

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.

March 1, 2011

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[Video of the week](#): A nice raspberry 'primer' just posted by the Ontario Berry Growers Association. Fresh market, U-pick, under tunnel production.

[Video of the week 2](#): Snapple fruit relations—keeping fruit from going bad.

[The Weather Cafe](#) by Rufus La Lone

[Small Fruit Cold Storage Report](#)

Update on Record Cold Event of Feb. 25 & 26

Minimum temperatures and wind speeds from selected regional weather stations. Individual grower reports have reported lower temperatures especially in outlying areas.

Location	2-25	2-26
<i>Reported in Fahrenheit. Wind speed and wind gust speed in parenthesis.</i>		
Corvallis, OR	24 (11G18)	19 (2G03)
Salem, OR (McNary)	24 (6)	18 (7)
Aurora, OR	24 (5G12)	19 (1G2)
Forest Grove, OR	23 (3G5)	19 (G1)
Vancouver, WA	25 (Calm)	17 (Calm)
Kelso-Longview, WA	18 (Calm)	16 (Calm)
Mt. Vernon, WA	17 (7)	19 (Calm)
Bellingham Airport, WA	17 (17G25)	19 (Calm)
Abbotsford, B.C.	16 (14G21)	19 (Calm)
Prosser, WA	5 (3G6)	3 (3G6)

Pictorial blueberry growth stages with temperature damage thresholds

- [Click here](#) for a PDF of this chart from Michigan State.
- The relevant stages & temperature thresholds from the chart:
 - **Bud Swell**: "Visible swelling of buds; scales separated. Can tolerate 10-15 (F)".
 - **Bud break**: "Bud scales separated, tips of flowers visible. Can tolerate 15-20 (F)".
 - **Tight cluster**: "Individual flowers distinguishable. Can tolerate 20-25 (F)".

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](#)

Assessing cold damage in caneberries

[Click here](#) for photos and suggested assessment techniques from Michele Warmund, Horticulture professor at the University of Missouri and Dr. Bernadine Strik, Horticulture professor and berry extension specialist at Oregon State University.

A simple method for assessing cold damage

- Put cane/branch sections in a Ziploc bag and store at room temperature for 4-5 days.
- Then cut and check for injury symptoms.
- Usually after 4-5 days the dead tissue, whether buds or vascular tissue, will have oxidized & turned brown.

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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

- **Raspberries:** (Friday, 2/25) Chilliwack, BC got down to 10C (14F) with winds of up to 70KPH. Windchill factor was -20C (-4F) this morning with about 1 inch of snow. I believe the wind has likely caused more damage than the actual temperature. Everything that looked green before is now desiccated. Young raspberries were the furthest developed. Time to build a dome over our entire region...
- **Blueberries & Raspberries:** (Monday, 2/28) It'll take a bit to determine the extent of any freeze damage and I figure there will be some. The level of damage will relate to differences in the site and the duration of exposure. The bad period was Thursday afternoon and Friday morning. Friday and Saturday morning was calm but cold in the Fraser Valley -6C(21F) and the rest of the weekend -2C to 5C (28-41F). Most blueberries and raspberries got their original push that warm first week of February. Since then they have been a bit quiescent. I'd be concerned for expanded terminal buds and buds on small twiggy growth. Maybe even some vascular damage in juvenile plantings that were advancing. Raspberries have the most potential here for damage as a lot of green tips showing on Meeker and the 1st year plants are quite green in some fields. It'll take a week or so to get a better idea.

Skagit County, Northern Washington

- **Blueberries:** (Friday, 2/25) Most of the blueberry buds I checked yesterday (pre-cold temps) were either non-swollen or just starting to swell. Guessing that some of the swelling ones could be damaged in places with single digits, but hopefully not too many buds are far along in those spots. I'm guessing that blueberries will generally be okay.
- **Blueberries:** (Monday, 2/28) I checked some Liberty blueberry flower and leaf buds today for signs of cold damage. The flower buds had extremely variable damage from none to looking like they were completely dead. There were already signs of light damage on these buds before the freeze, but it was much worse after. I also saw damage on Liberty vegetative buds post-freeze (but not on the pre-freeze samples).
- **Raspberries:** (Friday, 2/25) I saw Malahats and first-year Meekers with buds pushing yesterday (pre-cold temps.), and suspect the primary buds will be damaged on these. We'll see.
Raspberries: (Monday, 2/28) We have some 1 year-old Chemainus raspberries that were really leafing out (about 3/4"). Those buds are completely toasted but the secondary buds below them look all right so far. Just started looking at Meeker and seeing some damage in primary buds but the buds aren't totally gone. I'll know more as we look at more samples throughout the week.

Willamette Valley, Oregon and SW Washington

- **Blueberries & Raspberries:** (Friday, 2/25) So far, we were a bit warmer than predicted last night (Thursday night). From what I've seen and heard, most of our berry regions bottomed out at 19-25 with Hillsboro and some others around 24. A light wind I think helped us. Tonight's forecasts have come up from 12-15 predicted lows to predicted 16-19. Still bad but might make a difference especially on blues (if it

holds)—which right now I'm not thinking are at major risk down here—I could deny I ever said that very soon.

- **Blackberries:** (Monday, 2/28) Based on what happened with the 2006 February cold spell that was similar, most likely there is cold damage in Marions and Silvans, but, like always, it will vary widely depending on the location and the health of the field. I cut some buds today to check and saw no obvious evidence of damage, but it's early. I'll look more after we get some warmer temps.

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Industry News/Resources

- **New meeting posting: March 15 — OSU Bee Identification Workshop~** 1-4, North Willamette Research & Extension Center, Aurora. [Click here](#) for agenda and registration form. \$25 per person. Pre-registration is required due to space limitations. Registration: Jan Engli 503-678-1264 x 110. Organizer: [Wei Yang](#), 503-678-1264 x 116. Instructors: Sujaya Rao & W.P. Stephen, OSU Crop & Soil Science.

Newsletters

- ['The Source'](#) (2/28) Market updates from *The Produce News*
- [Michigan State University's Small Fruit IPM Advisor](#) (2/25) Retooling IPM programs to combat new invasive insect pests in blueberries and raspberries.

Presentations

- [The sudden appearance of the Brown Marmorated Stink Bug as a serious agricultural pest in the Mid-Atlantic](#) (USDA-ARS presentation in [Adobe Presenter](#))

Labor

- [Landscape gloomy for immigration reform](#) (2/22, MPN Now)
- [H-2A The right way](#) (Feb. 2011, Growing Produce)

National

- (Georgia blueberries) [Freeze could destroy fruit crops](#) (2/25, Augusta Chronicle)
- [Improving sprayer performance](#) (Feb. 2011, Growing Produce)
- [Oklahoma Researchers Find Blueberries Boost Health Benefits in Seniors](#) (2/21, News 6 Oklahoma)
- [Blueberry study finds health value](#) (2/23, 2theadvocate)

International

- [Hurst's Berry Farm establishes subsidiary](#) (2/28, Fruitnet.com) Hurst's Berry Farm announced re-organization of its marketing, sales and packing operations into a brand new entity called HBF International LLC (HBF).
- [Genetic breakthrough may lead to cheaper, tastier strawberries](#) (2/23, Toronto Star)

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Pest Alerts

The cold spring has held back both plant & disease development. However, once the weather turns and/or the plants start showing new growth, blueberry plant risk of infection from both mummyberry & bacterial blight is likely to be higher than normal due to frost/freeze damaged tissue. Be ready.

[Mummyberry](#) blueberries- Be sure to be ready with a management program by the time fields at risk reach 'green tip stage'. That's when new infections can begin.

- **So, what is "green tip stage"?** [Click here](#) for a pictorial guide put together by Michigan State University of the various stages of blueberry growth development.
- [Mummyberry primer From MSU](#)

The high points from the above linked document:

- The optimum temperature for spore release and infection is 50 to 57°F (10 to 14°C).
- At least 12 hours of wetness is required for infection.
- Frost may increase susceptibility of blueberry shoots to infection.

Pseudomonas (Bacterial Blight) blueberries- Water-soaked lesions can appear at this time of year on canes that then develop into reddish brown to black cankers. Cankers may extend from a fraction of an inch to the entire length of 1-year-old wood. Buds in cankers die. If girdled, the cane portion above the canker dies.

Recommended management: The lesions now being seen are the effects of past infections. To prevent future lesions from forming, copper sprays are recommended as the temperatures get warmer, usually around mid-February in the Willamette Valley and SW Washington. Good coverage is essential with copper.

Pest Management & IPM Information

Vertebrates

Voles all berries: [Click here](#) for some background and biology information on voles (or meadow mice). [Click here](#) for information on how to construct bait stations.

Diseases

Mummyberry: blueberries: See alert section above.

Insects/Mites

- **Winter Moth/ Bruce Span Worm blueberries:** Scouting for winter moth larvae should start as soon as the buds start swelling. We've had reports in previous years of problems beginning this early but it's usually in a couple of weeks. More of an ongoing issue in the northern growing regions but also an occasional, locally severe problem in some Oregon and SW Washington fields.
- **Scale blueberries:** A dormant oil or Esteem (pyriproxyfen) can be used while blueberries are dormant.

Usual March pest management—delayed for now...

In most years these pests and their management would be happening now or very soon. While delayed this year, be ready to take care of these once the weather breaks. There's a good chance it'll all need to be done 'at once' to catch up.

Insects/Mites

- **Raspberry Crown Borer caneberries:** If you've had borer problems in the past, March is the time to drench for crown borer control in caneberries.
- **Strawberry Crown Moth southern caneberries:** In Oregon and Southwest Washington, this borer looks to do as much, if not more, damage in caneberries as the Raspberry Crown Borer. The treatment is the same as for RCB- a spring (or fall) insecticide drench.
- **Clay Colored Weevils southern strawberries:** This early emerging species is usually just considered a pest of raspberries in northern growing areas where it feeds on newly emerging shoots and buds. But in the last couple of years emerged adult Clay Colored Weevils have been recovered from SW Washington southern strawberry fields and blueberry fields.
- **Redberry Mite evergreen blackberries:** Dormant sprays of lime/sulfur or elemental sulfur for Blackberry Rust and Redberry Mite are recommended in March.

Diseases

- **Phytophthora Root Rot raspberries:** March is the time to use a fungicide drench in raspberries. Warm, saturated soils are the conditions that favor this organism allowing it to spread quickly.
- **Blackberry Rust (Phragmidium Rust) Evergreen blackberries:** Dormant spray of lime/sulfur or elemental sulfur for Blackberry Rust and Redberry Mites is recommended in March to prevent later problems.
- **Cane Blight raspberries:** A good time to spot symptoms of cane blight is as the buds break. Infected canes will show either no budbreak if the cane has been girdled or one-sided budbreak if the infection is on one side. Scrape canes to look for rust colored streaks usually coming up from machine harvester scars. There is no treatment for cane blight once it's present only prevention and the time to prevent next year's

canes from getting infected is to apply an appropriate fungicide immediately after harvest when fresh wounds normally become infected.

- **Purple Blotch blackberries:** Check for cane lesions that are easy to see as the weather warms but the foliage has not yet emerged. It's a good time to assess disease level.

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Meeting Information

For more comprehensive meeting schedule, [click here](#).

- **March 2 — ORBC Annual Pre-Production Workshop**~ Full day workshop at Wellspring, Woodburn, OR. 8.30-3:30, [Click here](#) for the agenda. Contact Peerbolt Crop Management 503-289-7287, info@peerbolt.com for more information.
- **March 8 — Oregon Blueberry Commission meeting**~ noon. Budget Preparation. Santiam Room, West Salem Roth's IGA in Salem. Contact [Bryan Ostlund](#) for more information, or call 503-364-2944.
- **New meeting posting: March 15 — OSU Bee Identification Workshop**~ 1-4, North Willamette Research & Extension Center, Aurora. [Click here](#) for agenda and registration form. \$25 per person. Pre-registration is required due to space limitations. Registration: Jan Engli 503-678-1264 x 110. Organizer: [Wei Yang](#), 503-678-1264 x 116. Instructors: Sujaya Rao & W.P. Stephen, OSU Crop & Soil Science.
- **March 17 — Oregon Strawberry Commission meeting** ~ Noon. Roth's IGA, Salem, OR. Contact [Philip Gutt](#), or call 541-758-4043 for more information.
- **March 22 — Oregon Raspberry and Blackberry Commission meeting** ~ Noon. Langdon Farms Golf Course, Aurora, OR. Contact [Philip Gutt](#), or call 541-758-4043 for more information.
- **April 1 — Ecological Raspberry Production Systems (ECORAZ)** ~ Time TBA. WSU-Mount Vernon Northwestern Washington Research and Extension Center. An educational symposium exploring productivity, soil health, water and nutrient management. Lunch provided. Contact [Colleen Burrows](#) for more information.
- **April 12 — Washington Blueberry Commission meeting** ~ Regular commission meeting to be held in Eastern WA. Location TBA. Contact [Alan Schreiber](#) 509-266-4300 for more information.
- **April 13 — Washington Red Raspberry Commission meeting** ~ Puyallup, WA. Contact [Henry Bierlink](#) or call 360-354-8767 for more information.

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Crop work

All crops:

- Scout for voles and treat as needed.
- Weed management.

Blueberries

- Finish pruning ASAP.
- Scout for bud damage & determine cause.
- Dormant oil can be applied for scale and winter moth egg control.
- **Delayed by weather**--Scout for sprouting Mummyberries.
- Scout for winter moth/span worm/leafroller larvae feeding in buds.
- Can apply Bacterial Blight (*Pseudomonas*) management materials.

Blackberries

- **Delayed by weather**--Scout for Purple Blotch lesions in Marion berries to assess field disease levels for later treatments.
- **Delayed by weather**--Can apply lime sulfur for Redberry Mites and/or disease management.
- **Delayed by weather**--Can drench for crown borer management.

Evergreen Blackberries

- **Delayed by weather**--Can apply a dormant spray of lime/sulfur or elemental sulfur in mid-February for Redberry mites and blackberry rust.

Raspberries

- Can apply lime sulfur for Redberry Mites and/or disease management.
- **Delayed by weather**--Can apply Ridomil for Phytophthora root rot management.
- **Delayed by weather**--Can drench for crown borer management.
- **Delayed by weather**--Scout for Cane Blight symptoms as buds break.

Strawberries

- Can apply pre-emergent herbicides. Spartan (Sulfentrazone) cannot be applied after 2/28.
- As plants start to grow, watch for weak growing areas and check rots for weevil larvae, root rot and/or cold damage.

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Archived Small Fruit Updates

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

[02-23-11](#)

[02-15-11](#)

[02-02-11](#)