

# 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.

May 27, 2014

Week 22

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**[No one in Serbia is alone today](#)** (5/19, In Serbia News) Flooding disaster strikes Bosnia & Serbia including major damage to raspberry growing infrastructure.

**[Floods inflict grievous blow on fragile Balkan economies](#)** (5/21, Reuters)

**[China: 9<sup>th</sup> International Raspberry Meeting in Fengyang](#)** (5/15, Anhui News)

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

## Field Days

- **May 31 — BC Blueberries Spring Field Day.** [Click here](#) for the announcement.
- **June 11 — OSU Strawberry Open House** ~ 1:00-4:30 pm, North [Willamette Research and Extension Center](#) (NWREC) [Click here](#) for full information.
- **June 12 — WSU Strawberry Field Day** ~ 1:00-3:00 pm, WSU Goss Farm (formerly Farm 5), 15403 Bowman-Hilton Road, Puyallup. For information contact [Dr. Pat Moore](#), 253-445-4525.
- **July 9 — OSU Caneberry Field Day** ~ 1:00-5:00 pm [North Willamette Research and Extension Center](#).
- **July 16 — OSU Blueberry Field Day** ~ 1:00-5:00pm [North Willamette Research and Extension Center](#).
- **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.

### 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](#)

**Thursday, 5/29---Willamette Valley Berry Fieldman/Grower meeting.** Thursday morning, 8 am at [North Willamette Research and Extension Center](#). [Dave Bryla](#), USDA horticulturist who's done a lot of research on irrigation & nutrition in berry crops will be joining us. Free for all. Informal. Coffee & donuts. Call or [email](#) [Peerbolt Crop Management](#) for information, 503-289-7287.



AY Marions on May 19, 2014, near Amity, OR with blueberries farthest away. Wind towers in the blues. Photo by Bill Dinger

**Alert: Aphids have increased rapidly in many blueberry and raspberry fields this week. Monitor closely and control as needed. Aphids vector [Blueberry Scorch Virus](#). If in an area where this is present, aphid management is critical to limiting the virus's spread. Grower's in B.C. can consult the [BC Blueberry IPM Newsletter](#) (5/24) for management options.**

## Regional reports

### British Columbia, Fraser Valley

*Getting dry in root zone. Rain in forecast so may just be enough if it shows. Otherwise likely need irrigation if we want to fill some of the developing fruit. If temps hold, we will be moving into early territory, otherwise right on normal.*

- **Blueberries:** (Friday, 5/23) Duke and Reka basically finished bloom. Bluecrop. 10-20% left. Overall weather for pollination has been pretty good. Received a lot of rain today. Fruit starting to size well. Things looking good so far. After this much moisture it will take some time for fields to dry out. Timing appears normal at this point.
- **Blueberries:** (Thursday, 5/22) RAPID pollination and fruit set, so far fruit set not too bad at all. Even late varieties going strong. Plenty native bumble bees and lots of honeybees doing the work and have plenty time to visit several times, which may just translate into size. No major complaints on blueberries at this time. Sprays going on, lots of opportunity windows with sun and no rain.
- **Raspberries:** (Thursday, 5/22) Very mixed, some ugly fields some good fields. Pollination just starting on the earlier varieties, but again moving very fast. Good time for sprays everywhere so few are behind in the work.

- **Strawberries:** (Thursday, 5/22) Getting the first ripe ones in the Easter Fraser Valley, at this time, prediction of the usual 15 June start in Langley, which is mid Valley between ocean and inland.
- **Cranberries:** (Thursday, 5/22) Winter damage showing a bit, not sure if it is significant yet, likely from wind when cold in winter.
- **Haskap:** (Thursday, 5/22) In full swing harvesting, good fruit size, no insect pests to speak of yet, no rot. *For those of you unfamiliar with Haskap, [click here](#) to go to the Univ. of Saskatchewan's Haskap information page. They have a very active breeding program for this promising new small fruit crop.*

#### Northern Washington, Whatcom County

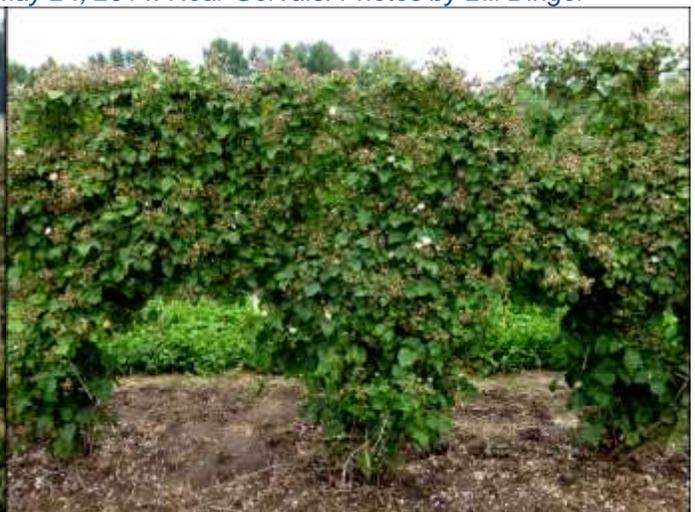
- **Blueberries:** (Monday, 5/26) Bees have mostly had a very good opportunity to pollinate blueberries this year. Cool and wet today, so not much sign of the little winged buzzy things. Most all fields look better than in a very, very long time. Some shock showing in places. Crop potential looks to be quite large. Bloom is all but done in many fields, with the late stuff still showing some white. Green berries already starting to size. Duke seems to have had a prolonged bloom period, compared to most years. It's going to be very interesting during that week of peak Duke harvest. Rain will slow some return to field work, but most places needed a little drink anyway.

#### Western Oregon, Willamette Valley

- **Strawberries:** (Monday, 5/26) Fresh market strawberries are well underway. Some Hoods are even starting up. Weather right now is perfect. Decent quality for the most part. Harvest for processing will get going for us next week. A lot of color and some ripe fruit in the Totems. Growers with good fields and a decent labor supply should do well this year.
- **Blackberries:** (Tuesday, 5/27) Most of the processing blacks are finishing bloom, late varieties (evergreen) just getting started. Pollination couldn't have gone better. Bloom sprays continue. Some guys are starting up the water, good move. Think we are a month or a little less from harvest on Black Diamond. You can tell the damage is extensive on Marion this time of year. In years where the freeze damage is light it would be covered up by now, not the case this year.



*Above: AY Marions Below: EY Black Diamonds May 24, 2014. Near Gervais. Photos by Bill Dinger*



- **Blueberries/Blackberries:** (Friday, 5/23) At Albany, Duke blueberries are on the verge of first blue. Pollination weather was great and the hives in blueberries will be removed this week. The only trouble area in blues appears to be the Rabbiteye varieties which remain off-color despite warmer weather and generous fertilizer. Older wood of Ochlockanee has slow-to-push leaf buds that are quite yellow. Our fresh-market blackberries are just beginning to bloom. In varieties with poor cold tolerance, it appears as though even the crown was damaged following the mid-December, 0-degree temps.



*Older Rabbiteye canes showing slow leaf push and poor greening following cold weather event in December. Younger canes remained off-color for a month but are finally pushing well. (Photo by Jeff Flake)*

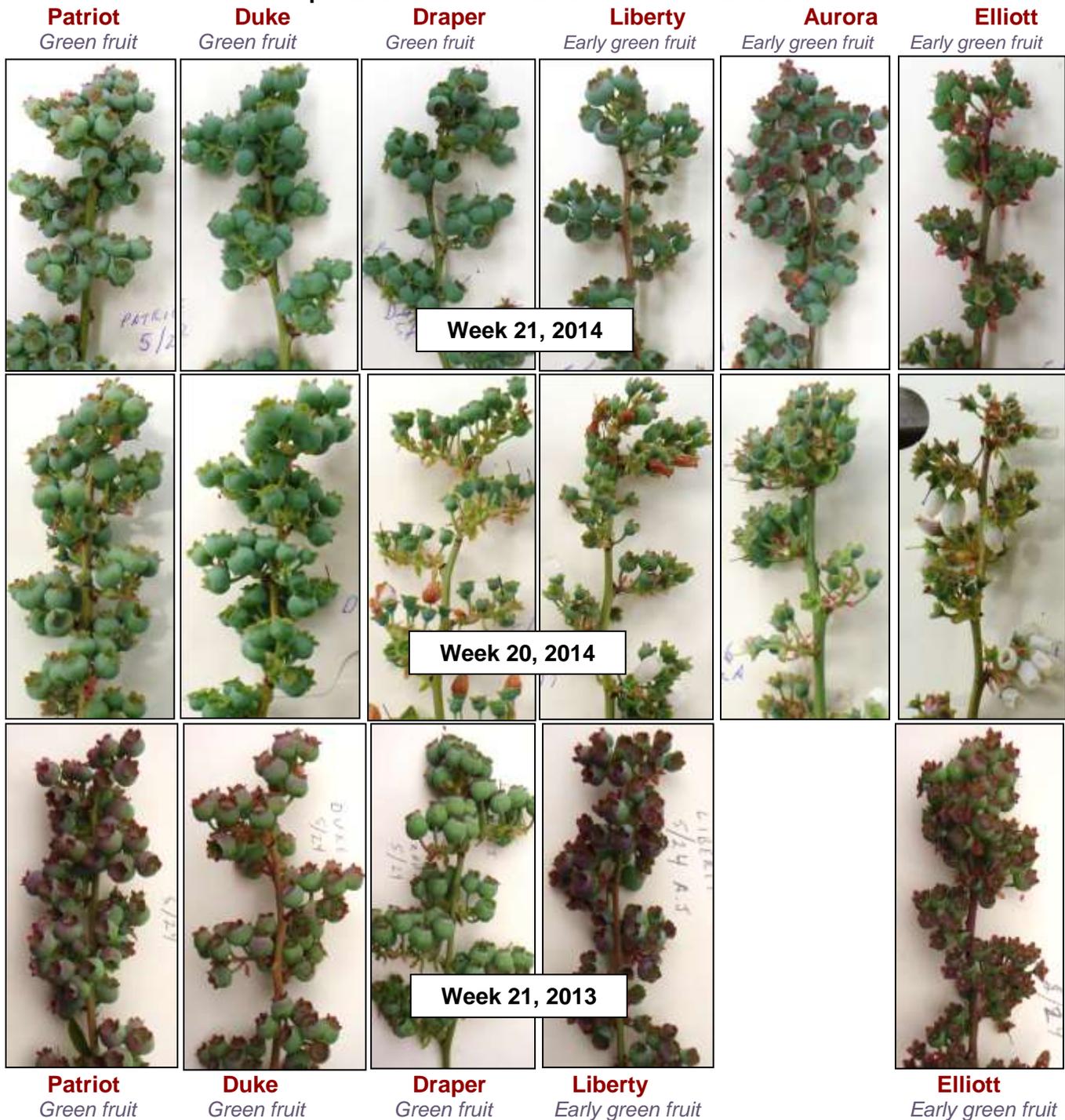
## Blueberry floral bud development over the past week & compared to same week in 2013

### Notes:

- The fields being sampled each week are in the Forest Grove/Hillsboro area.
- Other areas in the Willamette Valley are as much as a week ahead of these fields in degree days and in plant development.
- Protocols: Each Friday I collect 4-6 clusters that look 'representative'. I then pick one of those for the photo. \
- This is an indication of stage of development only. Keep in mind that variations due to the subjective nature of these protocols are part of the process.

### Northwestern Willamette Valley

Top – 5/23/14 Middle – 5/17/14 Bottom – 5/24/13



# SWD Report for week 212

## SWD Articles/News

- [SWD is here to stay](#) (5/23, Good Fruit Grower)
- [SWD Monitoring Report for Southern Interior Valleys of B.C.](#) (5/23) 1<sup>st</sup> confirmed catches for this program came last week.
- [BC Blueberry IPM Newsletter](#) (5/24) Also linked below. Included here for SWD report.

## 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 7/3/13. Some newer chemistries not yet listed.

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

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

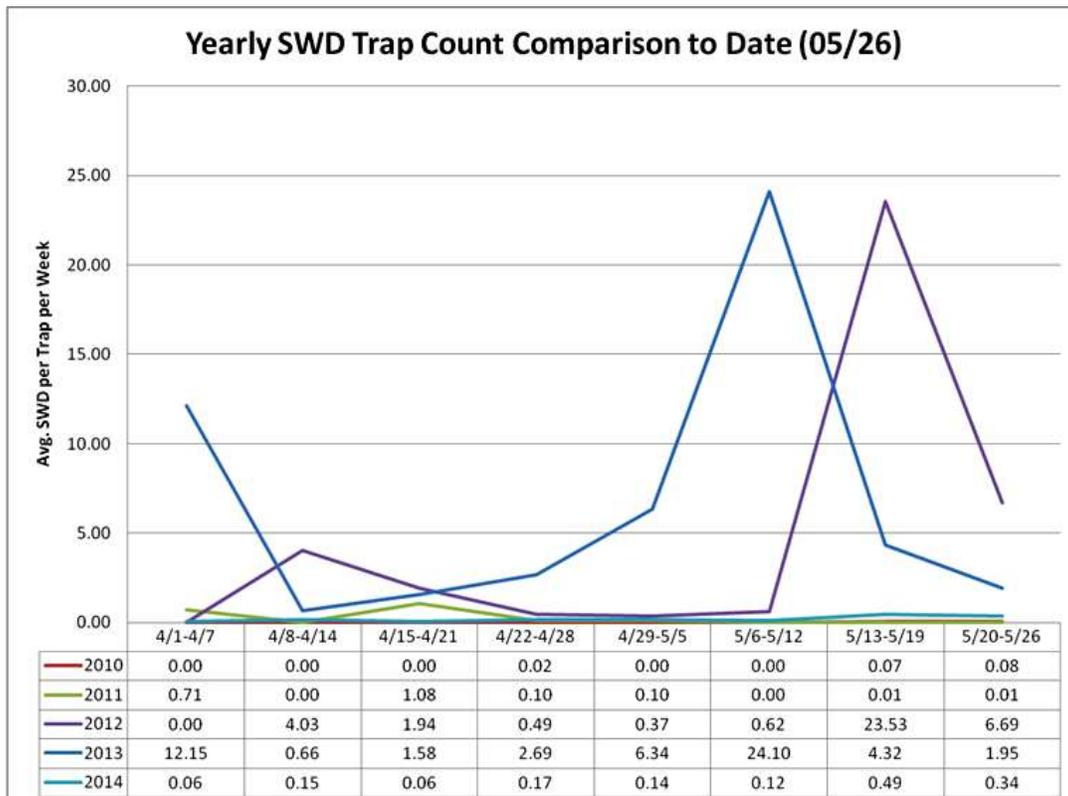
## Willamette Valley public scouting program trap count comparisons

### 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:

- This week's catches were mostly in cherries (7 SWD), peaches (13 SWD), and blueberries (1+ a few more that will be added from late arriving data).
- **The risk of SWD damage to ripening berry crops in the Willamette Valley at this time is very low.**



## Grower resources

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- [Blueberry Gall Midge Factsheet for Michigan State.](#)

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## Industry news/resources

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### Newsletters/ berry reports

- [BC Blueberry IPM Newsletter](#) (5/24) Weekly by [ES Cropconsult](#). Sponsored by the BC Blueberry Council.
- [Whatcom Ag Monthly](#) Produced by WSU Whatcom County Extension. Includes excellent berry crop information.
- [The New Jersey Blueberry Bulletin](#) (5/19) A weekly grower update from Gary Pavlis, Rutgers Extension agent.
- [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.
- [Market Report](#) (5/26) from General Produce Company
- [The Source](#) (5/21) 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. **Recent Entry (5/27):** **Thorough discussion of predatory mites in berries available** Reports on recent insect and disease research and observations in California.
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. **Recent Entry (5/23):** **Blackberry Flowers to fruit 2014** Reports on issues in blackberries and raspberries from the Southeast.

### Research

- [Causal link between intake of blueberries and health benefits](#) (5/23, Fresh Portal)

### Climate/Water

- [California's flawed water system can't track usage](#) (5/27, Capital Press)
- [Groups says CA drought study only scratches the surface](#) (5/22, Capital Press)

### West

- California: [Strawberry volume ahead of last year's pace](#) (5/27, Fresh Plaza)

### North America

- Florida: [Circumstances conspire against Florida's blueberry growers](#) (5/27, Fresh Fruit Portal)
- Georgia: [Blueberry tour educates bloggers, dieticians](#) (5/21, The Packer)
- North Carolina: ['Topsy-turvy' weather adds challenges for growers](#) (5/23, The Packer)

### International

- Chile/Argentina: [Hortifrut combines with Argentine blueberry player](#) (5/21, Fresh Fruit Portal)

## Event calendar

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- **May 29 — Willamette Valley Berry Fieldman/Grower meeting**, 8am at [North Willamette Research and Extension Center](#). [Dave Bryla](#), USDA horticulturist who's done a lot of research on irrigation & nutrition in berry crops will be joining us. Free for all. Coffee & donuts! Call or [email](#) Peerbolt Crop Management for information, 503-289-7287.
- **May 29 — National Processed Raspberry Council**, SeaTac Marriott, Seattle, WA. For more information, call Tom Krugman at 360-354-0948. [Click here](#) for the Council's website.
- **May 31 —BC Blueberries Spring Field Day**. Bates Farm, 57 B Street between Deltaport Way and 34B Ave, Delta. 12-3:30 pm (lunch provided). Pollination, weed management, SWD, weevils, and more. [Click here](#) for the announcement.

- **New Posting: June 5 — Managing Mummy Berry Disease in Blueberries – Farm Tour** ~ 2-4:30, Alvador, OR. [Click here](#) for details. Organized by the Northwest Center for Alternatives to Pesticides (NCAP).
- **June 11 — OSU Strawberry Open House** ~ 1:00-4:30 pm, North [Willamette Research and Extension Center](#) (NWREC) [Click here](#) for full information.
- **New Posting: June 12 — WSU Strawberry Field Day** ~ 1:00-3:00 pm, WSU Goss Farm (formerly Farm 5), 15403 Bowman-Hilton Road, Puyallup For information contact [Dr. Pat Moore](#), 253-445-4525. “As in past years the field day will consist of an informal wander through the strawberry plots. This will be an opportunity to see some of the recent PNW releases – Puget Crimson, Charm, Sweet Sunrise, Valley Red, Nisga’a, material from some of the other programs and some promising selections. It is also an opportunity to discuss directions for strawberry research.”
- **June 18-19 — Annual Maximum Residue Limit (MRL) Harmonization Workshop** (4/14, Growing Produce) In San Francisco. Organized by the California Specialty Crops Council. [Click here](#) for registration & agenda information.
- **June 26 — Willamette Valley Berry Fieldman/Grower meeting**, 8am at [North Willamette Research and Extension Center](#). Call or [email](#) Peerbolt Crop Management for information, 503-289-7287.
- **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. Details TBA.
- **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. Details TBA.
- **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 20-23 — International Precision Ag Conference** ~ Sacramento, CA. [Click here](#) for article. [Click here](#) for website with all the details.
- **August 20 & 21—North American Strawberry Growers Association** ~ Summer tour, in BC. [Click here](#) for the NARBA 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@peerbolt.com](mailto:lora@peerbolt.com) for more info.

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## Week 22--- Pest management & field work

### A potential pest to be on the lookout for in blueberries

*This information is from the 2013 SFU for week 22. We're running into the same situation this year. I don't believe this particular weevil is doing any major damage in blueberries. Symptoms seem to be just a fair amount of leaf notching at this time. Its lifecycle differs greatly from our major pest weevil species and larval root feeding shouldn't be a big concern. However, some work needs to be done on it to confirm all this. TP*

- **Pale Green weevil** (*Polydrusus impressifrons*)
- [Click here](#) for more photos and information.





Photos by Jason Myer

- The Oregon Department of Ag identified the weevil now showing up in quite a few Oregon blueberry fields as *Polydrusus impressifrons*. Common names: Pale green weevil or leaf weevil.
- It's a very close relative of the green immigrant weevil (*P. sericeus*) identified in B.C. fields last summer.
- From a practical, field perspective the two are pretty identical in behavior and potential economic threat.
- Scouting for this weevil is relatively easy in that it will leave a ragged notching on leaves all over the plant and adults, who can fly, can be observed and caught around the plants during the day.
- While not proven to cause economic damage in blueberries, it's prudent to assume a weevil whose larvae feed on root systems has that potential, particularly in new fields with small plants and root systems.

## Pest Alerts/Scouting Information

Time to scout for and treat if needed: **Yellow Rust, raspberries**



Stages of Yellow Rust (from left) spermagonia, aecia, uredinia: It has not yet reached the uredinia stage.  
(Middle photo by Carolyn Teasdale, others by Tom Peerbolt)

- Yellow rust is moving through its spore stages from yellow/orange colored 'blisters' (spermagonia) on the top surface of leaves to a very visible, almost day-glow orange/yellow spore stage (aecia) and, in southern regional fields, the fourth spore stage (uredinia).
- This fourth spore stage (uredinia) appears later in the season as yellow 'dust' on the bottom of leaves. This last stage is the one that multiplies quickly and can quickly defoliate canes if left untreated.
- Evaluate disease incidence and stage to determine whether (and when) fungicide applications are warranted.

## Scout for: Green Berry Botrytis Fruit Rot, blueberries

Photos on next page are from the 5/24/13 [Blueberry IPM Newsletter](#) published by [E.S. Cropconsult](#) for the [BC Blueberry Council](#).

- We're seeing and getting reports of green fruit botrytis over the past couple of weeks.
- Fungicide treatments are of limited efficacy in controlling the infections at the green fruit stage.
- To paraphrase OSU plant pathologist, Jay Pscheidt: The best treatment right now is warm, dry weather.



*Ripe Blueberry Fruit Diseases—Time now to prevent*

**Time for preventative fungicide applications: [Alternaria Fruit Rot](#)**

As blueberry bloom starts to finish, it's time to consider whether you need to prevent Alternaria and Anthracnose problems from showing up in the fruit. 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 become watery in storage.



*Alternaria fruit rot. Photos by Caroline Teasdale*

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

If you've had problems with Anthracnose, prevention of a reoccurrence begins at petal fall. Symptoms: First, blighting of shoot tips; then, a few flowers turn brown or black. Leaf spots, when they occur, are large or small and roughly circular. 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.



*Anthracnose ripe rot. Photos by Caroline Teasdale*

### **Time to Scout for: [Scorch virus](#) Blueberries**

- Symptoms are becoming visible.
- This disease is vectored aphids.
- *There is no treatment or cure. Infected bushes never return to productivity & should be removed ASAP.*
- **The BC Blueberry Council is accepting samples for the free Scorch & Shock testing program.** For more information call Karina Sakalauskas, Research Coordinator for the BC Blueberry Council (604) 613 2133 or [click here](#) to email her.

### **Time to scout for: [Shock virus](#) Blueberries.**

- Symptoms are visible in many area fields.
- This disease is vectored by pollinators.
- There is no treatment or cure.
- Infected bushes generally display symptoms for one year and then return to productivity.

### **Time to scout for and evaluate if management action is needed:**

#### **[Powdery Mildew](#) southern strawberries.**

- Dry, warm, humid conditions favor powdery mildew in strawberries.



### **Time to scout for and prevent: [Mummyberry](#), blueberries.**

*In Southern fields infected berries are now showing symptoms.*

- [Managing mummy berry shoot strike infections](#) (MSU Extension, 5/3/13) Great charts on effectiveness of fungicide choices and on weather variables that favor infections.
- [Mummyberry primer from MSU.](#)

### **Time to scout for and evaluate if management action is needed: [Yellow mites](#), raspberries**

- This early season mite is smaller and paler than two-spotted mite and has less webbing.

### **Time to scout for and evaluate if management action is needed: [Blackberry Rust](#) (Phragmidium Rust) Evergreen blackberries**

- This disease is of economic threat to only to Evergreen blackberries where it can be devastating. *There are reports of it being present in fields at this time.* Treatment is recommended. Rally (myclobutanil) is particularly effective.

## **Additional Ongoing Pest Information**

### **Diseases**

- **Scout for: [Phytophthora Root Rot](#) raspberries** Look for primocane collapse.

### **Insects/Mites**

- **Scout for:** [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.
- **Scout for:** [Raspberry Beetle](#), **northern raspberries**. This small beetle can cause fruit damage and be a major contaminant in northern raspberry fields.
- **Scout for:** **Root Weevils, strawberries**. Larvae & adults of [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#) are now being recovered from some strawberry fields.
- **Scout for:** [Blueberry Gall Midge](#), **southern blueberries**. Tip damage from this midge is showing up 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.
- **Prime Time to Scout for:** **Mites in raspberries (northern growing areas):** [Twospotted mites](#) [Yellow mites](#)
- **Prime Time to Scout for:** [Winter Moth/Bruce Span Worm](#) **blueberries**
- **Prime Time to Scout for:** [Clay Colored Weevils](#) **northern raspberries & blueberries:** This early emerging species is a pest in northern growing areas where it feeds on newly emerging shoots and buds.
- **Prime Time to Scout for:** [Strawberry Crown Moth](#) **southern strawberries:** As plant growth resumes, plants weakened by SCM can be spotted. Infested plants will have a weakened crown and often will break off with a pull on the top growth.

## **Crop Work**

### **All crops**

- Vole management.
- Weed management.
- Fertilizer program.
- Can put out monitoring traps for spotted wing drosophila.

### **Blueberries**

- Bring in bees around 10% bloom.
- Apply bloom applications to prevent fruit molds.
- Treat for [Mummyberry](#) as needed.
- Scout for [leafroller larvae](#) feeding.
- Scout for virus symptoms & 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.
- Scout for azalea bark scale in southern blueberries.
- Scout for blueberry gall midge damage.
- Can apply fungicides for fruit/blossom rot from 10% bloom through the end of bloom.
- After petal fall, can treat for alternaria and anthracnose prevention if needed.

### **Blackberries**

- Bring in bees around 10% bloom.
- Can put out pheromone trap to monitor for leafrollers.
- Apply bloom applications to prevent fruit molds.
- Scout for virus symptoms & send in samples for testing as needed.

### **Evergreen Blackberries**

- Scout for and treat as needed for blackberry rust.

### **Raspberries**

- Scout for yellow mites and [twospotted mites](#).
- back primocanes as needed.
- (northern areas) Scout for [clay colored weevil](#) feeding and treat as needed.

- Scout for [twospotted mites](#).
- Scout for virus symptoms & send in samples for testing as needed.
- Can apply a phosphite material for stronger root growth and root rot prevention.
- Scout for yellow rust and assess treatment options.
- Bring in bees around 10% bloom.
- Can apply fungicides for fruit/blossom rot from 10% bloom through the end of bloom.
- Can put out pheromone traps to monitor for leafrollers.

### **Strawberries**

- (Southern strawberries) Can scout for strawberry crown moth larvae.
- Can apply fungicides starting at 10% bloom to prevent fruit mold
- Scout for weevil adults and notching.
- Can apply slug bait.
- Scout for powdery mildew and treat as needed.
- Scout for two spotted spider mites and predatory, beneficial mites.
- Scout for aphids.
- In day neutral varieties scout for lygus bug and assess need for treatment.

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### **Archived Small Fruit Updates**

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

[21-SFU05-20-14](#) [20-SFU05-13-14](#) [19-SFU05-06-14](#)