

Small Fruit Update



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 and industry through their commissions and councils.

July 8, 2014

Week 28

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Field Days

- **July 9 — OSU Caneberry Field Day** ~ 1:00-5:00 pm [North Willamette Research and Extension Center](#). [Click here](#) for the agenda.
- **July 16 — OSU Blueberry Field Day** ~ 1:00-5:00pm [North Willamette Research and Extension Center](#). [Click here](#) for the agenda.
- **July 17 — WSU Raspberry Selection Trials Machine Harvest Field Day** ~ 1-3 pm - Honcoop Farm, Lynden WA. Contact [Pat Moore](#) 253-445-4524 for more information.
July 18 — B.C. Berry Field Day ~ 1-3 pm -Clearbrook substation in Abbotsford. We will have fruit on display from our machine-harvested raspberries as well as some fruit from Agassiz blueberry selections and will be giving an update on research projects in BC.

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

Spotted wing drosophila developments:

- Past week we picked up the first larvae in a commercial raspberry field.
- A processor also reports picking up some larvae from sampling caneberries on the dock. Not at an economic level but detectable.
- We also recovered significant larval numbers from two urban locations (in Portland-- raspberries & blackberries).
- Adult trap numbers took a big jump.

We're still running at lower SWD levels than last year but there are many indications that the risk of commercial fruit infestations is increasing.

The message remains the same: Stay with the insecticide management programs we've used the last few years to ensure a quality, clean crop.

Tom Peerbolt, SFU editor

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](#)

Sun Scald Symptoms seen last Week (June 29-July 5)

This past week's rapid rise in temperatures for a day or two caused quite a bit of symptoms:



From left to right: Bluejay, Legacy & Duke blueberries; Meeker raspberries; Marionberry blackberries

Regional reports

British Columbia, Fraser Valley

- **Blueberries:** (Sunday, 7/6) Hand harvest of Duke was well under way by Saturday(7/5). Some machine harvest going to be tried around July 10-11. Sunburned Duke and Spartan showing up. Some fields have quite a bit of damage on the east and middle of valley with less if any being observed in the Northwest area (Pitt Meadows/Port Coquitlam). Seems to be the earlier the ripening the more the sunburn. Thinking it was caused Monday/Tuesday and a lot of the damaged first observed Friday. A couple showers on Saturday with more consistent showers on Sunday. Reka looking to be a week or so later than Duke and Bluecrop in some areas starting to color up. Some aphid control happening in Elliott and SWD control happening in most varieties.
- **Blueberries:** (Monday, 7/7) The weather is bringing on the blueberry crop quickly. Lots of Dukes being picked with a big wave beginning to form in the upcoming days as hotter weather moves in. Machining may begin late this week in some fields. July 1st heat (30C+) did scald some fruit and it is dropping off.
- **Raspberries:** (Monday, 7/7) Raspberry harvest continues after starting last week. It's been a tough pull with berries reluctant to come off. A bit of spot mold showing up but otherwise no big issues except frustration with berry release. I think things will start to flow this week as the temperature becomes warmer and more consistent. There is a pretty big concentration of fruit waiting to come.

Western Oregon, Willamette Valley

- **Blueberries:** (Tuesday, 7/8) A lot of anxiety about coming hot weather right now. Forecasts are mixed with some showing us going above 95 (35 C) this weekend. At the moment Dukes are coming in hot and heavy with excellent quality. About half the fields are into their second pick with a few even on to the third. Draper and some Bluecrop also coming in. We're expecting Legacy and Liberty maybe this weekend but for sure next week. With British Columbia now picking the fresh market pricing kind sucks...
- **Blueberries:** (Tuesday, 7/8) We only do processed blues, no fresh, but got our first machine harvested Dukes in yesterday (7/7). Got a few Patriots in, too. Great quality.
- **Blackcaps:** (Monday, 7/7) Blackcap harvest is finishing up this week.
- **Blackberries, fresh market:** (Tuesday, 7/8) Obsidian and Metolius are finished. Onyx is now coming in with good quality. Chester's are looking great but it'll be a while before they start.
- **Blackberries, processed:** (Tuesday, 7/8) Yesterday, today and tomorrow will be the peak of harvest volume. Marions are on their second pick with good quality. Some sunburn but not too bad. Black Diamonds got hit very hard by sunburn. Overall crop yield is still subject to a lot of speculation. It'll obviously be off considerably due to winter damage. Prices right now reflect that—there's a big demand for a limited supply.

Blueberry fruit development over the past week & compared to 2013

Notes:

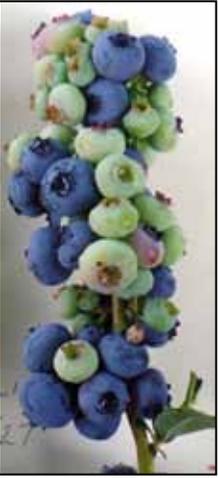
- The same fields are being sampled each week are in the Forest Grove/Hillsboro area.
- This is an indication of stage of development only. Keep in mind that variations due to the subjective nature of the protocols are part of the process.

The Duke field being sampled has now started picking. Bluejay is now pictured.

* On Aurora: The clusters show more red at this stage than the other cultivars.

Northwestern Willamette Valley

Top – 7/4/14 Middle – 6/27/14 Bottom – 7/5/13

Patriot 30-50% blue	Bluejay 30-50% blue	Draper 30-50% blue	Liberty Late green fruit	Aurora* Late green fruit	Elliott Late green fruit
					
Week 27, 2014					
					
Week 26, 2014					
				Photo Not Available	
Week 27, 2013					
Patriot	Bluejay	Draper	Liberty		

Grower Resources

- [Blueberry quality and plant nutrition](#) (7/2, MSU Extension) *Excellent information on calcium, urea and late fertilizer applications in blueberries.*

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SWD report for week 28

Damage Risk Assessment:

- Risk has risen significantly over the past week. Maintain management programs to minimize risk.
- Given the inability of present adult monitoring traps to accurately indicate level of risk, all precautions should be taken to prevent SWD larval infestations.
- Regular fruit sampling checks are advised as well as regular insecticide applications.

In the News

- Central Washington: [Spotted wing drosophila pressure eases](#) (7/1, Capital Press)
- [Michigan spotted wing drosophila report for July 1, 2014](#) (7/2, MSU Extension)

Swd populations are building in the region with adult trap counts increasing and more larvae being found. Growers in most cases are doing a commendable job managing this pest. But as the Willamette Valley (and others—just at different timings) get into the later picks on mid season blackberries, raspberries and Duke blueberries with older, less valuable fruit, there's a natural tendency to slack off a bit and stretch out or skip insecticide applications.

This is the ideal outbreak situation:

- *There's a lot of soft, vulnerable fruit.*
- *SWD population growth is accelerating and is at a much higher level than just two weeks ago when we started harvest.*

Another action growers should consider: *Establish an onfarm routine sampling the fruit for SWD larvae using the baggie test described below in the swd report. By doing this you can:*

- *Assure your fruit receiver that you are effectively managing the pest.*
- *Identify an infestation in time to be able to respond quickly and effectively.*
- *Identify the problem before it exceeds the processor's threshold.*
- *Identify the area of the field that is infested first.*
- *Use this information to be able to treat only that part of the field in the future and/or alter the border habitat that could be harboring the SWD that could re-infest your field.*

The salt water baggie test is cheap and easy. Get one of the guys on the machine or at the field-receiving station trained and equipped. Could be a good investment.

Monitoring berries for SWD larvae in the field

[We have created a video of this larvae-checking method.](#) *It's from 2010 but still pretty good.*

- Put a sample of fruit to be tested (Caneberries/blueberries ~50 per sample) in a gallon size sealable plastic bag.
- Pour in enough salt water solution to allow the fruit to float (solution is: 1 cup of salt per gallon of water). Mark bag with field code/date. Gently crush/break open fruit.
- For a quick check in the field after a designated period of time (at least 15 minutes) hold the baggie up to light. This helps to see the larvae in the solution.
- 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.

Maximum Residue Levels (MRLs) for Most Common Export Markets (last updated 5/9/14)

[Blueberries](#) [Caneberries](#) [Strawberries](#)

SWD Management Material Resources

Oregon and Washington (last updated 2/24/14)

- **Blueberries:** [SWD pesticide options and information](#)
- **Raspberries and blackberries:** [SWD pesticide options and information](#)
- **Strawberries:** [SWD pesticide options and information](#)

British Columbia

- [Spotted Wing Drosophila \(SWD\) Management in B.C. Berry Crops](#) last updated 6/24/14.

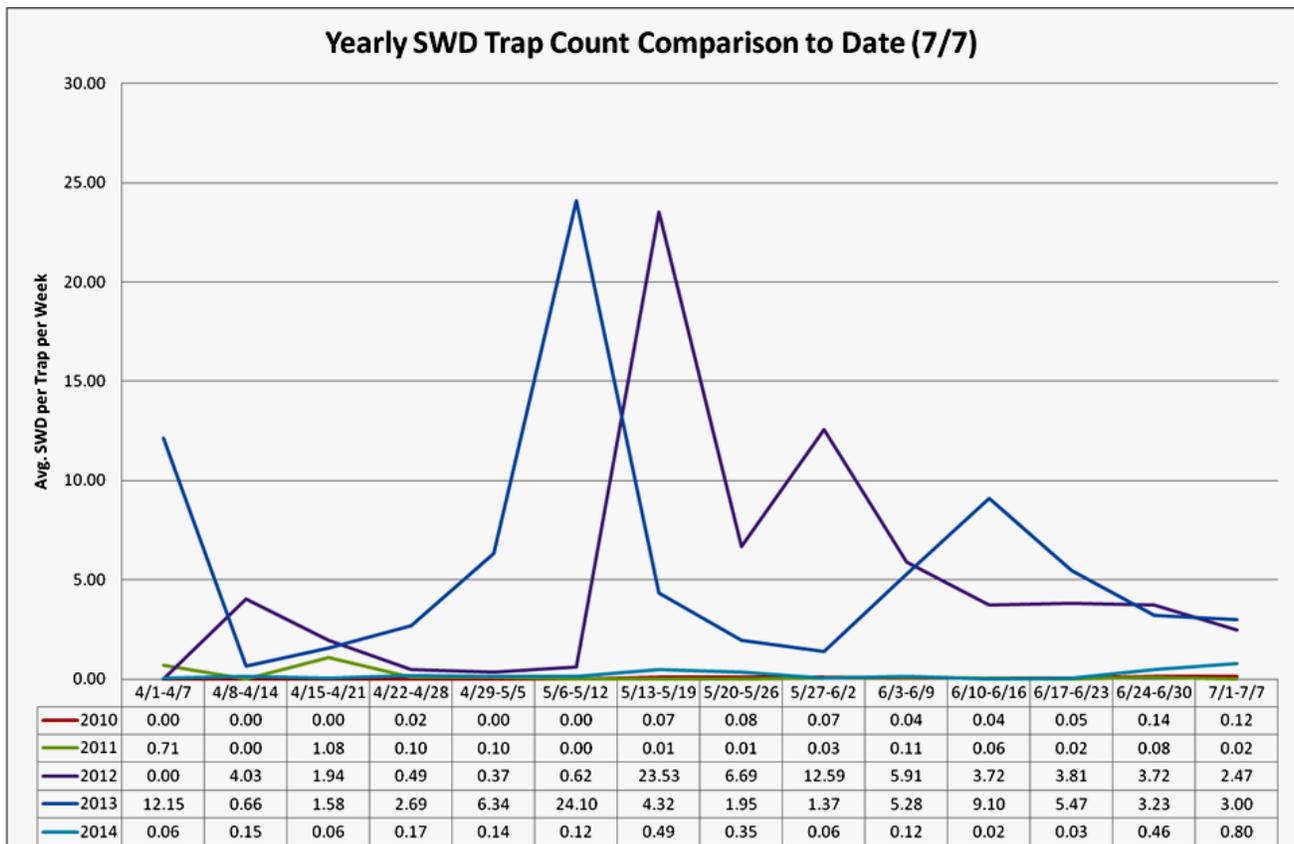
Willamette Valley public scouting program trap count comparisons

Season to date, 2010-2014

Note: This chart is an indicator of SWD population levels as compared from year to year but is just an indicator. We have changed some fields, some trap locations, and some trap baits and types as well as other factors that influence trap catches over the last five years as we learn and adapt. This is a dynamic, developing process—our ability to monitor and forecast this pest and the risks it poses has improved each year. Keep that in mind when interpreting this information.

Comments

- *When fruit starts coloring, it's recommended to take fruit samples to check for larvae along with checking the adult traps.*
- Counts from adult traps over the last three weeks:
 - **Week 28:** SWD: 63 Number of traps: 79/ First larvae recovered from commercial fields.
 - **Week 27:** SWD: 37 Number of traps: 79
 - **Week 26:** SWD: 2 Number of traps: 80



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Industry news/resources

Newsletters/ berry reports

- [BC Blueberry IPM Newsletter](#) (7/6) Weekly by [ES Cropconsult](#). Sponsored by the BC Blueberry Council.
- [Whatcom Ag Monthly](#) Produced by WSU Whatcom County Extension. Includes excellent berry crop information.
- [National Berry Report](#) Daily fresh market berry reports. Hosted by the California Strawberry Commission, this report is generated from data from the USDA Agricultural Marketing Service and is updated daily.
- [Weekly Market Report](#) (7/7) from General Produce Company
- [The Source](#) (7/7) Market reports from The Produce News.

Magazine/website compilations

- **The Packer:** [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#).
Recent stories and fresh market pricing for the various berries from The Packer.
- **Growing Produce:** [recent berry articles](#).
- **Fresh Fruit Portal:** [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#).
Recent stories for the various berries from Fresh Fruit Portal.

Berry research blogs

- [Strawberries and Caneberries](#) by Mark Bolda, UC Davis Berry Extension Agent. Reports on recent insect and disease research and observations in California.
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. **Recent Entry (6/29): Blackberry flowers to fruit June 27 seeing red to black!** Reports on issues in blackberries and raspberries from the Southeast.

Climate/Water

- [In dry California, water fetching record prices](#) (7/2, Capital Press)

Technology

- [Australian researchers develop intelligent 'Ladybird' farm robot](#) (7/3, FFP)
- Canada: [Affinor Growers closes exclusive license to grow market-ready strawberries](#) (7/4, Fresh Plaza)

Politics & Ag

- [Battle over bees is about to become Washington's next lobbying war](#) (7/1, National Journal)

Regulatory Agencies

- Department of Labor: [DOL seeks affirmation of strong-arm tactics](#) (7/3, Capital Press)
- [Coalition seeks suspension of COOL to avoid tariffs](#) (7/1, The Packer)

Research

- [Changes proposed for \(USDA\) Prosser research center](#) (6/28, Yakima Herald)

Labor

- Washington: [No job, no housing for Skagit Valley berry pickers](#) (7/3, Capital Press)

Business

- [Southern Specialties bullish on B.C. blueberries](#) (7/4, Fresh Plaza)
- [Two-compartment clam a hit for Zuhlke](#) (7/4, The Produce News)
- ['First Pick' marks start of the Michigan blueberry harvest](#) (7/2, The Produce News)

West

- B.C.: [British Columbia's blueberry season off to strong start](#) (7/4, Fresh Plaza)
- Oregon: [Korea trade deal could benefit Oregon organic food processors](#) (7/3, Capital Press)
- Oregon: [Washington County berry processor to close](#) (7/2, Capital Press)
- [California strawberries and the path to the American dream](#) (7/3, FFP)
- California: [Strawberry movement continues ahead of last year's](#) (7/4, Fresh Plaza)

North America

- ['First pick' for Michigan blueberries](#) (7/1, The Packer)
- Michigan: [Berry crop shrinks](#) (7/3, Fresh Plaza)
- [The 'big question' of Michigan blueberry production](#) (7/8, FFP)

International

(FFP = Fresh Fruit Portal)

- [Mexico strengthens controls for the production of grapes and strawberries](#) (7/7, Fresh Plaza)
- [Western U.S. growers unsure over potential strikes](#) (7/2, FFP)
- Peru: [Sierra Exportadora kicks off raspberry pilot](#) (7/4, FFP)
- Chile: [Identity and ownership change for Chilean blueberry company](#) (7/3, FFP)
- [U.S.-Korea organic certification deal comes into effect](#) (7/3, FFP)
- Britain: [Record growth for British raspberry industry over the last ten years](#) (7/4, Fresh Plaza)
- Netherlands: [Report reveals secrets to Dutch strawberry success](#) (7/8, FFP)



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Event calendar

- **July 9 — OSU Caneberry Field Day** ~ 1:00-5:00 pm [North Willamette Research and Extension Center](#) (NWREC) A focus on the breeding program & research on conventional and organic production systems for commercial growers. [Here is the agenda.](#)
- **July 16 — OSU Blueberry Field Day** ~ 1:00-5:00pm [North Willamette Research and Extension Center](#) (NWREC) A focus on the breeding program & research on conventional and organic production systems for commercial growers. [Here is the agenda.](#)
- **July 17 — WSU Raspberry Selection Trials Machine Harvest Field Day** ~ 1-3 pm - Honcoop Farm, Lynden WA. Contact [Pat Moore](#) 253-445-4524 for more information. *We will be harvesting the 2011 and 2012 machine harvesting plantings that day prior to the field day. Harvested fruit from the plots will be on display.*
- **July 18 — B.C. Berry Field Day** ~ 1-3 pm -Clearbrook substation in Abbotsford. We will have fruit on display from our machine-harvested raspberries as well as some fruit from Agassiz blueberry selections and will be giving an update on research projects in BC.
- **July 18 & 19 — 4th Annual Lifewise Oregon Berry Festival** ~ Ecotrust Space, Portland, OR. [Click here](#) for details.
- **July 20-23 — International Precision Ag Conference** ~ Sacramento, CA. [Click here](#) for article. [Click here](#) for website with all the details.

- **New Posting: July 31** — Willamette Valley Berry Fieldman/Grower meeting, 8am at [North Willamette Research and Extension Center](#)
- **August 20 & 21**—North American Strawberry Growers Association ~ Summer tour, in BC. [Click here](#) for the NASGA website. More details coming soon.
- **November 19** — Oregon Strawberry Commission workshop "Fresh market strawberries: What it takes to be successful." 8am-7pm, lunch and dinner provided. Admittance is free. Woodburn, OR. More details to follow. Contact Lora Liegel by phone (503-289-7287) or [email](#) for more info.

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Week 28--- Pest management & field work

Pest management activities

SWD monitoring and management is recommended in all crops.
Comments & recommendations above.

As fruit colors, implement bird damage management activities: [Birds](#), blueberries.

- [Bye bye birdie – Bird management strategies for small fruit](#) (Cornell) 13 page PDF reviewing options and a nice bird species specific guide to feeding and flying habits.

Scout for and treat if needed: [Yellow Rust](#), raspberries.

Scout for: [Aphids](#), blueberries.

- The action threshold for aphids in blueberries is very low in any area where [Scorch virus](#) is a concern.
- Aphids spread Scorch Virus and killing the aphids is the most effective way to prevent new infections.
- In areas where Scorch Virus is not a concern, the potential economic damage from aphids is much less and larger populations can be tolerated before management actions are taken.
- With Scorch Virus, infected bushes **do not** return to productivity and should be removed ASAP to limit the disease spread.

Scout for and treat if needed: [Orange Tortrix Leafrollers](#), raspberries & blackberries (SW Washington & Oregon).

- The larval hatch that, before SWD, caused our major crop contaminant problems is ongoing at this time.
- Fields that have been recording high adult pheromone trap counts are at high risk of having larval contaminant problems at harvest.
- Control materials, containing active ingredients specifically targeted at leafroller larvae such as Bacillus thuringiensis and Spinosad, are much more effective on these larvae when they're small and could be used at this time.

Time to treat if needed: [Strawberry Crown Moth](#), southern strawberries.

Scout for: [Green Berry Botrytis Fruit Rot](#), blueberries.

- The weather warming and drying will help reduce the incidence of green berry botrytis.

Scout for: [Mummyberry](#), blueberries. [Mummyberry primer from MSU](#).

- Infected fruit is now becoming easy to distinguish from healthy fruit in some Oregon fields.
- The infected fruit colors earlier, shrivels, whitens and drops from the bushes easily when disturbed.
- Right now this fruit could be mistaken for green berry botrytis infected fruit.
- The inside of an infected berry will be filled with white fungal mycelium.

Time for preventative fungicide applications: [Alternaria Fruit Rot](#), blueberries.

- Alternaria can infect the fruit beginning at the end of bloom and throughout the fruit development stage, up until harvest. ([Click here for expanded view of this disease.](#))

Time for preventative fungicide applications: [Anthracnose Ripe Rot](#), **blueberries.**

- After harvest, spore masses form rapidly on infected fruit when in cellophane-covered baskets or in plastic clamshell packs. ([Click here for expanded view of this disease.](#))

Scout for and evaluate if management action is needed: [Twospotted mites](#), **raspberries.**

Additional, ongoing pest information

Diseases

- [Phytophthora Root Rot](#), **raspberries.** *Look for primocane collapse.*
- [Blackberry Rust](#), (**Phragmidium Rust**) **Evergreen blackberries.**

Insects/Mites

- [Azalea Bark Scale](#), **blueberries.** *This scale's telltale bright white egg sacs on the lower branches of infested plants are now apparent in some southern blueberry fields.*
- [Raspberry Beetle](#), **northern raspberries.** *This small beetle can cause fruit damage and be a major contaminant in northern raspberry fields. Leaf feeding pattern is very distinctive.*
- **Root Weevils, strawberries and blueberries.** *Larvae and adults of [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#) are now being recovered.*
- [Blueberry Gall Midge](#), **blueberries.** *Tip damage from this midge is evident in blueberries. Damage is usually deemed to not be economic except in specific situations like new vigorous fields where gall midge can occasionally cause too much stunting of new growth.*

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Crop Work Week 27

All crops

- ***As fruit starts coloring, begin sampling fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***
- Weed management
- Fertility management
- Water management

Blueberries

- ***As fruit starts coloring, begin sampling fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***
- ***Harvest ongoing in all regions.***
- Bird management.
- Scout for [mummyberry](#) infected fruit.
- Stay on top of aphid management where scorch virus transmission is an issue.
- Scout for [leafroller larvae](#) and treat as needed.
- Scout for virus symptoms and send in samples for testing as needed ([Shock virus](#); [Scorch virus](#)).
- Scout for [winter moth/bruce spanworm](#) larvae.
- Scout for scale insects.
- Scout for weevil notching on leaves & for adult weevils.
- Scout for [Azalea Bark Scale](#) in southern fields.
- Scout for [Blueberry Gall Midge](#) damage.
- Can use pheromone traps to monitor for leafrollers.
- Scout for berry symptoms like green fruit botrytis, hail damage, mummyberry, etc.

Blackberries

- ***As fruit starts coloring, begin sampling fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***
- ***Harvest ongoing in Oregon & Eastern Washington.***
- Can have pheromone traps out to monitor for leafrollers.
- Can apply fungicides for fruit/blossom rot.
- Scout for virus symptoms and send in samples for testing as needed.
- Scout for Cane and Leaf Rust.
- Watch for fruit molds and treat as needed.
- Can apply SWD management insecticides.
- Can apply clean up insecticide just before harvest for crop contaminant management.

Evergreen blackberries

- Scout for blackberry rust and treat as needed.

Raspberries

- ***Sample fruit for SWD infestation, continue sampling throughout harvest and treat as needed.***
- ***Harvest ongoing in all regions.***
- Scout for raspberry beetle feeding symptoms
- Scout for virus symptoms and send in samples for testing as needed.
- Can have pheromone traps out to monitor for leafrollers.
- Watch for fruit molds and treat as needed.

Strawberries

- ***Processed harvest finished throughout region. Fresh market harvest ongoing.***

All strawberries

- Evaluate weak growing areas and check plants for weevil larvae, root rot and/or cold damage.
- (South) Can scout for Strawberry Crown Moth larvae and put out pheromone monitoring traps.
- Scout for weevil adults and notching.

Processed market June-bearers—finished harvesting

- *After harvest, can treat for SWD control if field is adjacent to other susceptible, ripening, crops.*
- [Weed Control at strawberry renovation](#) (6/26/12, Michigan State Extension)
- Treat post harvest for SWD if needed especially if field is in close proximity to other ripening berry/stone fruit crops.
- Mow and treat immediately for SCM if needed.
- Mow and renovate 2-4 weeks after harvest unless pest pressure requires mowing and treating sooner.

Fresh market-still harvesting

- Scout for Lygus bugs.
- Scout for fruit damage symptoms like cat facing, slug damage, anthracnose, etc.
- Monitor ripe and ripening fruit for SWD larvae.
- Can apply slug bait as needed.
- Scout for Powdery Mildew and treat as needed.
- Scout for Two Spotted Spider Mites and predatory, beneficial mites.
- Scout for aphids, lady beetles, aphid mummies (parasitized aphids), and other beneficial insects that feed on aphids.
- Scout for fruit quality issues such as mold.

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Archived Small Fruit Updates

(For older Updates [click here.](#))

[27-SFU07-01-14](#) [26-SFU06-24-14](#) [25-SFU06-17-14](#)