

# Weekly Berry Call – June 9, 2010

## **Note: CORNELL STRAWBERRY FIELD DAY CANCELLED**

Cornell University's New York State Agricultural Experiment Station Strawberry Field Day, previously scheduled for Thursday, June 17, 2010 at the Darrow Farm outside Geneva, has been cancelled. Dr. Courtney Weber, Cornell small fruits breeder and meeting host informed us that after assessing the strawberry plots after the last freeze event in Geneva, he has decided to cancel the field day. Bloom was well advanced across the planting during the early May frosts and most varieties had severe injury so there is not adequate fruit to have a field day. Dr. Weber plans on a strawberry field day in 2011.

**Participants** (*fire drills not withstanding*): Cathy Heidenreich (Finger Lakes region/Geneva), Pam Fisher (Ontario, Canada), Laura McDermott (greater Capital District), Colleen Cavagna (Allegany/Cattaraugus Counties), Jeff Miller (Mohawk Valley/Oneida County), Juliet Carroll (NYS Fruit IPM Coordinator/Geneva), Kerik Cox (Tree Fruit and Small Fruit Pathologist/Geneva), Dale Ila Riggs (Stephentown/Northern Hudson Valley), Steven McKay (Hudson Valley Fruit Program/Columbia County)

## **GROWING CONDITIONS** (*courtesy NY NASS*)

**Week ending June 6, 2010:** The week started out very warm and dry with high pressure dominating. The pattern changed by mid week with a fast zonal flow developing resulting in an active pattern with three systems moving through the region triggering showers and thunderstorms. Conditions were very wet across western New York.

Strawberries and rhubarb were being harvested in Ontario County. Warm temperatures ripened strawberries faster than expected in Broome County. U-pick operations opened during the week.

## **REPORTS FROM THE FIELD**

**Allegany/Cattaraugus:** Light frost yesterday in the Alfred/Almond/Andover area; possibility of frost there again tonight. A lot of rain recently, approximately 1 to 3" fell in a 2-day period; levels almost back to normal.

**Mohawk Valley/Oneida:** Rain this week on average 2.64 inches. GDD (Growing Degree Days Base 50) 537 since May 1. Strawberry growers here not interested in help with advertising – they are worried about running out of berries for their regular customers. They are also reporting bird damage on strawberries from Cedar Waxwings.

**Finger Lakes region/Geneva:** Warmer temperatures from last week have given way to more moderate temperatures this week. One to three inches of rainfall reported in the region over a 2-day period early this week. *Strawberries* – harvest began over the weekend. First-of-the-season strawberries were available at farm stands this past weekend were selling at \$4.00/quart. Reports coming in of slug and sap beetle activity. *Raspberries* – still some bloom to green fruit. Looks like a good crop set. *Blueberries* – green fruit; early varieties starting to color slightly.

**Greater Capital District:** Weather in our region was pretty good – hot and dry last week with storms over the weekend that brought 1-2" depending upon where you were. Soil moisture level is quite good now. Low temps for the last 2 nights (low 40's). Frost damage to hardy kiwifruit – see discussion for more on this topic.

**Hudson Valley Region/Columbia County:** Weather is stable, still some shortage of rain, but cool and dry now. They are anticipating some berry shortages due to May 10 freeze. Two berry projects there are ongoing. One is a strawberry variety trial at Hepworth Farm in Ulster County with 20 varieties for growers to see and review. The second involves a project with Dr. Olga Padilla-Zakour of the NYS Food Venture Center in extracting elderflower essence to be used in value-added products such as juices, wines, syrups etc.

**Stephentown/Upper Hudson:** Dodged a bullet – 37 degrees with cloud cover last night. In the past 14 years, they have needed to irrigate for frost protection 7 or 8 times between June 1 and June 8. *Strawberries* – Harvest is a full 2 weeks ahead. PYO opening this weekend with good berry quality and king berry size. Peak harvest is projected to fall on Father's Day weekend. One concern is they may be out of berries before the July 4<sup>th</sup> weekend. Some concerns about PYO activity also as families usually come with children; they are not yet out of school. Yields average overall, not a bumper crop but not bad. Another is about fruit size holding up through the season as it appears to be already dropping off in 'Wendy'. Bird damage occurring from Cedar Waxwings, Robins, Canada Geese – see discussion for more on this topic.

*Raspberries* - have a good crop set. Harvest projected to start last week of June.

*Blueberries* – finally done blooming; green fruit are sizing.

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### Ontario Canada

**Strawberries** - ramping up for harvest. 2008 Strawberry variety trial there with 8 varieties on a heavy soil with a history of root rot (Red stele, Black root rot?). Varieties included 'Annapolis', 'Wendy', 'L'Amour', NY56, NY61, NY2291, APF-9330-10, and 'Jewel'. Three varieties (NY 56, NY 61 and 'L'Amour') demonstrated the best performance (tall, green, lush, well filled in) compared to the others (small, stunted, unthrifty).

**Raspberries** - they are expecting a huge, early crop; they are wondering if/how plants will sustain such a large crop. No winter injury except perhaps Kilarney, which is starting to show signs of dieback.

**Blueberries** – Some branches (1 -2 per plant, usually older wood) with small leaves, lots of berries, particularly 'Patriot', 'Nelson'. One blueberry planting reported with black sooty branches. The problem was identified as Azalea scale. See discussion for more on these topics.

### **DISCUSSION:**

**Frost damage on Aronia** – Frost damage observed for first time on Aronia in Hudson Valley due to the May 10th freeze. Berries are yellowing and dropping.

**Frost damage on male hardy kiwifruit** – The kiwi planting that the Columbia county grower installed this spring (~1/4 acre, 8 different varieties) looks great except all the male plants of all varieties got hammered in the Mother's Day freeze. Last week – no visible signs of life from the males but almost all female vines look fine. Does anyone know if this is normal? Can they anticipate any growth from crown? They are calling the 2 nurseries they ordered from.

*Steven McKay from Hudson Valley reports he also had frost damage on his hardy kiwifruit as a result of the Mother's Day freeze. But both his male and female plants have already started to send up new shoots from the crowns. One way Steven uses to assess frost damage/mortality on these plants is to check vines for remaining green tissue and/or new buds that appear to be breaking. Steven is wondering in this case if plant size may have been more of a factor vs. male and female. He has observed that small nursery plants do not survive frost injury as well as larger transplants.*

**Bird damage on strawberries** – Several reports of damage coming in specifically by cedar waxwings. These birds destroy king berries and many of the other early ripening fruit. Dr. David Handley of University of Maine Cooperative Extension suggests only by keeping a near constant presence in the field and eliminating roosting sites can you reduce the damage caused by these birds. He says they are usually discouraged when the fields start to be regularly harvested and lots of customers are present. Damage was particularly significant on 'Cabot', a particularly large fruited strawberry (apple sized fruit, two fit in the palm of your hand). 'Cabot' berries are also very exposed on the plant vs. other varieties.

Other birds noted to be causing damage were Robins and a flock of 12 Canada Geese that decimated a 50 foot section of a planting before being driven off. Songbirds such as cedar waxwings and Robins are protected by law and should not be killed.



Cedar Waxwing (Cornell University)



Bird Damage on strawberry fruit (David Handley, University of Maine)

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**Elder Shoot Borer** – First report of damage for this pest occurred last season in Hudson Valley. Significant damage is occurring there in the same planting again this year, though slightly less than last year perhaps due to larger size of plants this season. Included by way of reminder below are photos, description, and management recommendations from the May 27, 2009 issue of the Berry Call-in summary.

The larval stage of the elder shoot borer, *Achatodes zaeae* (Harris), is a worm that bores in the stems and shoots. The adult moth lays eggs in July and August in canes at least 1 year old. Eggs hatch the following April or May. The larvae feed first within the unfolding leaf whorls, and then bore into new lateral shoots. When partially grown, they migrate to the ground shoots, entering these at the bases and feeding upwards into the shoots. When the larvae are fully grown in mid-June, they leave the ground shoots and tunnel into dead canes to pupate, leaving small piles of frass (sawdust) on the ground at the base of the old wood.

To control, prune out infested shoots or canes. Eliminate dead canes to discourage pupation. Remove old canes with holes or with piles of frass at their bases. Destroy all prunings.

(Courtesy of and adapted from the Pennsylvania State University – Fruit Growing in the Home Garden: <http://ssfruit.cas.psu.edu/82.htm>.)



Larva (Photo Courtesy of Purdue University)



Damaged shoot (Photo courtesy S. McKay)

**Azalea Scale on Blueberries** – (*Eriococcus azaleae* Comstock) White cottony scale with pink crawlers were found in a middle-aged planting. Symptoms included black sooty branches covered with scales. Some plants have died from the infestation. For more information and pictures: [http://oregonstate.edu/dept/nurspest/azalea\\_bark\\_scale.htm](http://oregonstate.edu/dept/nurspest/azalea_bark_scale.htm). (Pictures courtesy Pam Fisher, OMAFRA)

**Imported Currant Worm** – lots of activity in Hudson Valley. Growers need to be monitoring and taking action. Below is the brief description and management recommendation from the 2010 Cornell Berry Pest Management Guidelines for this pest:

**Symptoms** - The full-grown larva is 1.5 inches long; it is green with yellowish ends, has a black head, and is covered with black spots. Shortly after the leaves are out in the spring, the worms feed first in colonies and later singly, voraciously stripping the plants of foliage. A second brood occurs in early summer, and a partial third brood may appear depending on the weather.

**Scouting/thresholds** - None established.

**Resistant cultivars** - None known. Cultivars vary somewhat in susceptibility but all *Ribes* (currants, gooseberries, and Jostaberries) appear susceptible.



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**Cultural management** - None established.

**Conventional products** - Chemical sprays should be applied as soon as the worms appear. **Note:** Although these pests resemble other lepidopteron worms, they are not related, and **cannot** be controlled with *Bacillus thuringiensis* (Bt). Options: **malathion** - Malathion 57EC (3.2 pt/A).

**Organic products** None known.

*(Photo courtesy Whitney Cranshaw, Colorado State University Cooperative Extension, Entomology)*



**Blueberry leaf/shoot imbalances:** Ontario is reporting some branches (1 -2 per plant, usually older wood) with small leaves, lots of berries, particularly 'Patriot', 'Nelson'. It was noted similar symptoms have also been observed here in NY on 'Bluecrop' in Geneva. Other NY varieties showing these symptoms included 'Nelson' and 'Bluegold' in the Stephentown area. Juliet Carroll NYS Fruit IPM coordinator suggested testing for Ring spot viruses as it has been noted that 'Patriot', 'Nelson' and 'Bluecrop' are varieties known for their susceptibility to Ring spot virus. They are systemic, building up in roots, not moving quickly up the plant, so therefore it would not be uncommon to see symptoms distributed in specific branches. If viruses are ruled out, other possible explanations below come from the [Cornell berry diagnostic tool](#):



“Although there are many reasons for small berries including [drought](#) and variety selection, a common cause relates to pollination. Poor weather during flowering may inhibit bee flight, causing too few seeds to be produced. Seed number is proportional to berry size. Other causes may include [Carpenter Bee Damage](#) to blossoms, [Single Variety Plantings](#), or [Poor Shoot Growth](#).

1. **Carpenter Bees** (*below right*) as compared to bumble bees (*below left*). Carpenter Bees chew holes in the sides of flowers, allowing other bees to bypass the pollination process and steal nectar. **Honeybee** stealing nectar through Carpenter Bee holes in blossoms (*below right*).



2. A large stand of a **single variety** will also produce smaller berries than a mixed stand.

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3. In addition, there are situations where **shoot growth is poor** (in spring), but flower bud initiation is good (in late summer). It may be that shoots develop lots of flowers with few leaves the following year (*top right*). Berry size will be small in this case. “

### **Blueberry Viruses** (*Dr. Kerik Cox, discussion guest speaker*)

*Update on research efforts:* A team of research and extension personnel spearheaded by Dr. Kerik Cox, tree fruit and small fruit pathologist at NYSAES has begun an initiative to garner funding for a statewide survey for TRSV, TORSV, scorch and shock viruses in blueberries and potentially begin a virus-indexing program. Team members include Dr. Cox and Dr. Marc Fuchs (virologist at NYSAES) from the Cornell Dept. of Plant Pathology and Plant Microbe Microbiology, Juliet Carroll, NYS Fruit IPM coordinator, and Dr. Marvin Pritts and Cathy Heidenreich from the Cornell Dept. of Horticulture. The team was successful in winning funding from 2 sources for the initial survey, both of which were then lost due to state budget problems. Additional funding is being applied for but survey efforts will be minimal at best for the 2010 season.

*Tobacco Ring Spot Virus (TRSV):* symptoms include necrotic splotches/spots on leaves. Leaves also may be crumpled and misshapen, malformed. For more on TRSV: <http://www.blueberries.msu.edu/necroticringspot.htm>.

*Tomato Ringspot Virus (ToRSV):* symptoms are similar to those of TRSV; leaves may have yellow spots with red centers, and appear stunted and small. For more on ToRSV: <http://www.blueberries.msu.edu/tomatoringspot.htm>.)

These diseases are vectored by the Dagger nematode, a large nematode typically found in sandier/looser soils. Both viruses are turning up in older NYS plantings (10 - 25 years old) where growers may have recognized they had a possible virus problem but were not sure how best to deal with it, or the viruses were unnoticed although growers noted plants were terribly unproductive. Plants infected with these viruses debilitate over time then die out. Growers often replanted, a practice not meeting with good success with these soil-borne viruses. As these viruses also affect grapes, cherries and raspberries, it is not advisable to replant with these crops either.

The source of these “outbreaks” seems more likely to be from infected planting stock than the Dagger nematode. Dagger nematode is uncommon in most of our heavier NYS soils, and spreads extremely slowly with in a planting. Soils where presence and spread of Dagger nematode is more likely include the Lake Ontario Plains and Long Island.

Most planting stock from that time period came from out of state nurseries that most likely had not yet implemented virus-screening programs. Nurseries today frequently have such programs in place and provide virus indexed materials. Growers are advised to ask if nurseries have virus-indexing programs in place before purchasing planting stock. It is also not advisable for growers to propagate new planting material from existing plantings to minimize the likelihood of virus spread.

*Blueberry Scorch Virus:* Symptoms of this virus are very similar to those that occur during periods of drought. Hot dry weather can precipitate quick and sudden death of flowers and developing fruit. Twig dieback may also occur. Flowers dry up and mummify in a manner similar to that seen with frost injury. Leaves exhibit chlorosis and reddening. This disease is aphid transmitted and is more easily spread than nematode-borne viruses such as TRSV and ToRSV. More on blueberry scorch: <http://www.blueberries.msu.edu/scorch.htm>

*Blueberry Shock Virus:* Symptoms of blueberry shock virus also include complete necrosis of flowers and leaves at bloom; unlike scorch however, this necrosis is followed by a second flush of growth (no fruit) and plants may appear to have recovered. Symptoms may re-occur for 1 to 4 years and then the infection becomes quiescent. It is possible for recovery and return to production if the field is well managed in other respects. This disease is pollen-borne and may be transmitted by bees. More on blueberry shock: <http://www.blueberries.msu.edu/shock.htm>.

**Einbock tine weeder:** (*e-mail from Laura McDermott*) In the Vt. Veg and Small Fruit Notes someone mentioned that they really liked the Einbock tine weeder. This piece of equipment has received rave reviews from a few of our (Capital District) organic farmers as well –I found a photo on the web – link below. Our guys are using it on new strawberries, greens, cukes and potatoes – probably could be used on most anything as long as spacing was right and before plants get very tall. [http://www.tinedweeder.com/?page\\_id=3](http://www.tinedweeder.com/?page_id=3).

(*from Dale Ila*) I have found the Einbock not as effective on strawberries as on other crops. The strawberries need to be rooted in really well (3 -4 weeks) or they pull out. By that time we are past the most effective weed management stage (white thread) for the machine. I would be interested in talking with the other growers to see if I am missing something – perhaps I need to adjust my machine differently.

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Symptoms of Ringspot Virus on blueberry. Note stunting and yellowing of foliage. *(Photo courtesy C. Heidenreich)*



Healthy (left) and Ringspot infected-infected (right) branches Note stunting of leaves and fruit. *(Photo courtesy C. Heidenreich)*

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Symptoms of Ringspot Virus on blueberry. Note in row spread of disease and decline and death of plants.  
*(Photo courtesy C. Heidenreich)*

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## NY NASS Weather Data for Week Ending Sunday, June 6<sup>th</sup>, 2010

Station	Temperature (°F)				Growing Degree Days Base 50° <sup>1/</sup>			Precipitation (Inches) <sup>1/</sup>				
	High	Low	Avg	Dep. from Norm	Week	Season	Dep. from Norm	Week	Dep. from Norm	Season	Dep. from Norm	
<b><u>Hudson Valley</u></b>												
Albany	94	54	71	+11	153	486	+216	0.12	-0.70	3.14	-3.14	
Glens Falls	92	44	68	+9	127	383	+171	0.04	-0.79	3.65	-2.82	
Poughkeepsie	95	53	69	+8	135	516	+206	0.00	-0.98	3.51	-4.17	
<b><u>Mohawk Valley</u></b>												
Boonville	89	50	67	+12	122	318	+170	0.00	-1.02	4.75	-4.14	
<b><u>Champlain Valley</u></b>												
Plattsburgh	94	46	69	+10	131	358	+144	0.24	-0.46	3.57	-2.00	
<b><u>St. Lawrence Valley</u></b>												
Canton	90	49	68	+11	129	369	+187	0.12	-0.58	3.58	-2.15	
Massena	96	50	71	+13	148	402	+198	0.01	-0.59	2.58	-2.51	
<b><u>Great Lakes</u></b>												
Buffalo	85	57	72	+12	153	459	+210	0.00	-0.76	4.91	-0.99	
Wales	82	53	68	+11	127	362	+178	0.00	-0.86	5.30	-1.95	
Niagara Falls	87	56	71	+11	149	465	+199	0.03	-0.67	4.85	-1.15	
Rochester	88	53	70	+10	143	498	+228	0.00	-0.63	4.05	-1.18	
Watertown	85	50	68	+11	128	389	+203	0.07	-0.56	2.98	-2.13	
<b><u>Central Lakes</u></b>												
Dansville	90	50	70	+11	144	482	+230	0.00	-0.72	3.67	-1.94	
Geneva	88	52	71	+12	145	459	+220	0.00	-0.74	4.40	-1.40	
Honeoye	89	49	69	+10	136	465	+220	0.00	-0.70	4.67	-1.03	
Ithaca	87	50	68	+10	130	421	+213	0.02	-0.78	4.67	-1.43	
Penn Yan	89	56	71	+12	145	498	+259	0.00	-0.74	4.19	-1.61	
Syracuse	90	57	71	+12	149	507	+235	0.00	-0.77	3.72	-2.78	
Warsaw	82	53	68	+12	128	357	+193	0.00	-0.86	6.04	-0.73	
<b><u>Western Plateau</u></b>												
Angelica	86	51	68	+12	131	382	+220	0.04	-0.76	5.59	-0.05	
Elmira	89	49	69	+10	131	448	+221	0.01	-0.77	4.94	-0.83	
Franklinville	85	45	66	+12	116	302	+171	0.00	-0.86	5.95	-0.74	
Jamestown	85	51	69	+13	133	369	+205	0.00	-0.95	6.58	-1.04	
<b><u>Eastern Plateau</u></b>												
Binghamton	87	56	70	+11	139	483	+265	0.00	-0.77	4.75	-1.63	
Cobleskill	90	46	68	+9	124	364	+170	0.03	-0.86	3.96	-2.85	
Morrisville	88	52	69	+12	134	379	+196	0.00	-0.91	5.49	-1.18	
Norwich	92	50	69	+11	132	363	+164	0.00	-0.89	5.01	-1.98	
Oneonta	90	53	68	+12	129	376	+202	0.00	-0.99	5.41	-2.23	
<b><u>Coastal</u></b>												
Bridgehamton	89	50	66	+7	112	418	+201	0.07	-0.77	5.24	-2.42	
New York	94	58	70	+6	143	731	+295	0.02	-0.82	5.44	-2.05	

<sup>1/</sup> Season accumulations are for April 1<sup>st</sup> to date. Weekly accumulations are through 7:00 AM Sunday Morning. The information contained in this weekly release is obtained in cooperation with Cornell Cooperative Extension, USDA Farm Service Agency, the National Weather Service, Agricultural Weather Information Service and other knowledgeable persons associated with New York agriculture. Their cooperation is greatly appreciated. **Visit our website at [www.nass.usda.gov/ny](http://www.nass.usda.gov/ny) and click on "subscribe to NY reports" for instructions on subscribing electronically. You may also visit our website to access all our reports which are available for free online.**