There is still sweet corn to be harvested, but in the last week much of it seems to be suffering with a disease called Northern Corn Leaf Blight. NCLB doesn’t show up here every year, but with the constant rain events, heavy dews and favorable temperatures for the pathogen, it has been prime conditions for the pathogen to get established this season.

NCLB is characterized by long, cigar shaped, grayish leaf spots. As the disease progresses it looks from a distance like the corn was frosted. Upon closer inspection, you will see that individual lesions have coalesced, turning the whole leaf gray tannish in color.

I thought the following information from and Ohio State University Extension Fact Sheet (AC-20-02) from the Department of Plant Pathology by Patrick E. Lipps and Dennis Mills was a great source of information: (http://ohioline.osu.edu/ac-fact/0020.html)

“Northern corn leaf blight (NCLB), caused by the fungus Exserohilum turcicum previously called Helmithosporium turcicum, can cause yield losses in humid areas where corn is grown. In Ohio, NCLB can occur throughout the state but usually does not appear in fields before silking. This disease rarely causes significant yield losses during dry weather, but during wet weather it may result in losses of over 30% if established on the upper leaves of the plant by the silking stage of development. If leaf damage is only moderate or is delayed until 6 weeks after silking, yield losses are minimal. Northern corn leaf blight also predisposes corn to stalk rot by increasing stress on the plants.

**Symptoms:** The telltale sign of northern corn leaf blight is the one-to-six inch long cigar-shaped gray-green to tan-colored lesions on the lower leaves. As the disease develops, the lesions spread to all leafy structures, including the husks. The lesions may become so numerous that the leaves are eventually destroyed causing major reductions in yield due to lack of carbohydrates available to fill the grain. The leaves then

*Figure 1:* Long, cigar shaped lesions that have a gray tannish color. (Photo courtesy of Sandy Arnold, Pleasant Valley Farm)
become grayish-green and brittle, resembling leaves killed by frost. Yield losses can reach as high as 30-50% if the disease establishes itself before tasseling.

**Disease Cycle:** The fungus causing NCLB overwinters as mycelia and conidia on corn residues left on the soil surface. The conidia are transformed into thick-walled resting spores called chlamydospores. During warm, moist weather in early summer, new conidia are produced on the old corn residue, and the conidia are carried by the wind or rain to lower leaves of young corn plants. Infection by germinating conidia occurs when free water is present on the leaf surface for 6-18 hours and the temperature is between 66 and 80°F (18-27°C). Lesions develop within 7-12 days. Secondary spread within fields occurs by conidia produced on the leaf tissues. Several physiological races of the NCLB fungus are known to occur in the United States. In Ohio, several races have been found.

**Management:** Planting resistant hybrids is the most effective method for control of NCLB. Two types of resistant hybrids are available to growers to control northern corn leaf blight: partial resistant hybrids, which protect against all four of the known races of the fungus and race-specific resistant hybrids, which protect against a specific race. Partial resistant hybrids are the most common, but hybrids with both types of resistance are available. Resistant hybrids should be planted in all commercial dent corn production fields.

A one- to two-year rotation away from corn and destruction of old corn residues by tillage may be helpful in controlling the disease if susceptible hybrids must be grown.

Fungicide sprays are recommended only for fresh market sweet corn and hybrid seed production fields. The spray schedule should start when the first lesions appear on the leaf below the ear. Several fungicides are available for use on corn for NCLB control. Read labels for rates and follow application directions which vary with each fungicide product.”

Most of our plantings are probably past fungicide use due to the 7-14 day preharvest interval ranges, but the following fungicides are labeled in the Cornell Vegetable Guidelines for control of NCLB: Quadris F, Quilt, Quilt Excel, Bravo (chlorothalonil), Dithane, Headline EC or PropiMax or Tilt. Many of these have a 14 day preharvest interval which may not work unless you have some plantings just starting to silk. These fungicides will also help control Common Rust in sweet corn.

I think it is more important to focus on managing crop residues to encourage the decomposition of infected plant material and reduce the amount NCLB pathogen present to infect next year’s crop. Plowing under or at least disking sweet corn residue is recommended. Farms using reduced tillage systems, might have difficulty because of the amount of residue left. In this case, fields that have NCLB should be rotated to something else other then corn for at least 2 years.

If you have to plant back in a field that was sweet corn with NCLB, make sure you try and plant a variety that has some resistance, especially late plantings that will be under more favorable conditions in late summer, early fall, for disease development. Because new and better sweet corn varieties are being released every year, make sure you talk to your seed salesman about the disease tolerance of the varieties you want to plant. Usually in many cases, the seed companies have done some screening of the varieties and can give you an idea of how they will react. -CDB

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**BEWARE THE MOSQUITO!!**

Anyone that has been outside for the past few weeks knows that a record number of aggressive, hungry mosquitoes lay in wait. It has made harvesting miserable for workers and raised some questions about what the pests might be carrying in terms of disease. After a quick look at the NYS Department of Public Health website, we are relieved to report that nowhere in our 11 county region has there been a reported case of West Nile Virus or Eastern Equine Encephalitis. If you are interested in tracking these or many other communicable diseases, this is an EXCELLENT resource: [http://www.health.ny.gov/diseases/](http://www.health.ny.gov/diseases/). To help protect yourself from mosquitoes, wear long sleeves, pants and socks. Use insect repellent on exposed skin, but followed label directions.
Phytophthora Update

We continue to see and receive calls regarding Phytophthora Blight (Phytophthora capsici) infected pumpkins and other vine crops, as well as tomatoes and peppers. The symptoms of PB on tomato fruit look completely different when compared to pumpkins or peppers. When PB infects tomato fruit, we call it “Buckeye” rot and the easiest place to find it is where tomato fruit touch the soil. Usually the rot remains firm and without the white yeasty growth we see on pumpkins and other crops. These symptoms can also look similar to that of Late Blight (Phytophthora infestans). In conversations with our plant pathologist Chris Smart, she recommends that:

1.) Fields infected PB be plowed under as soon as possible. This will speed up the decomposition process and reduce the chance of the pathogen to make thick-walled oospores, which can survive in the soil for long periods of time.

2.) When possible, thoroughly clean any equipment or other vehicles that move through an infected field. Muddy tires or plows with mud or brush hogs with plant residues etc. are all perfect carriers of the pathogen and can move the pathogen into fields that are not infected. This also includes foot traffic from workers.

3.) Avoid planting susceptible crops in those fields for at least 3 years or longer if possible.

4.) Do not throw rotten fruit back into fields, especially those fields that have not shown PB symptoms. If you don’t have PB on your farm, but purchase in product that breaks down and you suspect PB, do not discard it back into your fields. Put it in a dumpster or bury it somewhere. Do not put it into compost piles either.—CDB

Cercospora Leaf Spot

Cercospora leaf spot is a common and destructive disease and may be more severe than usual due to especially favorable conditions with all the rain that has occurred this month. Pathogen spores are moved by wind and rain, which also provides leaf wetness for infection. In addition to frequent rain, other favorable conditions include relative humidity of at least 90% and temperature above 75°F. It is especially destructive in Swiss chard and beets grown for greens as affected leaves are unmarketable. The fungal pathogen also can infect spinach.

Symptoms are small, light tan to brown, round to sometimes angular spots whose border is often purple to red. The spots were lighter in color on the beets than the Swiss chard, and only the beets had the distinctive border. Spots were so numerous on some young Swiss chard leaves that they had coalesced and caused distortion.

Sources of the pathogen include contaminated seed, infested debris from previous crops and the related Chenopodium weeds that are also susceptible. The pathogen produces specialized survival structures (sclerotia) in infected leaves that enable it to survive in soil up to 2 years. Thus it is important to know where Cercospora leaf spot occurs to plan rotations.

Fungicides labeled for this disease include copper and the strobilurins (FRAC Group 11) Quadris and Cabrio. Disease development will slow as temperatures decline, especially when below 60°F. Images will be posted at http://www.longislandhort.cornell.edu/vegpath/photos/index.htm.

Cercospora Leaf Spot on Celeriac and Parsley:

Symptoms were observed this week of Cercospora leaf spot (aka blight) on other crops (see previous paragraph). Carrot, celery, dill and fennel are also susceptible, as are some related weeds. The pathogens affecting these different crops are also typically different, thus there is limited concern about disease occurring in one being the source of the pathogen for another. Parsley, dill and fennel are affected by the same pathogen. There are important similarities about all these related diseases which are relevant to know for management. These pathogens can survive on affected plant debris and seed. Thus use clean seed, rotate land, and incorporate crop debris as soon as possible after harvest.

The strobilurin fungicides (FRAC Group 11) Quadris and Cabrio are labeled on all of these crops for Cercospora leaf spot as well as another important foliar disease, Alternaria leaf spot (aka blight).—Dr. Margaret McGrath
The cool, wet weather has also been favorable for Alternaria Leaf Spot (Alternaria spp) to develop in cabbage, cauliflower, brussel sprouts, kale, collards and broccoli. The lesions usually develop on the lower surfaces as brown to black circular spots. As they enlarge, the border tends to be beige while the center turns more black with concentric rings. The disease can reduce overall quality of the crop by reducing photosynthetic area or cause direct damage on heads or other edible portions of leaves etc. Flea beetles have also been shown to help spread the disease. I also think these lesions can allow bacterial soft rots to establish on heads of cabbage, broccoli and cauliflower.

Quadris, Endura, chlorothalonil, Switch and Cabrio are all labeled for control. Destroy crop debris as soon as possible, especially earlier plantings of crucifers as they can serve as sources of inoculum and infect younger plantings. If you have crucifer waste that needs to be dumped, return it to the field you just harvested it from so that it can be plowed under with the rest of the crop residue. Do not dump it in fields that are just convenient if they might have crucifers planted on them in the future. If possible, rotate away from crucifer crops for at least 3 years. - CDB

VEGETABLE ACREAGE AND PRODUCTION SURVEY TO BE CONDUCTED

The New York Field Office of the USDA’s National Agricultural Statistics Service (NASS) will be conducting a Vegetable Acreage and Production survey during October and November. This survey will gather information on vegetable acreage planted and harvested and amount of vegetables produced in New York during 2011.

Results from last year’s survey established New York’s rank as 7th in the nation for production of fresh market vegetables and 7th in the nation for production of processing vegetables. NASS data is used by the USDA Farm Service Agency and crop insurance companies to determine payments to producers in the event of a disaster, and crop advisors look at NASS data to determine their recommendations. Agricultural experiment stations use the information to help with research into new and better varieties of vegetables and new and better ways of controlling pests.

Response to this survey is voluntary; however, every response is important for New York’s vegetable production to be accurately represented. “We safeguard the confidentiality of all survey responses,” says King Whetstone, Director of the New York Field Office. "Data about individual operations are used only in conjunction with information from other producers." The National Agricultural Statistics Service is even exempt from the Freedom of Information Act, so producers can be guaranteed that their individual data will not be released to any person or any other agency. All agricultural statistics published by NASS are available free of charge at www.usda.gov/nass/. For more information, call 1-800-821-1276.
**Spotted Winged Drosophila positively identified in the Greater Capital District Region**

The presence of Spotted Winged Drosophila, *Drosophila suzukii* (SWD) has been confirmed in the greater Capital District. Observant fall raspberry growers that had constructed their own traps made a tentative identification and then with the help of Peter Jentsch at the Cornell University Hudson Valley Research Laboratory the findings were confirmed. Both female and male SWD were trapped. Samples of the insects were sent to the USDA Systematic Entomology Lab.

**What does this mean for berry growers?**

The detection of SWD in the region means that those of you that are growing soft-bodied fruit (day neutral strawberries and fall raspberries) should be trapping so that you can detect the presence of this pest. Trapping should ideally be done before harvest, as once the larvae are in the fruit, it will be harder to control the infestation.

You can make your own traps easily, using old plastic food storage containers and cider vinegar. If you catch some fruit flies in the vinegar, please give Laura McDermott a call—518-791-5038.

There is also some information that suggests that SWD will infest melons and possibly tomatoes.

**Why should I be concerned about SWD?**

SWD are vinegar or fruit flies. Unlike other fruit flies, *D. suzukii* is one of the very few *Drosophila* species which are **able to feed on healthy ripening fruit while they are still attached to the plant**. Fruit infestation shows small scars (‘stings’) and indented soft spots or bruising on the fruit surface. Damage is caused by one or more larvae feeding on fruit pulp inside the fruit and berries. Very rapidly, infested fruit begin to collapse around the feeding site. Additionally, secondary fungal or bacterial infections may contribute to further fruit deterioration.

**How do I control SWD if I detect them?**

Controlling SWD has 3 phases. First, is sanitation. All fruit should be removed so that it does not act as a food source or an “egg incubator”. Fruit should be destroyed either by burial or disposal in a closed container. This will help you reduce the pest numbers. Composting is not a reliable way to destroy eggs and larvae in fruit.

Secondly, and perhaps the most challenging, is that control should be on an area-wide basis. All farmers and home gardeners that are growing soft-bodied fruit should be aware of the threat and be following control measures. Abandoned or poorly managed plantings will be a source of infestation.

Thirdly is the use of chemicals for control. This will be a challenge as the SWD has a short life cycle—in warm weather as short as 10 days. The females lay eggs in ripening fruits and that is where the larvae develops. The larvae can pupate in the fruit or in the soil, but SWD does not overwinter as pupae. Rather SWD overwinters as adults in sheltered locations. There is little information at this point to conclude if this pest will successfully overwinter in our region, but the native range includes some colder Asian locations.

Last week we listed the materials that were labeled for SWD control. Please call if you have further questions. - *LGM*
October 11-13th—The 26th Annual Tomato Disease Workshop will be held at the Holiday Inn downtown in Ithaca, NY. The goal of the workshop is to provide a forum for presentations of new products and recent research results targeting tomato diseases. Originally started to discuss the occurrence of bacterial canker, the TDW has expanded to discuss all tomato pathogens and use of chemical, cultural and biological disease management strategies.

October 23rd—What is Biodynamics? An Introductory Workshop. 9 am to 4 pm, 327 County Route 21C, Ghent, NY 12075. An overview of biodynamic agriculture, as well as several hands-on opportunities to see Biodynamics in practice. Hands-on activities and discussion of designing a two-acre vegetable garden and how to integrate the presence of small livestock into an operation. For more info, call 518-672-7500. Sliding scale registration fee from $50–100, includes lunch but pre-payment is required.


December 13-15—New England Vegetable & Fruit Conference and Trade Show, Radisson Hotel in Manchester, NH. More than 25 educational sessions, covering major vegetable, berry and tree fruit crops as well as various special topics. A Farmer to Farmer meeting after each morning and afternoon session will bring speakers and farmers together for informal, in-depth discussion on certain issues. http://www.newenglandvfc.org/

January 24-26, 2012 Empire State Fruit & Veg Expo, Convention Center @ OnCenter, Syracuse, NY. For more info visit www.hort.cornell.edu/expo

January 31, 2012 Bedding Plant Conference at The Century House, 997 New Loudon Road, (Route 9), Latham, NY 12110. Learn about innovations in greenhouse production, pest management, new varieties and other trends. DEC pesticide credits applied for. For more information contact Chuck Schmitt at cds34@cornell.edu and 518-765-3513.