Providing Northwest berry growers with the information they need when they need it.

The Small Fruit Update is sent out weekly during the growing season by Peerbolt Crop Management and is funded entirely by the Northwest berry growers & industry through their commissions & councils.

July 26, 2011

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Featured Video: Robotic bird (6 minute video, posted July, 2011, Ted Talks) *Now this would make bird abatement in a blueberry field fun.*

The Weather Cafe by Rufus La Lone/
Small Fruit Cold Storage Report

Alert

Spotted Wing Drosophila, all berries

We're at a critical stage when the risk of economic losses from this pest greatly increases

- Last year at this point we saw an increase of 300% in trap catches. Assuming we're running one to two weeks behind last year, we should expect a similar increase soon.
- Most of the trap increase both years in the Oregon and SW Washington survey has come in raspberry and blackberry fields, but the increase was seen across the board.
- Both 2010 and 2011 data indicates that there is a very real correlation to adult trap catches and an actual increase in larval infestation of the fruit.
- Be prepared. Be conservative & pro-active. If you or your neighbors had SWD pressure last year, take all reasonable precautions to minimize the risk this insect poses to your crop.

See the Weekly SWD Update Below

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

National
North American 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:** (Monday, July 25) Blueberries are just starting for real, unbelievably late. Some Mummyberry, quite a few aphids but no splits so far despite yet another thunderstorm front coming through this afternoon. Good fruit size in fields I saw, but looks a bit lighter for volume. Let's see what the next few days look like. We are to dry out. Those that couldn't go into fields to spray, now hurting with leafroller and Mummyberry. We had one day of higher temps, now back to a couple degrees below normal, i.e. we are NOT losing anything due to sunburn or soft fruit.
- **Blueberries:** (Monday, July 25) Blues are ripening but slow with continuing cool evenings and daytime hours. Hand picking has been difficult as fruit is not ripening evenly enough for efficient picking. Hoping to get a machine pick in Dukes possibly on the weekend, but warm weather will have a lot to do with making this possible. Fruit looks of good quality (minor rot issues) and size. Second SWD sprays will go this week.
- **Raspberries:** (Monday, July 25) Harvest is in mid swing now, with some rot of course, but I've seen some good quality coming off. Yields are a tad down but not as much as I thought they'd be back in June. I'm seeing a few aphids everywhere and mites are really bad in some fields.
- **Raspberries:** (Monday, July 25) Looks like we're into the peak of raspberries. Pick was quite strong all week up until today when there was a noticeable drop-off. Probably a dramatic change in temperature from a beautiful warm weekend back to the chill of today. We'll see if things pick up again. But it seems like the consensus feels we are looking at less than expected before the pick started. Lots of windblown drops and less green fruit coming. Mould not that bad but still fighting some weevils.
- **Strawberries:** (Monday, July 25) June bearing strawberries are now completely over. The day neutral varieties are starting up, mostly Albion, they've got great flavour when ripe. Need more sun...
-

Northern Washington, Skagit County

- **Blueberries:** (Friday, July 22) Blueberries are still waiting. We had a few ripe fruit on Duke this week, but nothing approaching a commercial harvest.
- **Raspberries:** (Friday, July 22) We have a lot of soft raspberry fruit at the Mt Vernon WSU Research Center. Some mold, but not too bad. We also had a lot of slugs in raspberries, especially early in the week when the canopy never seemed to quite dry out. Thankfully, the weather has been drier since yesterday morning, and today's fruit is much better. We are close to IQF quality Meeker, but still a little too soft. Primocane growth of raspberries has been phenomenal. The tallest primocanes were about even with the tallest laterals last Friday, but by Monday it seemed they'd grown over 6 inches. I can't recall primocanes rubbing up against the bottom of the harvester this early in the season. Large varieties like Cowichan are truly huge. I don't see a bumper crop here at the Center; too many bare spots up and down the canes, and I just don't see all that much green fruit coming along. I think we had a lot more cold damage this winter than Lynden did.
- **Strawberries:** (Friday, July 22) Our June-bearing strawberries are done. Day-neutrals have finished their gap, and have some ripe fruit, green fruit and flowers. Albion has been consistently looking good for us, as has San Andreas.

Willamette Valley, Oregon and SW Washington

- **Blackberries, processed:** (Monday, July 25) We are finishing up the first pick on Marions with some guys into their second. With all the rain surprisingly mold was at a minimum, berry size was about 20% larger (and softer) than last year. Don't believe in a big peak anymore -- as long as the weather cooperates. In May my heat unit graph predicted July 17 for our first 50,000 pound day, varied a day either way along the way and turned out to be July 19, close enough for ag work. If you go by first bloom the predicted start was July 20 and full bloom would have been July 22, all within reason.
- **Blackcaps:** (Tuesday, July 26) We're on the tail end of harvest. Some decent quality which is surprising considering how this crop looked a couple of months ago. Nothing like a spring weather break. But we're going to need new cultivars to make any progress on stabilizing/building this crop's market. Verticillium, viruses, root rot, etc. But thanks to our USDA public breeding program in Corvallis there's some real potential for that happening within the next five to ten years.
- **Raspberries:** (Tuesday, July 26) Wow. Got into some major mold issues with the machine picks after the daylong rain a we got Sunday. We're picking out of it but the tail-end raspberries are competing with all the

blackberries now coming in for processing plant space. 'Big, soft & juicy' that might be the tag for this season's fruit.

- **Blueberries:** (Tuesday, July 26**)** Dukes are well into second picks. Bluecrop started for us this past Sunday. Should be into Draper the end of the week. Nice fruit that's been on the soft, large size due to the weather patterns but as long as it gets picked on time, out of the field, cooled down and shipped without major delays, it's doing fine. Sure—that's all easy to do…

Event Calendar

For more comprehensive event calendar, click here. Newly added events are in red.

- **July 27—Raspberry Machine Harvesting Selection Evaluation** ~ 1-3pm. Sakuma Brothers Farm, Mt. Vernon, WA. Call Pat Moore at 253-445-4525 or Tom Walters at 360-848-6124 for information.

- **July 28—Raspberry Machine Harvesting Selection Evaluation** ~ 11am-1pm. Randy Honcoop's farm in Lynden, WA. Call Pat Moore at 253-445-4525 for information.

- **August 6 — Mossyrock Blueberry Festival** ~ Mossyrock, Washington Click here for the website.

- **August 25—USDA-ARS Blueberry Field Day** ~ 1-4 PM Lewis-Brown Horticultural Research Farm, 33447 DE Peoria Road, Corvallis, OR Click here for the agenda. For more information, call David Bryla 541-738-4094 or email Dave at david.bryla@ars.usda.gov

- **September 15 — Oregon Raspberry & Blackberry Commission meeting** ~ 6pm, Langdon Farms. Call 541-758-4043 or email Philip Gutt for more information.

- **September 20 — Oregon Blueberry Commission meeting** ~ 12pm. Santiam Room, West Salem Roth's IGA Salem, Oregon. Call (503) 364-2944 for more information or email Brian Ostlund.

- **September 21 — Washington Red Raspberry Commission meeting** ~ Mt. Vernon, WA. Contact Henry Bierlink or call 360-354-8767 for more information.

- **October 4-7—NABC & USHBC Fall meetings** ~ Caesar's Atlantic City, Atlantic City, New Jersey. Click here for the informational flyer and tentative schedule.

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Spotted Wing Drosophila Update for 7-26-11

This Update is a collective effort. It is composed by Peerbolt Crop Management with contributions from OSU, USDA-ARS, WSU, B.C. Ministry of Agriculture and various northwest berry industry people.

SWD Information Websites

Peerbolt Crop Management | Oregon State Univ. | B.C. Ministry of Ag. | WSU Westside | WSU Eastside

Comments

- Last year mid to late July was the window of time in which we saw a dramatic increase in SWD pressure on all west side berry crops from Northern California into the Fraser Valley in B.C.
- Conventional commercial growers, in general, have been adhering to a spray regime that so far has prevented any major losses and have very low trap counts
- However some organic growers as well as some fresh market, u pick, and home gardeners have verified infestations and fruit losses to varying degrees.
- 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.
- Some of these low infestation levels have been found in fields registering low adult trap counts.
- Some of these fields had also received insecticide applications.

- It is strongly recommended that growers with fruit coloring and/or harvesting have a SWD management program in place that includes both fruit sampling for larvae and regular control applications.
- Increases in adult trap counts, incidences of larval infestations, and the levels of those infestation are all anticipated from now through the end on the season.
- The salt solution sampling method is a valuable additional tool for growers and processors. Allowing them to determine infestation levels well before the fruit enters the processing plant.

Guidelines for checking the fruit for SWD larvae in the field

These suggestions are based on techniques that various public researchers and industry personnel have been developing over the past year and a half. If any of you have ideas for improvements to these protocols, please pass them along. We're all in this together.

- Depending on size of fruit (strawberries take longer than caneberries or blueberries), the larvae will emerge from the fruit into the salt solution in a short period of time.
- The smaller the larvae and the lighter the infestation, the more difficult it is to see the larvae.
- Excellent lighting when looking for the larvae is critical to being able to see the smaller ones.

Present suggested methods:

For scouts/field checking (*We have created a video of this larvae-checking method.****):***

1. Collect a sample of fruit to be tested (Strawberries: 25-30 per sample, Caneberries/blueberries: 75 per sample)
2. Put fruit in a gallon size sealable plastic bag.
3. Pour in enough of the salt water solution to allow the fruit to float (solution is: 1 cup of salt per gallon of water).
4. Mark bag with field code/date.
5. For a quick check in the field after a designated period of time (at least 15 minutes) holding the baggie up to light. This helps to see the larvae in the solution
6. For a more thorough examination, after a designated period of time (at least 15 minutes), pour the fruit and salt solution out into a shallow tray and use a piece of wire mesh screen to hold the fruit down making it easier to separate the larvae from the fruit.

For processors or fruit handling stations:

1. Collect a two pound sample of fruit to be tested.
2. Put the sample into a shallow tray and cover with the salt water solution (1 cup of salt per gallon of water).
3. After a designated period of time (at least 15 minutes) use a piece of wire mesh screen to hold the fruit down to make it easier to separate the larvae from the fruit.

SWD in other regions

- Fruit pest found in Virginia (7/23, Carroll County Press)
- (North Carolina) Summer Spotted Wing Drosophila update (7/24, Hannah Burrack's blog NC Small Fruit IPM Blog)
- (Ontario, Canada) SWD Update for 7/20

Regional Monitoring *(South to North)*

Oregon Public Scouting Program *(Number of traps checked this week in the crop in parentheses).*

This scouting program & reporting system are being funded by a USDA SCRI grant, A Northwest Center for Small Fruit Research grant; the Washington Red Raspberry Commission & the Washington Blueberry Commission.

- **Jackson, Josephine, Douglas Counties:** No report this week.
- **Lane County: Strawberries (1):** no males/1 female. **Cherries (2):** 12 males/6 female. **Raspberries (1):** none. **Blackberries (2):** none.
- **Linn County: Strawberries (10):** 8 males/1 female. **Raspberries (6):** none. **Blackberries (7):** 8 males/6 females. **Blueberries (13):** no males/1 female. **Peaches (4)**:2 males/no females. **Honeysuckle (1):** none. **Plum (2):** 9 males/3 females. **Wild Habitat (20): 48 males/14 females**.
- **Polk County:** No trap data reported.

- **Marion County: Strawberries (2):** none. **Cherries (3):** 3 males/ no females. **Blackberries (6):** 2 males/6 females. **Blueberries (9):** none.
- **Clackamas County: Strawberries (1):** 3 males/no females. **Raspberries (1):** none. **Blackberries (1):** none. **Blueberries (7):** no males/1 females**. Tayberries (1):** none. **Honeysuckle (1):** 2 males/no females.
- **Yamhill County: Cherries (6):** none. **Blueberries (1):** none.
- **Washington: Cherries (1):** none. **Blueberries (2):** none.
- **Multnomah County: Strawberries (1)** no males/1 females**. Cherries (1):** 6 males/3 females. **Raspberries (2):** none. **Blackberries (5):** none. **Blueberries (2):** no males/1 female. **Boysenberries (1):** none. **Salmonberries (1):** no males/1 female.

Southwest Washington Public Scouting Program

- **Clark/Cowlitz/Lewis Counties: Strawberries (5):** 7 males/5 females. **Cherries (2):** 6 males/1 female. **Raspberries (26):** 1 male/1 female. **Blackberries (6):** 1 male/1 female. **Blueberries (23):** none.

Eastern Washington--WSU Reporting Site

Click here for the WSU Eastern Washington SWD reporting site.

- Most recent post on the WSU site: **Friday, 15 July:** "*There has been a new regional find today of SWD, in the Brewster area. One male. This find was from a private trap, and many thanks to the folks willing to share their information and alert growers in their area. Five regions now have positive catches."*

Western Washington--WSU Public Scouting Program

This scouting program & reporting system are being coordinated by Whatcom County Extension & funded by the Washington Red Raspberry Commission, the Washington Blueberry Commission & the Washington State Commission for Pesticide Registrations.

Click here for the Home site with links to all the counties and site use information.

- Click here for the demonstration video on how to use this resource.
- Here are individual county links (south to north): Clark County, Cowlitz County, Lewis County, Pierce County, King County, Snohomish County, Skagit County, Whatcom County.

Southwestern British Columbia

- Click here for the 7/26/11 SWD Monitoring Report for Southwestern BC from the BC Ministry of Ag.
- **From the editor of the B.C. Blueberry IPM Newsletter:** *"SWD flies were caught at two blueberry sites this week. In Langley, one female was caught. In Pitt Meadows, one male SWD was caught."*

Management Material Resources

Oregon & Washington

- **Blueberries:** SWD pesticide options & information
- **Raspberries & blackberries**: SWD pesticide options & information
- **Strawberries:** SWD pesticide options & information

British Columbia (6/28/11): SWD Management in BC Berry Crops (with insecticide options listed)

Pesticide tank mixes caution

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.

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Pest Management & IPM Information

Control of pre- and post-harvest fruit rots in blueberries (7/26, Michigan State) *Excellent and timely article from Annemiek Schilder, MSU Extension's plant pathologist*

Birds, blueberries.

Diseases

- **Blackberry Rust** (Phragmidium Rust): evergreen blackberries.

- **Phytophthora Root Rot** raspberries.
- **Mummyberry** blueberries. *Click here for a Mummyberry fact sheet from MSU.*
- **Alternaria Fruit Rot**, blueberries. *Alternaria can infect the fruit beginning at the end of bloom and throughout the fruit development stage, up until harvest. Infections remain latent until the fruit ripens. Infected fruits exhibit a shriveling or caving-in of the side of the berry and can become watery in storage.*
- **Anthracnose Ripe Rot**, blueberries. *As infected berries ripen, the flower end may soften and pucker. Under warm and rainy conditions, salmon-colored spore masses form on infected berries. After harvest, spore masses form rapidly on infected fruit when in cellophane-covered baskets or in plastic clamshell packs.*

Viruses

- **Aphids**/**Scorch Virus** British Columbia blueberries *From the B.C. Pest Alert: "Blueberry Scorch Virus is transmitted by aphids. An effective aphid control program should be used by all growers." You can email the B.C. Blueberry Council's research coordinator, Karina Sakalauskas, for further information on testing and/or disease management***.**
- **Shock Virus** blueberries *Reports this season indicate a much higher level of Shock Virus symptoms than usual. If plants are suspected of showing symptoms in successive seasons, send in a test to make sure it isn't Scorch Virus.*

Insects/Mites

- **Blueberries, Strawberries, Caneberries – Root Weevils** *These insects remain a chronic, long-term problem in all our berry crops in all regions. Again this year, there are continual reports of major economic injury caused by weevil larvae by root feeding and, as we get into harvest, the adults will be a major crop contaminant. For more information on our major pest weevil species, click on the following: Black Vine, Rough Strawberry, and Strawberry Root Weevils.*
- **Aphids,** northern raspberries
- **Orange Tortrix Leafrollers**, southern raspberries & blackberries. *The larval hatch that causes our major crop contaminant problems is ongoing in area caneberry fields with small leafroller larvae being found in large numbers.*
- **Two-spotted Spider Mites** raspberries. *Mite populations are being reported in many fields and should be evaluated to see if miticide applications are needed.*
- **Orange tortrix Leafrollers** in **Blueberries**, **Raspberries**, **Blackberries**.
- **Leafroller larvae** blueberries, caneberries.
- **Blueberry Gall Midge** blueberries.

Industry News/Resources

Newsletters

- B.C. Blueberry IPM Newsletter for July 23
- New Jersey Blueberry Bulletin for July 18
- Michigan Blueberry Newsletter for July 19
- Michigan State Fruit News (7/26)
- Market scope: blueberries blackberries raspberries strawberries
  Recent stories & fresh market pricing for the various berries from The Packer.
- 'The Source' (7/25) *Market updates from The Produce News.*

Pollination

- Pathogens and Insecticides: A lethal cocktail for honeybees (7/25, Science Daily)
- How the honey bee tolerates some synthetic pesticides (7/20, Science Daily)

Immigration/Labor

- Did Georgia law cause significant labor losses (7/21, The Packer)

West

- (Eastern Washington) Cool Weather has area growers feeling blue about berry harvest (7/20, Yakima Herald)

- Cool summer good news for B.C. berry crops (7/22, CBC News)
- (B.C.) PMRA learns about British Columbia's unique challenges (August, The Grower)
- (Washington State) Research farm helps diseases thrive (7/25, Capital Press)

North America

- Heat, lack of rain combine for rough season for New Jersey farmers (7/20, Newsworks)
- Berry crop worth the wait, growers say (7/21, The Packer)
- Costco mandates produce testing (for pathogens)by suppliers (7/21, The Packer)

International

- (Chile) Europe continues to be the final destination for Chilean fruit (7/22, FreshPlaza)
- "Super" blueberries from South America (7/14, UPI.com)

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Crop work

All crops

- Weed management.
- Can put out monitoring traps for Spotted Wing Drosophila.
- As fruit begins to ripen, can sample fruit for SWD.

Blueberries—Harvest ongoing in all regions

- Stay on top of aphid management especially where Scorch Virus transmission is an issue.
- Scout for virus symptoms and send in samples for testing as needed.
- Scout for weevils and weevil notching.
- Can treat for Alternaria and Anthracnose prevention if needed.
- Scout for fruit disease symptoms and/or disorders.
- Plan for/Maintain bird damage management.
- Scout for leafroller larvae feeding.
- Scout for Mummyberry.
- Can apply SWD management insecticides.
- Can apply clean up insecticide just before harvest for crop contaminant management.

Blackberries—Harvest ongoing in Oregon and SW Washington

- Can put out pheromone trap to monitor for leafrollers.
- Scout for leafroller larvae and treat as needed to prevent fruit contaminant problems.
- Scout for Phragmidium Rust in Evergreen blackberries
- Scout for virus symptoms & send in samples for testing as needed.
- Can apply fungicides for fruit/blossom rot through the end of bloom.
- Scout for Cane and Leaf Rust.
- Can apply SWD management insecticides.
- Can apply insecticides as needed for crop contaminant management.
- Scout for aphids and treat as needed.

Raspberries—Harvest ongoing in Oregon and SW Washington

- Scout for virus symptoms & send in samples for testing as needed.
- Scout for Yellow Rust and assess treatment options.
- Scout for spider mites and treat as needed.
- Can put out pheromone trap to monitor for leafrollers.
- Scout for leafroller larvae.
- Can apply fungicides for fruit/blossom rot through the end of bloom.
- Can apply SWD management insecticides.
- Can apply insecticide as needed for crop contaminant management.
- Scout for aphids and treat as needed.

Strawberries —Processed harvest is finished in all regions.

- Scout for weevil adults and notching.

- (Southern strawberries) Can treat for Strawberry Crown Moth. Adults are now flying.
- Scout for Powdery Mildew and treat as needed.
- Scout for Two-Spotted Spider Mites and predatory, beneficial mites.
- Scout for aphids and treat as needed.
- Scout for fruit formation issues like cat-facing.
- Scout for fruit quality issues such as mold.
- Scout for virus symptoms/send in sample for testing to confirm.
- **Post-harvest**
  - Treat post harvest for SWD if needed especially if field is in close proximity to other ripening berry/stone fruit crops.
  - Mow & treat for SCM in south if needed.
  - Mow & renovate 2-4 weeks after harvest unless pest pressure require mowing & treating sooner.

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Archived Small Fruit Updates

(For older Updates click here.)

07-19-11 **07-13-11** **07-05-11**