

Cornell University Cooperative Extension

Eastern NY Commercial Horticulture Program

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Berry News

Spring Berry "To Do" List

Blueberries

Bring in bees around 10% bloom. Given the weak bloom in some areas this could really help.

Plan for bloom applications to prevent fruit molds. Botrytis blossom and twig blight can be controlled at pink. Many of the same fungicides labelled for mummyberry will control botrytis. Anthracnose fruit rot is best controlled by a fungicide application right at bloom.

🗖 Raspberríes

Scout for twospotted mites – especially if you have raspberries in tunnels!!

Scout for raspberry fruitworm – more information in this newsletter.

Damaged flower trusses caused by strawberry clipper (aka bud weevil). Photo courtesy University of Maine



□ strawberries

- Apply Botrytis gray mold cover spray see article in last Berry News.
- As plants start to grow, watch for weak growing areas and check plants for weevil larvae, root rot and/or cold damage. Call us if you think there is an issue – we have dollar support for diagnostic services.
- Scout for strawberry clipper count the number of damaged flower trusses per yard of row. Treat when you have an average of more than 3 damaged buds per yard. Insecticides should not be applied during bloom.
- Scout for tarnished plant bug If 4 or more flower clusters are infested with nymphs spray is recommended.



Photo of damage on strawberry caused by tarnished plant bug. Photo courtesy of University of Minnesota.

Raspberry Fruitworm Source: May 5th, Massachusetts IPM Berry Blast

Identification: The raspberry fruitworm (RFW) is a small (1/4") brown somewhat hairy beetle which feeds on the flower buds and leaves of raspberry plants during the spring and early summer. Female beetles lay eggs on the flowers and green fruit. The larvae that emerge are yellowish white, and feed on the fruit, attaining about 3/8" in length.

Damage: The main damage is to fruit by larval feeding between the fruit and the fleshy receptacle. Many of the flowers and fruit can be destroyed by this in-

sect, and the larvae may end up in the harvested fruit, greatly reducing customer appeal. Leaf damage can also occur from adult RFW feeding along the edges of folded leaves as they first emerge. This leaves elongated holes in the leaves as they expand.

Life Cycle: RFW overwinter as adults in the soil emerge in the spring between mid-April and mid-May depending on soil temperatures. The adults feed on leaves, often on the new primocane leaves, but in areas of high populations they will also feed on upper

Serving the educational and research needs of the commercial small fruit, vegetable, tree fruit and grape industries in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Montgomery, Orange, Putnam, Rensselaer, Saratoga, Schoharie, Schenectady, Ulster, Warren and Washington Counties

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Raspberry Fruitworm, continued from previous page

(Photos: left, early season foliar damage; middle, larvae inside fruit; right, adult beetle feeding on flower bud. Credit: Washington State University Whatcom County Extension publication IPM for Raspberry Beetle)



floricane leaves. Adults are then attracted to flower buds and blooms where mating and, subsequently, ovipositing occurs.

Larvae (or fruitworm) emerge from the eggs on the flower or immature fruit and begin feeding on the receptacle. The larvae will remain in the receptacle until the fruit is harvested or falls to the ground at fruit maturity in late summer. Pupae are present in the soil in late summer to early autumn. Adult beetles emerge from the pupae in late autumn and remain in the soil until the spring.

Management

Scouting Notes: There is some evidence suggesting that this insect is more of a problem in weedy plantings. If early damage is noted, (e.g., small holes chewed in flower buds and skeletonizing of leaves), cover sprays should be applied prior to bloom. Adults

(beetles) tend to be most active and noticeable on plants in the early evening hours. Rebell® Bianco white sticky traps placed at 20 yard intervals on the periphery of the field can be used to monitor adult populations. Check traps weekly.

Thresholds: No thresholds have been established yet for this pest either from visual scouting or trap captures. However, trap captures of over 10 beetles per trap may suggest the need for treatment. If allowed to build up over time, economic damage levels are likely.

Treatment: If significant populations are found, treatment with one of the materials listed below is recommended.

Conventional (PHI)	Organic OMRI Listed (PHI)	Cultural
Assail 30SG (1) Delegate WG (1) Sevin XLR Plus (7)	 Aza-Direct, (0) Entrust (0) Grandevo DF (0) Pyganic EC (0) Venerate XC (0) <i>Include adjuvant with</i> Grandevo DF and Venerate XC 	 Eliminate wild brambles in the vicinity of the planting Eliminate weeds from within the planting Prune for open canopy Use Rebell® Bianco sticky traps to monitor population

*= Restricted Use Material, \otimes = OMRI approved for Organic Production

PHI - pre harvest interval in days

Not all available formulations are listed. See the 2016 Cornell Pest Management Guidelines for Berry Crops for application rates and additional information. Read labels thoroughly for application rates and restrictions (REI, PHI, etc.)



Raspberry Weed Management

Dr. Courtney Weber, Cornell University

A combined approach using chemical controls, cultural practices, and selective hand weeding can be used to effectively manage weeds in raspberry. Herbicides provide good overall control of most weeds. The key to successful chemical control is a vigorous, healthy, stand of canes to crowd out competing weeds within rows. Between row control can

herbicide along the rows as the planting matures. Mulches within the rows as well as in row centers can be used to keep weeds down but care should be taken to maintain soil fertility. Also, in less than optimally drained soils or when growing root rot susceptible varieties, mulches can retain excess moisture and exacerbate root rot problems. Bare ground can also be

be managed using a cover crop with herbicide banding to limit spreading, mulches, cultivation, or broad-spectrum herbicide application. Chemical control is most effective in combination with the establishment of a vigorous stand of canes. In the establishment year, care must be taken to eliminate perennial weeds such a Canadian thistle and field bind-



Mugwort and grass in fall raspberry planting. Photo courtesy of J. O'Connell.

maintained between rows with shallow cultivation. mowing, and/or broadspectrum herbicides, but erosion can be a problem. However, special care must be taken to avoid disturbing the raspberry roots with the cultivator, to avoid weed seed development through regular mowing, and to avoid spray drift onto the raspberries when maintaining alleyways.

In established plantings,

weed with a broad-spectrum herbicide such as glyphosate (RoundUp) before planting because these weeds can spread from root pieces moved during cultivation. Once established in a planting, they are very difficult to control.

After planting, a preemergent herbicide such as napropamide (Devrinol) should be applied to eliminate germinating weed seeds. Be aware that tissue culture plugs and young canes can show increased sensitivity to many herbicides until they are well established and reduced rates may be needed. Shallow cultivation is also recommended in the establishment year to eliminate young weeds while allowing the new canes to develop. Deep cultivation is not recommended as it can damage the root systems and turn up new weed seed that would not be controlled by the preemergent herbicide. Turf can be seeded between rows late in the summer to crowd out weeds and can be managed successfully by banding with a grass

much of the chemical control is done in the fall or in the spring before bud break. By late spring, chemical control is limited to sethoxydim (Poast) for grass control. Be aware that Poast has a 45 days-to-harvest period in raspberry and by late spring may not suitable for early season varieties that can fruit in June such as Prelude, Killarney, and Reveille. Spot treatments of glyphosate with a wick applicator can be used to treat problem weeds making sure to avoid contact with the raspberries. This herbicide will translocate and kill not only the cane touched but also ones connected by the roots and can be spread not only by the applicator but by treated weeds blowing into the canes while still wet. A well thought out herbicide program combined with timely mowing and selective hand weeding is an effective integrated approach to weed control in raspberry and can be used to successfully manage weed pests for maximum yields and profits.

(Reprinted from: New York Berry News, Vol. 3, No. 4, April 15, 2004)

Find us on The Eastern New York Commercial Horticulture Program is now on Facebook! Find us at: https://www.facebook.com/Eastern-NY-Commercial-Horticulture-Program

Pesticide

Update!

Value Added Producer Grants Available Jesse Strzok, ENYCHP

Have you thought about diversifying and adding value-added products to your business? The USDA's Value Added Producer Grants (VAPG) program is designed to subsidize producers entering the processing or marketing of bio-based value-added products and will be awarded through a national competition. Priority may be given to beginning, sociallydisadvantaged, small- to medium-sized farms (structured as a family farm or farm (or ranch) cooperative), or are proposing "mid-tier value chain." These grants may be ideal if you've done some groundwork (such as attending ENYCHP's Berry Processing Workshop this Spring which covered topics from home processing exemptions to commercial processing, food safety, and market evaluations) and are looking to get into value added products. An excellent resource is Cornell University's Northeast Center for Food Entrepreneurship (NECFE) located in Geneva (visit https://necfe.foodscience.cals.cornell.edu/).

A few quick facts about the USDA VAPG program: Program funding: \$44 million Maximum grant amount: \$75,000 for planning grants; \$250,000 for working capital grants Matching funds requirements: 50% of total project costs

Grant fund examples: Planning grant funds can be used for conducting feasibility studies to developing business plans. Working capital grant funds can be used for processing costs, marketing and advertising, and some inventory and salary expenses. If you're interested and would like more information visit <u>http://www.rd.usda.gov/programs-services/value-added-producer-grants.</u> The USDA website provided has a toolkit for planning grants and working capital grants at the bottom of the page. Don't wait too long as application deadlines are fast approaching – June 24, 2016 (electronic) and July 1, 2016 (paper).

Nealta Miticide (EPA Reg. No. 7969-336) containing the new active ingredient cyflumetofen, which has a novel mode of action (IRAC MoA Group 25) thus helping
with resistance management. Nealta is labeled to control listed mites in citrus, grapes, pome fruits, strawberries, tomatoes, and tree nuts. Copies of the approved label is available on PIMS.

According to the manufacturer, Nealta Miticide is for growers seeking spider mite and european red mite control compatible with resistance management and Integrated Pest Management (IPM) programs. The miticide offers long-lasting control, safety to beneficial insects (including predatory mites) and high efficacy on all mite life stages, allowing you to focus on other aspects of your operations. Nealta miticide comes in a convenient 10 acre (137 ounce) container to minimize the need for measuring and mixing.

Beware of Counterfeit N95 Respirators

NIOSH has issued an alert to respirator users, purchasers, and manufacturers about a counterfeit N95 respirator on the market. While the unapproved unit carries a valid testing and certification (TC) number and private label holder

(KOSTO), it can be identified by the **misspelling of "NIOSH"** on the front of the respirator.

Individuals in their areas should check the respirators to verify that respirators are NIOSH-approved. Respirator models and brands currently used at Corrnell are: 3M (8210,8210v, 9211+,9210+,8511), North, and Moldex

If you have any questions about the N95 respirators in your area please call 607-255-8200 or e-mail ehs respirator@cornell.edu



FOR YOUR INFORMATION

Berry Soil and Nutrient Management – A Guide for Educators and Growers



Innovative Assessment Helps Farmers in the Northeast Improve Soil Health

Improving soil health without understanding the soil's condition is not easy and traditional soil tests, though important management tools, don't provide information on the physical structure or microbial life living in the soil. That is why a multidisciplinary team at Cornell University created a soil assessment, which measures physical, chemical and biological indicators as well as pH and nutrient levels in the soil. The need for the assessment was born out of a survey of Northeastern farmers, many of whom used traditional soil tests but "felt there was something more going on with their soils," says Bianca

Moebius-Clune, director of the soil health division at USDA's Natural Resources Conservation Service. "There were erosion issues, they had weed issues, they had decreasing yields even though they needed to irrigate more, put on more fertilizer, more pesticides. And they really didn't have good diagnostic tools for all of these issues." Check out the Berry Soil and Nutrient Management Guide for Educators and Growers that references the Cornell Soil Health Assessment and how berry growers can best utilize this information. <u>http://www.fruit.cornell.edu/berry/</u>

production/soilnutrientmgmt/index.html

Attention Strawberry Growers!!

Are you having problems with berry field longevity, winter hardiness or just general poor stand establishment? If you think that some of the problem may be due to pests of the root system – including strawberry or black vine root weevil, plant parasitic nematodes or one of the soil born fungi –

please contact Laura McDermott, 518-791-5038 or <u>lgm4@cornell.edu</u> or Jim O'Connell, 845-943-9814 or <u>jmo98@cornell.edu</u>. We have some financial support for diagnostic services and if, after an examination of your field, we think it would be helpful we can send the samples to the Cornell Diagnostic lab for confirmation of problems – an important first step to managing the problem.



Strawberry field showing symptoms of verticillium wilt. <u>Photo courtesy of Ohio State</u>

TECHNICAL RESOURCES a "Click" AWAY

Chris Callahan, UVM Extension Ag Engineer

Guidance on wash water discharge from vegetable pack sheds: http://go.uvm.edu/vegwater

Guidelines for selecting a good thermostat for agricultural use: <u>http://go.uvm.edu/thermostats</u>

Summary of materials available that provide a "smooth and cleanable" finish surface for coolers, wash areas, and pack sheds: http://go.uvm.edu/smoothnclean

A new Excel-based calculator to help size piping systems and to select pumps for heating systems and other water moving applications: http://go.uvm.edu/pumpnpipe

Don't Miss This Bus! Deadline is May 23.

We have an exciting day trip to southern Canada planned for Tuesday, June 28th. Just 20 miles north of the border, only 40 miles north of Plattsburgh, is a huge vegetable growing region featuring hundreds of acres of muck soil, flat land and cutting edge farms. The deadline to sign up is this Monday, May 23rd. Our first stop is at Veg Pro International (http://vegpro.com/en/) the largest vegetable producer in Canada with 1200 acres of muck soil plus mineral soils as well. They specialize in salad greens, onions, carrots and root crops.

We will have lunch at the Univerco warehouse, an importer and custom-manufacturer of harvesting and tillage equipment (http:// www.univerco.com/en/home/) They will have some equipment on display for you to look over and ask about.

Our next stop is Jardins Vinet, a large mixed vegetable grower and then our last stop is Les Serres Lefort, a greenhouse operation expanding to over 500 houses this year. They grow vegetable transplants and hydroponic peppers, cucumbers and greens.

The cost is \$75/person which includes the motor coach, lunch and a light dinner. To register email Abby Henderson (aef225@cornell.edu) or sign up on our website: <u>http://enych.cce.cornell.edu/event.php?id=568</u> where there is more detailed information about the trip.

Register Today!

Upcoming Events



International Strawberry Symposium

http://www.iss2016-quebec.org/

ENYCH Program Educators:

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NASGA Summer Tour