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Eastern NY Commercial Horticulture Program

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Berry News

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Gearing up for Spring!

Hopefully all berry growers have had a restful winter – well at least those of you that were able to head south for a period of time! It certainly has been a severe season and this spring may reveal a fair amount of winter injury and winter kill. We will try to address those concerns and questions in future issues. The Berry News will again be sent to enrolled members of the Eastern NY Commercial Horticulture program every other week throughout the growing season. If you have not yet received enrollment information, don't worry, it is on the way. Thank you for your continued support. We look forward to working with you in 2014.

-The Eastern NY Commercial Horticulture team

Photo by J. Okada. Credits: WikiMedia

Polar Vortex: The Possible Good and Bad of Winter 2014

By Marvin Pritts, Cornell University. Published in NY Berry News, Feb 2014 Issue Vol. 13 No. 2

Editors' Note: *The following article is one of the excellent articles that appeared in the monthly e-newsletter 'New York Berry News'. This newsletter is free, but is only available in an electronic version. I don't always reprint these articles, although both Jim O'Connell and I contribute when we can. My point is – if you don't already receive the 'NY Berry News' – you should get on the mailing list! Contact Cathy Heidenreich, mcm4@cornell.edu to make sure you get your copy. -LGM*

Frequent visits from the polar vortex this winter have caused many fruit growers to be concerned about this year's crop potential. Front page headlines suggest that grape growers are already seeking government funds to help with the loss. Peach growers are also anticipating a limited crop. But what should berry growers anticipate?

Berry crops enter a time of dormancy when the water exits the plant cells and they become relatively resistant to cold temperatures. So long as temperatures drop slowly in fall, plants acclimate, go dormant and then can tolerate quite cold temperatures. This past fall was a relatively good year for acclimation, so there is not likely injury due to a sudden drop in temperature before acclimation occurred. Most injury to berry crops

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happens when water re-enters the tissues when weather warms in spring, and then this is followed by another period of intense cold. This water freezes and expands, injuring vascular tissues and buds. The good news is that temperatures this winter have stayed relatively cold. This is far better for the plant than winters in which the temperatures fluctuate dramatically. These fluctuations could still come, but so far they have been few.

Has the absolute temperature been too cold for berry crops? Strawberries should be covered with straw mulch, and if not, they will likely to have been covered with snow during the cold weather. This protects the plants from injury, so most strawberries should be fine this year. Blueberries can be injured when the temperature begins to fall below -10F, but significant damage doesn't occur in most varieties until -20F. I have seen blueberries killed back to the snow line at -30F. We flirted with - 20F at many locations, so the possibility exists for some bud damage.

You can determine if damage has occurred by placing some flowering shoots in a vase of water in the house for a few days. After water moves into the tissue, cut the buds with a razor blade and look for browning (a sign of injury). The least hardy buds will be near the top of the shoot. The good news is that blueberries were at their hardiest point when the cold weather hit.

The hardiness of summer raspberries depends a great deal on the variety. Some varieties will be fine, but other may have suffered damage on the tops of the floricanes.

It is relatively easy to cut some canes and place them in water in a warm area to determine if damage has occurred. The good news with raspberries is that, even with some damage, the remaining buds can compensate for bud loss by producing more and larger berries – although they will be lower down on the canes. Fall raspberries that are cut to the ground should be unaffected by the cold weather.

Thornless blackberries grown outdoors are likely to have suffered the greatest loss. They are marginally hardy under the mildest of winters, but in a winter like 2014, they are very vulnerable to injury. I am most interested in seeing how our tunneled blackberries perform, given that a single sheet of plastic does not protect from cold temperatures that much.

The big unknown factor this year was wind. We had strong winds on some of our coldest nights. Although plants don't suffer from "wind chill" like human skin (since there is little water to evaporate from woody tissue), wind can contribute to drying out of plant tissue. We may see injury that might be attributed to cold temperatures, but could have been caused by high, desiccating winds.

Because this winter was so unusual, it is unclear how much the combination of cold temperatures and wind will have contributed to any observed injury.

The other hope is that the coldest winter in a century may have damaged overwintering populations of spotted winged drosophila. If that occurs, berry growers may be wishing for a winter like 2014 every year. But regardless of how cold it was here, the rest of the world seems to be warmer than ever. Australia and Argentina had record heat, Alaska was warm this winter, the Southwest was record temperatures, and at the Sochi Olympics it was barely cold enough to have snow. The only thing that is certain is that we will have to learn to live with more fluctuations in our weather patterns in the years to come.

The EPA Bee Advisory Box – What it Means for Pesticide Applications in 2015

The EPA has introduced a new label that will be found on some of the pesticides that you might be using this season. Most of the restrictions listed in the 'Bee Box' are exactly the same as always, but the hopes are that the label addition will draw renewed attention to those guidelines, which include the following:

1. FOR CROPS UNDER CONTRACTED POLLINATION SERVICES - Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met.

- *If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.*

2. FOR FOOD CROPS AND COMMERCIALLY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS - Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- *The application is made to the target site after sunset*
- *The application is made to the target site when*

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The EPA Bee Advisory Box, continued from p. 2

temperatures are below 55˚F

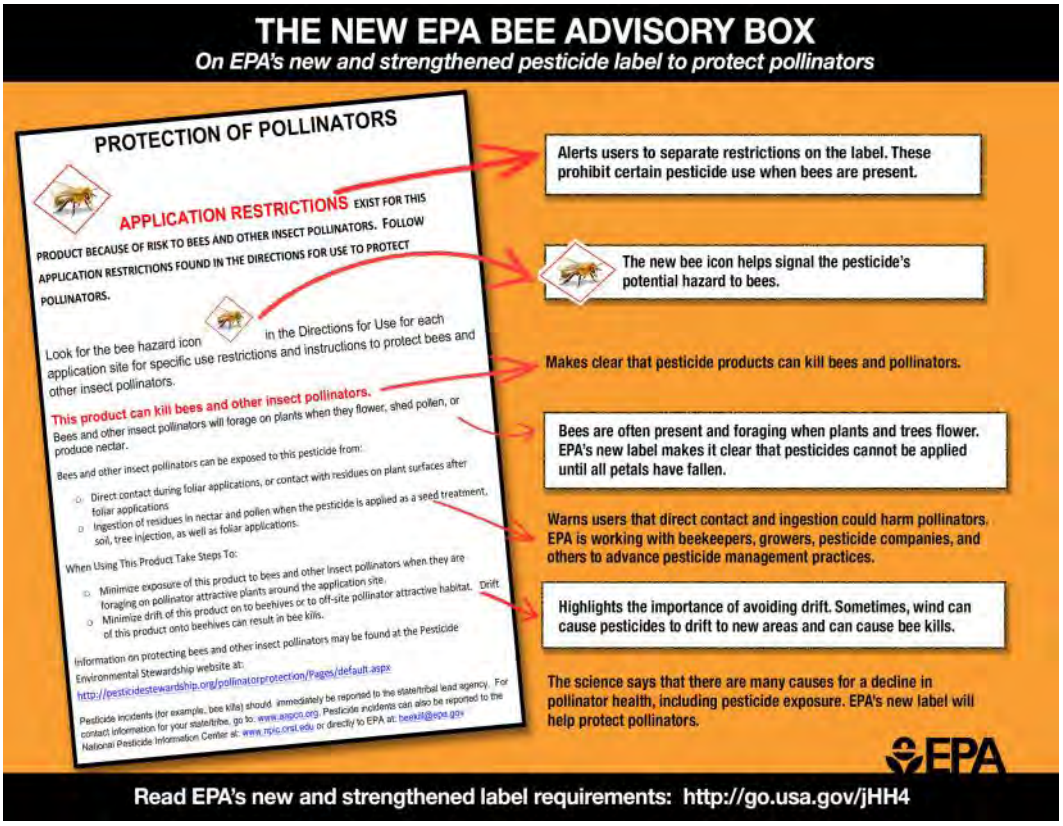
- *The application is made in accordance with a government-initiated public health response*
- *The application is made in accordance with an active state administered apiary registry program where beekeepers are notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying*
- *The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.*

3. NON-AGRICULTURAL PRODUCTS - Do not apply (specified pesticide) while bees are foraging. Do not apply (specified pesticide) to plants that are flowering. Only apply after all flower petals have fallen off.

Additionally, the label draws attention to the potential of drift being a major cause of pollinator death and it discusses the how pesticide residue can be picked up by bees. The label advises applicators as to how they can minimize bee exposure to pesticides.

The 'Bee Box' also provides information on protecting bees and other insect pollinators. This information can be found at the Pesticide Environmental Stewardship website at: http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov. *-LGM*



The New EPA Bee Advisory Box is available online at: http://epa.gov/pesticides/ecosystem/pollinator/bee-label-info-graphic.pdf

Pruning Raspberries

By Marvin Pritts, edited by Laura McDermott

Just a few tips to get you started this season. Make sure to have a handle on how much winter damage the canes may have experienced before you begin pruning. You may not need to prune.

Floricane (summer fruiting) raspberries

- Productivity is related to the number of canes. Fruit size decreases as cane numbers increase.
- 3-5 large canes per linear foot of row is the optimal range with a plant row width of 12-18 inches.
- Canes should be pruned after winter injury threat.
- Top canes to the point of the trellis, but below winter injury. Severe topping will increase fruit size but will greatly reduce yield.
- No more than the top 1/4 of a cane should be removed.

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- After pruning, tie canes loosely to the trellis wire to prevent wind damage of laterals after bud break.
- Canes should be spaced evenly along the trellis wire, or equally divided and spread between sides of a V-trellis.

Primocane (fall bearing) raspberries:

- Cut the canes as close to the ground as possible, at about one-inch, in mid to late winter so that buds will break from below ground level.
- Collect the cut canes and burn or compost them to help control diseases.
- Allow all the canes in a 12-18 inch wide band to grow. Leaving all the canes that come up in this area to grow will increase yields, but not decrease fruit size. In the age of SWD however, it may be a good cultural control to reduce the amount of canes that emerge so that you can improve spray penetration – so consider thinning the canes to maximize your ability to control SWD. Early thinning may push energy to remaining canes, but you will likely need to thin several times to eliminate cane emergence.

Black Raspberries

- Black raspberries respond well to primocane tipping. As the primocane approaches 32-36", pinch at least 4" off the tip – ideally just above a bud. The tipped cane should be 28" tall. This process may need to be repeated several times throughout the growing season, but will result in many more fruiting lateral branches.
- Mechanical tipping may leave primocanes more susceptible to cane blight infection.
- The long laterals that exist at the end of the first year, should be supported by trellis wires before October since wet snow tends to break them off the main cane. Also, canes are more flexible in early autumn than in late autumn and are less prone to breaking from the crown during trellising.
- Many of the laterals may suffer winter damage. Black raspberries could be pinched higher, but shorter laterals would result and the winter damage would be greater. Laterals are headed back in early spring to remove winter damaged wood and to maintain berry size. The choice of lateral length depends on cultivar vigor and the relationship between crop size and fruit size.
- Leave 4-6 canes per crown for acceptable yields of large fruit.

Purple Raspberries

- Prune purple raspberries similarly to red raspberries. Purple raspberry primocanes may be tipped, like black raspberries, but wounds can act as entry sites for disease.
- If purple raspberries are not tipped, the canes will grow very tall, and need support from a trellis. Primocanes can be suppressed to control vigor. Some natural branching will occur near the base of primocanes, these may be removed or allowed to fruit.
- If primocanes are tipped, do it when primocanes reach a height of 32 inches. At least 4 inches of tip must be removed. Many lateral buds will break near the top of the cane, and fewer near the base.
- Shorten lateral branches below winter damage in early spring.
- Leave 3-4 fruiting canes per linear foot of row. Purple raspberries respond favorably to primocane suppression but do not respond well to mowing.

Before (left) and after (right) floricane raspberries have been pruned. *Photos by Ann Stratton.*

What to look for while Pruning Blueberries: Pest Management during the Dormant Season

Scale Insects feed on the twigs and can reduce plant vigor. Scale look exactly like their name implies, so they are relatively easy to see while pruning. Brigade, Triple Crown or Esteem can be used when crawlers appear in early spring on a warm day or spray oil (6 gal/A) after the bud scales start to expand, but before the first leaf stands out from the cluster). Thorough coverage is essential for good results. Apply in 250-300 gal of water/A, at a pressure of 300-400 psi.

Insect Stem Gall – not a huge problem, but in specific instances has become a challenge especially in young plantings. Look for large bulbous galls form on the stems, often near the terminals. These are caused by the larvae of a tiny flightless wasp. The adults overwinter in the galls, emerge in early June, and crawl or hop to other stems to deposit eggs. Prune out the galls to control.

Scale.

Botrytis Blossom and Twig Blight – While you are pruning you may see evidence of Botrytis twig blight. In the summer the young shoots die, turn brown, and become covered with a dusty gray mass of fungus spores. Again, this is not common, but develops occasionally.

Phomopsis canker - New shoots wilt and die back from the tips toward the crown. Infected mature canes suddenly wilt and collapse in the summer. Sudden death of canes on an otherwise healthy plant is a strong indicator of Phomopsis infection. A single spray of lime sulfur as leaf buds begin to break (delayed dormant) can help reduce inoculum of canker in problem locations. Apply Sulforix (1-2gal/A) or Miller Lime Sulfur Solution (5-6 gal/A). Because of potential phytotoxicity, do not apply sulfur within 14 days of an oil spray or when temperatures are above 85°F.

Fusicoccum canker - Reddish spots appear on the canes, frequently around a leaf scar near the ground. As the canker enlarges, a bull's-eye pattern develops. Plant parts above the canker may have collapsed during summer, calling attention to the disease. Infection is usually limited to the colder regions in New York State. Pruning and burning infected canes is a more effective strategy than a chemical spray program, but an application of lime sulfur as for phomopsis may help. *-LGM*

Blueberry stem gall

All images courtesy of Cornell Berry Diagnostic Tool available online at http://www.fruit.cornell.edu/berrytool/

Phomopsis Canker

Post-Harvest Water Sanitation Food Safety Workshop with Dr. Trevor Suslow

Wednesday, April 2, 2014, 9:30 am to 3:30 pm

Albany County Cornell Cooperative Extension Office, 24 Martin Road, Voorheesville, NY 12186
Cost: $20.00 per person **Registration deadline March 31*

The ENYCHP is excited to announce that Dr. Trevor Suslow, Extension Research Specialist at the University of California, Davis, Department of Plant Sciences, will join us for a one of a kind lecture and hands-on post-harvest water sanitation food safety workshop in the Albany area.

Dr. Suslow is an industry leader and world renowned expert in preharvest and postharvest research and outreach education on diverse fresh and fresh-cut horticultural foods. His emphasis is microbial safety and disinfection within the pre-harvest and postharvest environment and postharvest pathology. Other interests include biological control and other biologically mediated controls of postharvest diseases and pathogens of human food safety concern.

Joining Dr. Suslow will be Dr. Elizabeth Bihn of the National GAP's Program and Produce Safety Alliance. The full day workshop is a diverse mix of hands on training and lecture style presentations. It doesn't matter if you are a vegetable or fruit grower; fresh marketer or wholesaler — this is a great opportunity to learn from one of the best about postharvest sanitation and food safety!

For registration and payment information, contact Marcie Vohnoutka 518-272-4210 or email mmp74@cornell.edu, or register on-line at http://cdvsfp.cce.cornell.edu/ .
You may attend as a walk-in but you must be pre-registered.

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