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Berry News

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Berry "To Do" List:

All crops

- Adult SWD have been found in traps throughout the Capital District and the Hudson Valley and in very low numbers in the north country. Larvae have been found in ripening fruit using the salt extraction method in most locations where adults are reported. **SWD control should begin for all locations south of the southern tip of Lake Champlain and northern growers should be monitoring their fruit closely.** If you have SWD infestation, you will need to strip fruit and re-spray with a tighter interval. Do not leave fruit on the ground as this will only add to your problem. Make sure that harvested fruit is refrigerated immediately and keep it refrigerated while on display.
- Take foliar samples for nutrient analysis of all berries now.

Strawberries

- June bearing strawberry regrowth looks pretty good, but growers need to make sure plants are getting watered periodically. Some locations were extremely dry before this weeks' rain – regrowth and overwintering depends adequate water throughout the fall.
- Make sure to check day neutral berries for mites. The hot, dry weather promotes mite populations.
- Annual Chandler fields should be planted by Labor Day. The later you wait, the less established they will be and the poorer they will winter and perform next spring.

Elderberries

- SWD loves elderberries. A number of the products labelled for other berries are also labelled for elderberries. The crop this summer looks good so protection and



monitoring is really important. Check the Small Fruit Guidelines – there is an entire elderberry section! There is also a website I found that discusses bagging individual bracts to prevent SWD infestation. <http://www.elderberryedge.com/swd-and-how-to-prevent-without-pesticide/>

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Berry 'To Do' List, continued from previous page

Bramble Crops

- Fall raspberries are the most vulnerable to SWD, so protect them now.
- Scout for canes infested by raspberry cane borer. These will have wilting tips and two dark rings of punctures on the canes where eggs have been laid. Cut off and destroy the wilted tips below the rings as soon as this damage is noticed.
- Fall raspberry harvest is under way and these berries are the most vulnerable to SWD so keep to the spray schedule of 5-7 days.
- Hot dry weather is perfect for mites. Keep checking the underside of leaves and use a hand lens. Acramite, Zeal, Brigade are some of the options for control and Organic JMS stylet oil is labelled for NY.

Blueberries

- Blueberry harvest is finishing up in the Hudson Valley and will be done before Labor Day in most of eastern NY. At best yield was average. Early fruit had good size and there were plenty of pickers but the later fruit lacked size due to drought. It is difficult to add enough water to make up for droughty weather.
- Take a good look at weed population in fields. Fall is the time for weed control so plan accordingly.

Recommendation for Fall Raspberries Infested with SWD

If SWD populations follow a pattern similar to previous years, populations may rise very dramatically during the next few weeks – right as fall raspberries come into peak production. Regular spraying (5-7 day spray schedule) has reduced infestation to manageable levels, although it has not eliminated the threat.

If you decided to forgo spraying for SWD and are considering mowing primocane raspberries early, STOP!!! There is no evidence that mowing canes early will have an impact on next years populations. What we DO know is that mowing those canes now, before the plants move carbohydrates to the crown of the, will have a serious negative impact on the ability of the raspberry plant to overwinter.

Carbohydrates move from the leaves into the crown during the fall, then back up from the crown into the buds in the spring. Removing canes early essentially removes the stored food available to the canes and can result in winter injury or weak canes the next year. Conversely if you wait until the spring – say March – and it turns warm quickly (like this past spring) the carbohydrates will move into the buds and then you remove those canes with the stored food leaving the new canes with no reserve.

The best time to remove canes on fall bearing raspberries is from December to February when most of the carbohydrates are in the crown of the plant. Prune the old canes as close to the ground as possible so that the buds for new canes will break below the soil surface. If you don't do this, the fruiting laterals may form on the remaining cane and could be very low, unproductive and at risk of insect and disease.

In the past some growers topped the raspberries – removing the ripening fruit clusters. Again, there is little evidence that this action will have any impact on the population of this pest next year. As for spraying the abandoned canes, there is no information to indicate that this is a good strategy and may likely be a waste of money and time. This also applies for spraying fruiting plants in hedgerows. Both of these strategies are considered illegal pesticide applications and should not be done.

- LGM



Pesticide Updates

- The New York State Department of Environmental Conservation recently approved a 2(ee) recommendation for the use of **Mustang Maxx** (EPA Reg. No. 279-3426) against the unlabeled pest spotted wing drosophila (*Drosophila suzukii*) on grapes and berry crop group 1 (blackberry, loganberry, red and black raspberry, blueberry, currant, elderberry, gooseberry, huckleberry).

A copy of the 2(ee) recommendation is has been posted to PIMS website: <http://132.236.168.99/ppds/535140.pdf>. Please remember that users must have a copy of the recommendation in their possession at the time of use.

- The US Environmental Protection Agency has granted New York State a FIFRA Section 18 specific exemption for the use of **Bifenture 10DF Insecticide/Miticide** (EPA Reg. No. 70506-227), **Bifenture EC Agricultural Insecticide** (EPA Reg. No. 70506-57), and **Brigade WSB** (EPA Reg. No. 279-3108) to control brown marmorated stink bug on apples, peaches, and nectarines in Columbia, Dutchess, Orange, and Ulster Counties in New York.

Please note the following:

- The Section 18 labels restrict use to Columbia, Dutchess, Orange, and Ulster counties. Use in any other counties is prohibited.
- The exemption is valid through October 15, 2015.
- Bifenture 10DF, Bifenture EC, and Brigade WSB are restricted-use pesticides.
- Aerial application is prohibited.

Users must have a copy of the appropriate Section 18 exemption in their possession at the time of use. Users must also follow all applicable directions, restrictions, and precautions on the primary product label.

Copies of the Section 18 authorization letter and the approved labels are available in the regulatory section of the Product, Ingredient, Manufacture System (PIMS) website: <http://pims.psur.cornell.edu/index.php>. Copies of the approved labels should be posted there shortly.

New Research Shows Spotted Wing Drosophila Repellent Naturally Produced In Fruits

Source: University of California-Riverside news release

Spotted wing drosophila, *Drosophila suzukii*, is a big pest for fruit growers. However, Christine Krause Pham and Anandasankar Ray, researchers at the University of California-Riverside have recently identified a chemical naturally existing in fruits in small doses that protects fruits from spotted wing drosophila.

Butyl anthranilate (BA), a pleasant-smelling chemical was applied to blueberries as a coating and deterred the pest from feasting on the fruit.

As part of the experiment, blueberries were treated



SWD infested blueberries. Photo source: <http://www.extension.umn.edu/>

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with BA and a control left untreated were placed in a glass chamber containing spotted wing drosophila.

“We saw decreases after only a single treatment,” Pham says, the first author of the research paper. “We saw substantial decreases at 2.5% of BA and nearly complete protection at the 10% concentration, strongly indicating that insect repellents with good safety profiles can be useful to reduce fruit damage during ripening.”

Found in low concentrations in a number of fruit, BA smells like grapes and is commonly used as a flavor and fragrance component. It belongs to a category called generally recognized as safe (GRAS) and is approved for human consumption as a food additive.

“Most flies are attracted to rotting fruit,” Ray explained. “*D. suzukii*, however, is specialized in that it is attracted to ripening fruit. What makes BA especially appealing is that not only does it repel *D. suzukii*, but it also reduces the flies’ desire to lay eggs. There is good potential in the future to develop brand-new strategies for reducing crop damage using repellents like BA. From previous studies we have done in the lab, we have hundreds of such compounds to explore and test.”

“The natural repellents discovered by Dr. Ray are particularly promising for supporting multiple possible

applications,” says Michael Pazzani, University of California-Riverside vice chancellor for research and economic development. “The safe and inexpensive compounds are not only effective for the protection of fruit and agricultural produce from pests, but also from biting insects that transmitting disease to us and livestock.”

Next, Ray wants to test the efficacy of BA in field trials, and if it is, they will request approval from the EPA.

“We hope that BA and other similar chemicals we have in our portfolio will be able to work against the Asian citrus psyllid, Mediterranean fruit flies, whiteflies, and other flies that can damage fruits and crops,” Ray said. “In the future we can begin developing repellents for agricultural use that could cover fruits, crops like wheat and corn, and produce. The long-term grand vision is that one day we will be able to integrate safe naturally-occurring repellents into the repertoire of farmers to reduce their dependence on insecticides. It is conceivable also that similar chemicals and approaches could be developed to protect homes, humans, and farm animals.”

For full study, visit *Scientific Reports*, an online and open-access Nature publication at:

<http://www.nature.com/srep/2015/150622/srep11527/full/srep11527.html>.

For Your Information:

- **How New Jersey Tamed the Wild Blueberry for Global Production** – a really nice radio piece that was featured on NPR this week. Lots of history for the blueberry buff and the casual consumer alike. Listen to it by clicking this link: <http://www.npr.org/sections/thesalt/2015/08/04/428984045/how-new-jersey-tamed-the-wild-blueberry-for-global-production>
- **Ontario Horticulture Videos:** You will find videos on a variety of topics for horticulture crops and several of interest to berry growers.
 - *Brown marmorated stink bug (BMSB), by Hannah Fraser shows some great shots of live BMSB to help you identify this pest before it becomes a problem.
 - *Using propane cannons for bird control is explained on two video clips by engineer Hugh Fraser. He also has a video on using fans for frost protection.



Elizabeth Coleman White inspects a blueberry bush in Whitesbog, N.J., date unknown. White began working with blueberries in 1911. [USDA/Flickr](#)

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*Rebecca Short demonstrates both drip irrigation system maintenance and how to monitor for soil moisture, in five videos. Learn maintenance tips and tricks by watching Rebecca carry out the California standard irrigation system assessment in an Ontario orchard. Soil moisture monitoring is presented in the last three of these videos.

Go to <http://www.omafra.gov.on.ca/english/crops/hort/videos.htm#pest> and click on the playlist in the top corner of the first video to get a list of videos in the playlist.

- **Strawberries are in Big Trouble. Scientists Race to Find Solution** - Article in the Washington Post outlining the difficulties of growing

strawberries. This of course we know, but California growers are complaining bitterly about the loss of methyl bromide and this article outlines the issue. <http://www.washingtonpost.com/news/speaking-of-science/wp/2015/08/04/scientists-race-to-find-solution-for-imperiled-strawberry-industry/>.

- **The website titled ‘And Know You Know’** has recently been posting articles focused on research into robotic harvesters for strawberries and blueberries. These machines, while very large and expensive for our scale of berry farming, have the potential to revolutionize berry production throughout the country and the world. Check it out! <http://www.andnowuknow.com/>

Calendar of Events

Wednesday, August 19th— Limiting Bird Damage in Fruit: State-of-the-Art Pest Management Tactics (A Vertebrate Damage Management Workshop), 4H Training Center, 556 Middleline Rd, Ballston Spa, NY 12020. This comprehensive class will feature results and speakers from a multi-year, multi-state project that looked at several different fruit crops. \$20/person registration includes lunch and is required. If you would like to attend the lecture via webinar, that option is available but you must register to get connection details. There is no charge for the webinar portion of the meeting. To register, visit the ENYCP website: <http://enych.cce.cornell.edu/>

Wednesday, September 2nd – Exclusion Netting Workshop, 3-5 pm, The Berry Patch, 15589 NY Route 22, Stephentown, NY 12168. Registration is free, but we do recommend you register. Call Marcie at 518-272-4210 or email at mmp74@cornell.edu.

Thursday, September 3rd – Soil Health Field Day, 10:00 am - 3:00 pm (registration begins at 9:30 am) at Fox Creek Park, Route 30, Schoharie (use 495 N Main St for GPS). \$15 per person ~ includes lunch. Hosted by: The Carrot Barn. Featuring: Ray Archuleta, NRCS National Soil Health Expert.

Wednesday, September 16th—Strawberry Low Tunnels, 3-5pm at Stanton’s Feura Farm, 210 Onesquethaw Creek Road, Feura Bush, NY 12067. Take a look at a low tunnel in a day-neutral strawberry production system. This workshop is free, rain or shine. Call Marcie at 518-272-2410 to register.

Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide. This material is based upon work supported by Smith Lever funds from the Cooperative State Research, Education, and Extension.

Diversity and Inclusion are a part of Cornell University’s heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities.

2015 Weather Table—The weather information contained in this chart is compiled using the data collected by Network for Environment and Weather Applications (NEWA) weather stations and is available for free for all to use. For more information about NEWA and a list of sites, please visit <http://newa.cornell.edu/> This site has information not only on weather, but insect and disease forecasting tools that are free to use.

2015 Weekly and Seasonal Weather Information						
	Growing Degree Information Base 50° F			Rainfall Accumulations		
Site	2015 Weekly Total 8/4 - 8/10	2015 Season Total 3/1 - 8/10	2014 Season Total 3/1 - 8/10	2015 Weekly Rainfall (inches) 8/3 - 8/10	2015 Total Rainfall (inches) 3/1 - 8/10	2014 Total Rainfall (inches) 3/1-8/10
Albany	149.7	2005.6	1866.0	0.29	13.73	18.63
Castleton	546.3	2342.4	1760.2	0.49	16.16	18.55
Clifton Park	142.4	1921.2	1696.2	0.14	12.95	18.45
Fishkill	138.8	1917.3	Na ¹	0.00	5.18	Na ¹
Glens Falls	130.3	1713.6	1673.0	0.09	13.19	21.23
Griffiss	116.1	1594.2	1560.0	0.03	19.79	22.63
Guilderland	133.0	1800.0	1710.0	0.06	14.55	Na ²
Highland	151.8	2026.7	1866.7	0.02	14.51	22.08
Hudson	143.3	2009.6	1530.3	0.05	13.33	25.12
Marlboro	145.0	1941.2	1798.9	0.04	12.61	20.46
Montgomery	81.7 ³	1919.1 ³	1830.5	0.04 ³	0.7 ³	17.68
Monticello	107.7	1549.3	1446.5	0.00	12.92	7.63
Peru	114.7	1615.3	1594.7	0.12	16.06	18.45
Red Hook	142.6	1913.1	1839.7	0.05	15.24	11.63 ⁴
Wilsboro	113.3	1572.3	1533.1	0.12	20.66	11.04
South Hero, VT	126.4	1680.6	1648.0	0.03	18.11	19.57
N. Adams, MA	113.3	1544.6	1496.5	0.18	15.32	19.01
Danbury, CT	135.9	1828.5	1688.0	0.51	16.82	19.67

Na¹: The Fishkill site is new for 2015 so there is no historical data to report.

Na²: The Guilderland weather station was not properly reporting precipitation data in 2014 so no data will be shown for this site.

Na³: Data for this week is only up to 8/7/2015

Na⁴: Precipitation data for this site did not start until May of 2014.