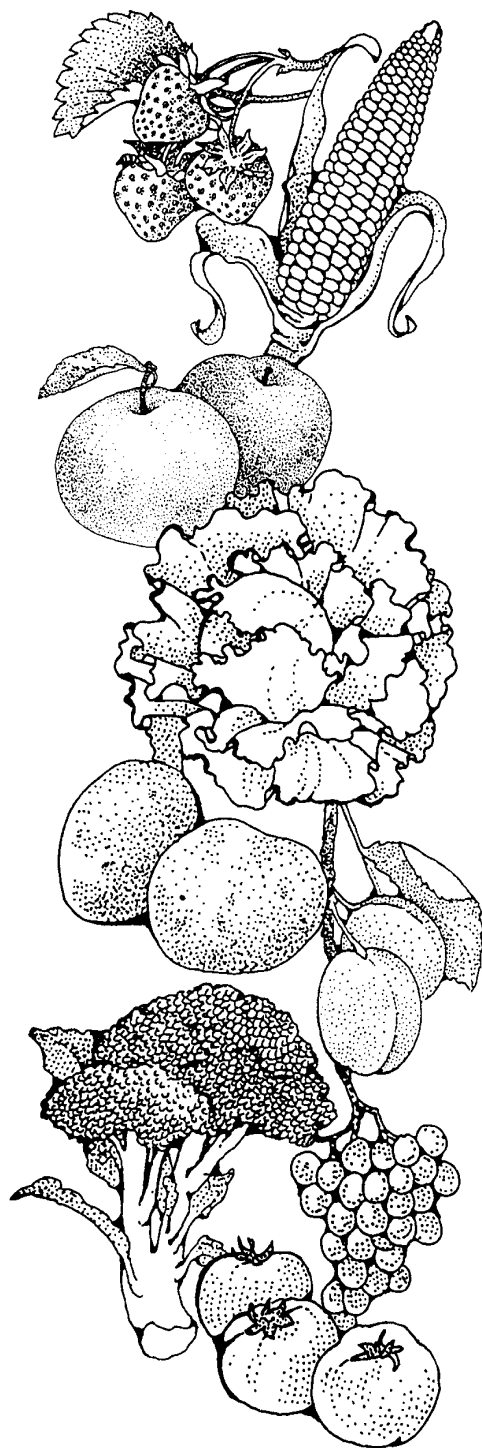


# FRUIT & VEGETABLE UPDATE



## GENERAL

**Cornell's Plant Science Day and Barbecue:** Join us for the 6<sup>th</sup> annual Cornell University's Plant Science Day on Tuesday, July 8, to be held at the LIHREC on Sound Ave in Riverhead. Program tours will be held from 4-6 pm in four commodity areas: vegetables and potatoes, nursery and ornamentals, greenhouse and floriculture, and grapes. There is no charge to attend the program tours. Registration will begin at 3:30 by the greenhouses and NYS-DEC pesticide recertification credits will be available for this event. Following the educational tours, there will be a catered barbecue dinner held on-site. The cost of the barbecue is \$30 and a 50/50 raffle drawing will be held.

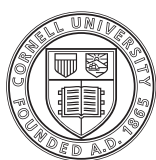
Pre-registration is required for the barbeque dinner to follow. For more information on the tours or to sign up for the barbeque dinner call Diane or Sandi at 727-3595.

**Common Armyworm Alert:** There have been reports of high levels of common armyworm in our area. The common armyworm does not overwinter in the Northeast US but migrates into the area on spring storm fronts from the south. Adults are attracted to and lay their eggs in grassy crops including small grains. Larvae feed on foliage and emerging heads but most obvious damage occurs when they feed on the stems, clipping heads off completely. The larvae are smooth, cylindrical caterpillars, 1.5 to 2 inches long when fully grown. Their color ranges from tan to dark olive green with a lighter stripe running along each side. An insecticide application is warranted when there are 3 to 4 armyworms per square foot. Only the infested area and surrounding border of 20 to 40 ft needs to be treated. Because armyworm larvae feed at night, insecticide treatments are most effective if applied later in the day. Vegetable, potato and corn growers should also be on the lookout for this pest as larvae will "march" out of grain fields once their food supply is exhausted and feed on those crops.

**Assail 30 SG:** New York State just granted Assail 30 SG (EPA No. 8033-36-70506, a.i. acetamiprid) additional registrations for cucurbits, edible podded legumes and succulent shelled peas and beans, onions and other bulb vegetables, stone fruits, strawberries, blueberries, and other bush and cane berries. A copy of the supplemental label must be in the possession of the applicator at the time of application. (SM)

## VEGETABLES

**Sweet Corn IPM:** The number of European corn borer (ECB) adults being trapped has decreased throughout our area within the last week. Moderate levels of ECB damage has been noted in late whorl stage corn with a few fields scouted above threshold. An initial spray application as tassels begin to emerge, followed by a second application between full tassel and silk, will provide good control of this pest. Corn earworm (CEW) moth counts range from low to moderately high among locations. CEW larvae and damage were



noted in late whorl to early tassel stage corn this week. Sprays made to control for ECB will also control CEW in earlier stage corn, however, at locations where weekly trap counts exceed 7 CEW adults, a 4-day spray schedule is recommended in silk stage corn to manage infestations in the developing ear.

Pheromone Trap Catch Records Week of 6/13- 6/20			
Location	ECB	CEW	FAW
Aquebogue	7	29	0
Baiting Hollow	23	67	0
Calverton	21	35	0
Manorville	4	13	0
Mattituck	12	37	0
Riverhead	13	3	0

**Crucifer IPM Update:** Both diamondback moth and imported cabbageworm larvae and damage are being seen in fields. Most fields scouted were under threshold but when controlling for this pest it is important to know which is present, or if both are, to make the most economic and effective treatment choice. Imported cabbageworms are easy to control with any of the products labeled, including Bts. With diamondback moth infestations, Bts can hold back low population levels, especially if coverage is good, but if population levels increase products like Avaunt, SpinTor, or Proclaim are recommended in the rotation. (SM)

**Frequent Rains Providing Favorable Conditions for Disease Development:** Phytophthora blight in pepper, Pythium root rot and crown rot in tomato, Alternaria leaf spot in kale, and Septoria leaf spot of tomato in high tunnels were observed this week. Blight in pepper was found on a plant 6 days after transplanting into an infested field at LIHREC for an experiment on managing blight. Speed with which symptoms developed was surprising. No symptoms were found in the kale the previous week. Bacterial wilt is also a concern considering the number of cucumber beetles that have been seen in some fields. All crops should be scouted for symptoms of disease.

**Phytophthora Blight in Pepper:** Scout regularly for symptoms. Rogue out affected plants promptly. Cut plastic mulch to separate affected and healthy-appearing plants. The pathogen can move in water films on the lower surface of mulch. Subsoil to improve drainage. Apply fungicides beginning before symptoms are seen. Resistant varieties suppress the crown phase of blight but not the aerial phase, therefore an integrated program is considered essential for effective control. Fungicides labeled for this disease include phosphorous acid products (ProPhyt, Fosphite, Phostrol), Forum, Tanos, and Ridomil. Copper fungicides are recommended combined

with these fungicides [note that there is a 2(ee) in NY for this use]. Phosphorous acid products are considered most effective early in the fungicide program because they activate host plant defenses as well as affect the pathogen.

**Pythium Root Rot and Crown Rot in Tomato and Also Pepper:** Hot, wet conditions early in June are suspected to have been favorable for crown rot in young tomato transplants. Older plants are not susceptible. Lower stems on affected plants are dark brown extending from below ground to just above. Affected plants wilt. Roots affected by *Pythium* often lose their outer layer near the tip. Previcur Flex (1.2 or 1.5 pt/A) and Ridomil Gold EC (1-2 pt/A) are labeled for controlling *Pythium* in both crops (higher rates for tomato). Ridomil can be applied before planting. Both fungicides can be applied through drip irrigation or to the lower portion of plants using directed nozzles.

**Alternaria Leaf Spot in Cruciferous Crops:** All crops in this family are susceptible. Circular spots up to an inch in diameter develop on leaves. They can coalesce and be irregular in shape. Older leaves are usually affected first. Concentric rings may be present. Spots can also develop on broccoli and cauliflower heads and on Brussels sprouts. Sources of inoculum include infested seed, crop debris, and cruciferous weeds. The pathogen can survive in soil after crop debris decomposes when it forms resting structures. Spores can be moved by wind, splashing water, and insects. Warm, wet conditions favor development of Alternaria leaf spot. Apply chlorothalonil for preventive control. Alternate among the following fungicides when Alternaria leaf spot is present or likely based on past occurrence: Endura, Switch and a QoI fungicide (Amistar, Quadris, or Cabrio). Tank-mix these with chlorothalonil for fungicide resistance management. Do not plant successive plantings together. Crop debris should be destroyed as soon as possible after harvest in infested fields and the field should not be used for growing cruciferous crops for at least 3 years.

**Diseases of Concern Now in Cucurbit Crops:** Bacterial wilt is a great concern this year because cucumber beetles have been observed in high numbers. Apply the insecticide Admire at planting, preferably in furrow. Scout for beetles. Consider a foliar insecticide application if beetles are seen. Phytophthora blight is also a major concern as conditions have been favorable already. Apply a phosphorous acid fungicide at planting, don't plant in low areas, scout regularly, and destroy affected plants immediately. Fungicides to apply in alternation during the growing season are Forum, Ranman, Tanos, and Gavel (later not labeled for all cucurbit crops). Powdery mildew is expected to begin developing in early spring squash plantings within the next few weeks. Symptoms have not been found yet. Downy mildew is presently a minor concern.

**Cucurbit Downy Mildew:** Cucurbit crops are susceptible to downy mildew from emergence, with cotyledons being especially susceptible. Fortunately there are no reports yet this season of this disease being in the greater northeast. It is present now in TX, FL, LA, SC, and southern GA. There have been years that by this time downy mildew had been detected in Canadian greenhouses or where southern-produced transplants were used. Forecasts this year are being posted 3 times a week at <http://www.ces.ncsu.edu/depts/pp/cucurbit/>. (MTM)

## POTATOES

**Colorado Potato Beetle:** High numbers of small larvae were noted in most fields scouted this week with large larvae present at moderate levels. Control of this first generation, especially at the small larval stage, is critical for management. Good control now will help to prevent a season-long battle managing this pest. SpinTor has provided good control of the small to medium larvae stage to date.

**Controlling Black Dot:** This disease is very difficult to detect and can cause yield reductions by as much as 20%. The fungus causes "very small black dots, black sclerotial bodies, on tubers, roots, stolons, and aboveground stems. Foliar symptoms can be confused with normal plant senescence, and thus blamed on other plant diseases such as Verticillium and Fusarium wilts, and ozone damage. On tubers, black dot can cause skin discoloration similar to that of silver scurf. Andover and other easily stressed varieties appear to be very susceptible to this disease, however all varieties are susceptible.

Two sprays of Quadris (Amistar) or Headline provide control of black dot and maintain healthy vines. The first application should be made soon after bloom has finished, with a second application made 2-3 weeks later. Alternate Quadris, Amistar, or Headline with a protectant such as chlorothalonil (Bravo) before applying a second application of Quadris, Amistar, or Headline.

**Late Blight:** This is the time of year we would usually begin to see late blight. There have been no reports of late blight in the Northeast to date. The set of recent storms passing through our area have made conditions more favorable and a 7 day spray schedule is recommended. (SM)

## SMALL FRUIT

### Raspberries and Blackberries:

#### Established plantings:

**Diseases** – Remember that first gray mold spray should go on at 5-10% bloom if the weather continues to

be wet, warm and humid. Signs of infection include gray fuzzy masses on blossoms or ripening fruit. Hot humid weather may also bring out powdery mildew on brambles. Watch undersides of leaves, flower buds, and developing fruit for white powdery mycelium (fungal growth).

**Insects** – Insects of concern during late pre-bloom to bloom include Raspberry fruitworm, raspberry sawfly, tarnished plant bug and Japanese beetle.

**Irrigation** – Did you know a raspberry plant in summer can use up to ¼" of water per day? Available moisture can be depleted in just a few days after a heavy rainfall. Brambles need a continuous (but not excessive) supply of water throughout the growing season – about 1-2" per week.

#### New plantings:

**Plant establishment** – Avoid cultivation or herbicides until plants are well-established. Apply a dilute liquid fertilizer once new growth appears.

**Irrigation** - same as for established plantings.  
(Source: Cathy Heidenreich, Western NY Berry Extension Support Specialist, Department of Horticulture, Cornell)

## GRAPES

**Week of June 16-20:** Everything was in bloom this week. Potato leafhopper damage is becoming evident in certain blocks. If treatment is necessary, it may coincide with the first grape berry moth treatment in certain blocks. As of June 19, we've had just under 3" of rain in Riverhead. If periodic thunderstorms/rainfall continues as predicted, expect disease pressure to remain high – powdery mildew on clusters, downy mildew and black rot on leaves. Powdery rarely shows up on canopies this early in the season. Clusters have to be wet repeatedly and with little protection for downy to occur on clusters. We saw it one season on Chardonnay in early fruit set due to repeated overhead irrigation from adjacent plots. DM lesions will appear on foliage this early however. A very occasional black rot lesion on leaves is not unusual at this time of year. More than a few lesions with sporulation are cause for concern. (AW)

**Bloom Botrytis Treatment:** All varieties are in bloom and with wet, humid weather, the merits of a bloom botrycide should be contemplated. Treatments targeted at the leaf-pulled cluster zone are ideal though a) it is not always possible to leaf this early; and b) a separate cluster treatment can be difficult with busy schedules.

From Grape Disease Control, 2008 by Cornell grape pathologist Wayne Wilcox: "The Botrytis fungus is a 'weak' pathogen that primarily attacks highly succulent, dead, injured (e.g. grape berry moth, powdery mildew) or senescing (expiring) tissue such as wilting blossom parts and ripening fruit. The fungus thrives in high humidity and still air [opt temp range is 59-77F], hence the utility of cultural practices such as leaf pulling and canopy man-

agement to minimize these conditions within the fruit zone. Although the fungus does not grow well in berries until they start to ripen, it can gain entrance into young fruit through wilting blossom parts, old blossom 'trash' sticking to berries, and scars left by the fallen caps. Such infections remain latent (dormant) all the way through harvest, but some may become active as the berries start to ripen. Latent infections can be common following a wet bloom period, the vast majority remain inactive through harvest and never rot the fruit. Factors that cause latent infections to activate (cause disease) are incompletely understood. The perfect recipe for Botrytis – a wet bloom period (to establish latent infections) follet by a wet preharvest period to activate and spread infections.

There is no single 'correct' timing for fungicide applications in a Botrytis management program. In some years, early sprays (bloom and bunch close) have been more effective than later sprays (veraison and preharvest). In more years, the opposite has been true. In some years, two early spray OR two late sprays provided the same control as all four; in a majority of years, all four provided the best results." Wilcox goes on to say that botrycides at bloom may help limit latent infections but Botrytis is a difficult disease if conditions are conducive, even with fungicides. It is absolutely critical to address shoot thinning, leaf pulling in the cluster zone and thinning big clumps of clusters to promote air circulation and spray penetration. Highly susceptible varieties include Char-

donnay, Pinot Noir, Sauvignon Blanc, Gewurztraminer. Merlot is susceptible if harvest is wet. Note that most cluster rots in the northeast include Botrytis but there are actually a number of fungi that cause other bunch rots and sour rots. These will be addressed in a future newsletter.

Materials – choices are Vanguard, Scala (chemically similar to Vanguard), Elevate, Rovral. An alternate Botrytis strategy is to use a strobilurin (Flint or Pristine) with activity against Botrytis. See labels for details. With any of these strategies, leaf pull if possible prior to application. With the cost of materials, they must be used wisely. (Source: Wayne Wilcox, *Grape Disease Control – 2008*)

LIHREC Weekly Weather Report			
24-hour Observation - Time of Daily Observation: 5:00 PM			
Date	Max Temp (F)	Min Temp (F)	Precip. (in)
Fri. June 13	80	56	0.00
Sat., June 14	85	63	0.00
Sun, June 15	81	64	0.57
Mon., June 16	71	58	0.00
Tues., June 17	76	56	0.35
Weds., June 18	75	60	0.00
Thurs., June 19	73	53	0.42
<b>Average</b>	77	59	
		Total	1.34
Growing Degree Days (Base 50) 6/13 – 19/08:			126
GDD (Base 50) Season Total From 3/1/08			754

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"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 still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying any pesticide."

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