second pick on Bluecrop, Bluejay, and Berkeley should finish tonight. Hoping this heat doesn't damage the rest of the crop. We still have Jersey and Reka to pick. Our farm seems to be a lot later than the main part of the Willamette valley.

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Industry News/Resources

Newsletters

- [British Columbia Blueberry IPM Newsletter for 8/14](#)
- ['The Source' for 8/16](#) Market updates from *The Produce News*
- [Michigan State IPM Fruit Newsletter for 8/17](#)
- [New Jersey Blueberry Bulletin for 8/16](#)

West

- [Blueberries giving strawberries a run for the money at retail](#) (8/10, The Produce News)

International

- (Argentina) Blueberries—[Record number of frosty nights in Entre Rios](#) (8/17, Freshplaza.com)

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Crop Protection Materials Information

- [New Website promotes pesticide stewardship:](#) (8/11, GrowingProduce.com) [Click here](#) to go to the site.

Ongoing Pest Management Information

- [Birds](#), blueberries.

Insects/Mites

- [Redberry Mites](#), late ripening blackberries:
 - We're starting to see Redberry Mite problems in late ripening blackberries. They've been verified in some late season Marions, Black Pearl, and early Chesters so far. Evergreens are usually the hardest hit. The berries turn brick red and hard instead of ripening.

- [Cane Blight](#), raspberries: Right after harvest is the time to protect the open catcher plate wounds from cane blight infections with a fungicide application.
- [Yellow Mites](#), northern raspberries
- [Twospotted Spider Mites](#), raspberries.
- [Strawberry Crown Moth](#), southern strawberries/caneberries.
- [Orange Tortrix Leafrollers](#), southern blackberries and raspberries:
- **Root Weevils:** [Black Vine](#), [Rough Strawberry](#), and [Strawberry Root Weevils](#), ,

Diseases

- **Blueberry fungal diseases:** [Anthracnose Ripe Rot](#), [Alternaria Fruit Rot](#), [Botrytis Fruit Mold](#), [Mummyberry](#).
- **Blueberry virus diseases:** [Scorch virus](#), British Columbia blueberries.
- **Raspberry and blackberry fungal diseases:** [Blackberry Rust](#) (Phragmidium Rust) evergreen blackberries, [Yellow Rust](#), raspberries, [Phytophthora Root Rot](#) raspberries.
- **Raspberry and blackberry virus diseases:** Raspberry Bushy Dwarf virus, [Raspberries](#), [Marionberries](#).

Leaf/tissue analysis & Soil testing

Post harvest is the best time to do most soil and leaf testing for nutrient management planning.

- **Blueberries:** Leaf/tissue testing and pH monitoring are most critical. Complete soil tests don't correlate well with plant needs as leaf/tissue tests. [Click here](#) to view OSU's Blueberry Nutrient (and testing) Guidelines.
- **Blackberries and Raspberries:** While annual soil testing has been the industry norm, Oregon State's recently updated nutritional guide recommends annual leaf/tissue testing, with soil tests done just every few years. [Click here](#) to view OSU's Caneberry Nutrient (and testing) Guidelines.

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Spotted Wing Drosophila Update for 8-16-10

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.

General SWD Comments

- SWD dynamics continue to change and evolve rapidly now that we've gotten into the later SWD generations with much greater numbers, warmer weather, and a lot of ripe and overripe fruit in and around fields.
- The evolving SWD/crop/native habitat interactions have made just reporting overall trap counts from areas and crops somewhat misleading and ineffective.
- These changing factors include:
 - Trap counts in post harvest fields, in particular, post harvest raspberries are extremely high in a few locations. As an example one trap, checked just yesterday and not included in the counts reported this week. recorded a count of over 700 SWD adults.
 - Many more traps are now being moved into areas to monitor counts in Himalayan blackberries.
 - The late season blueberries and caneberries still at risk of crop losses to SWD are almost all on regular treatment programs that are keeping trap counts very low.
 - The risk of larval contamination of fruit is high enough at this point that treatments are not being influenced by present trap counts as much as just spray interval timing and/or the presence of the pest in the vicinity of the crop.
- In blueberries, trap counts in some fields have increased and some fruit infestations have been found.
- Some growers report finding larvae infested fruit even though they had little or no trap catches. *The monitoring program for SWD is still very much a work in progress.* There are many variables we're still working out, so take this into consideration when making management decision.
- For machine harvesters, this is the time to assess the economic impact of having a lot of fruit on the ground and whether it's necessary to invest more into research/methods of coping with this situation.
- This is also the window in time to evaluate the economic impact of Himalayan blackberries on SWD and, as sanitation, whether it's necessary to invest more into research/methods of coping with blackberries around the fields.

- 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.

SWD News Stories

- [Crop Consultant vinegar fly monitoring keeps close watch on pest](#) (7/30, Western Farmer-Stockman)
- [Oregon Ag responds to the Spotted Wing Drosophila](#) (8/11, Oregon Dept. of Ag.)

Northwest Monitoring Weekly Update for 8/2-8/6— 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 8/14/10:** “Mid and late season berries remain very susceptible to SWD damage. Mid and late season blueberry, raspberry, strawberry and blackberry fields in all regions should be sprayed at 10-14 day intervals beginning when the fruit starts to colour. Fields should be sprayed between pickings to minimize fruit loss. Insecticides registered for SWD are Delegate, Malathion, Ripcord, and Entrust. SWD trap catches have increased in some Ladner, Richmond, Langley, and Abbotsford fields this week, but have decreased in other regions. The decrease in trap catches may be because ripe fruit is more attractive than the bait in the traps at this point in the season. Flies were observed on overripe fruit and cull piles in many berry fields.”
[Click here](#) for the entire newsletter that includes a table of regional trap counts.
- [SWD Monitoring Update for Coastal British Columbia for 8/16](#)
- [SWD Monitoring Report for Southern Interior of British Columbia for 8/11](#)

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.

- **Whatcom County:**
 - [Click here](#) to go to the Whatcom County interactive mapping site with trap numbers and locations.
- **Skagit County:**
 - [Click here](#) to go to the Skagit Count SWD website with an interactive survey map.

SW Washington and Western Oregon (Monday, 8/9 – Saturday, 8/14)

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.

Statistics for Oregon/SW Washington Survey:

Total traps checked: 519 (329 with no catches in traps)

<u>No. of adults in the trap</u>	<u>Number of traps with that number</u>	<u>Total Adults</u>
1-9	144	472
10-19	27	382
20-49	14	361
50+	5	632

Catches by Crop

	<u>Trap #</u>	<u>Males</u>	<u>Females</u>	<u>Total Adults</u>
Blackberry (post harvest)	50	158	149	307

Raspberry (post harvest)	74	682	439	1121
Black raspberry (post harvest)	9	42	29	71
Blueberry	33	50	55	105
Cherry (post harvest)	5	4	5	9
Peach	5	34	5	39
Strawberry (post harvest)	6	81	64	145

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, the increasing overall trap counts.

Dates	Total Males	Total Females	Overall Total	Percent females
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%
7/26-7/30	344	334	678	49%
8/2-8/6	330	263	593	44%
8/9-8/14	1085	762	1847	41%

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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—

- Pay attention to new plantings of all berries for weeds, water, insects, diseases, and nutrient deficiencies.
- 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.
- Post-harvest—soil and leaf test for evaluation of nutrients.
- Post harvest—can treat for SWD 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.
- 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.
- Take soil tests.
- Fertilize as needed.

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Archived Small Fruit Updates

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

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[08-03-10](#)

[07-27-10](#)