



Field Crops, Forages and Soils Updates for NNY

25 July 2017

- Potato leafhopper in some North Country alfalfa fields are severe. PLH have been a headache for south and western NY for several weeks and have now made their way north. This week and last, PLH have been causing severely stressed alfalfa fields here in NNY. Leafhopper damage can be most severe when a crop is under moisture or fertility stress – we have both in NNY this year. We’ve been recommending a weekly scouting program, using a standard 15” sweep net. Adult PLH are 1/8” long, bright green and very active. Developing nymphs are smaller and green. We already have both. Severity of the PLH infestation depends on the alfalfa height. Short, young regrowth has a lower threshold than taller and older alfalfa. Thresholds to indicate economic response to intervention are listed in the table below.



Alfalfa Height	No. Leafhoppers per sweep
<3”	0.2
3-7”	0.5
8-10”	1.0
11-14”	2.0
15+”	2.0



Adult (top) and nymph stage Potato Leafhoppers.

Fields with PLH above thresholds listed should be controlled to prevent further damage. If the field will be mowed within several days, spray is not warranted.

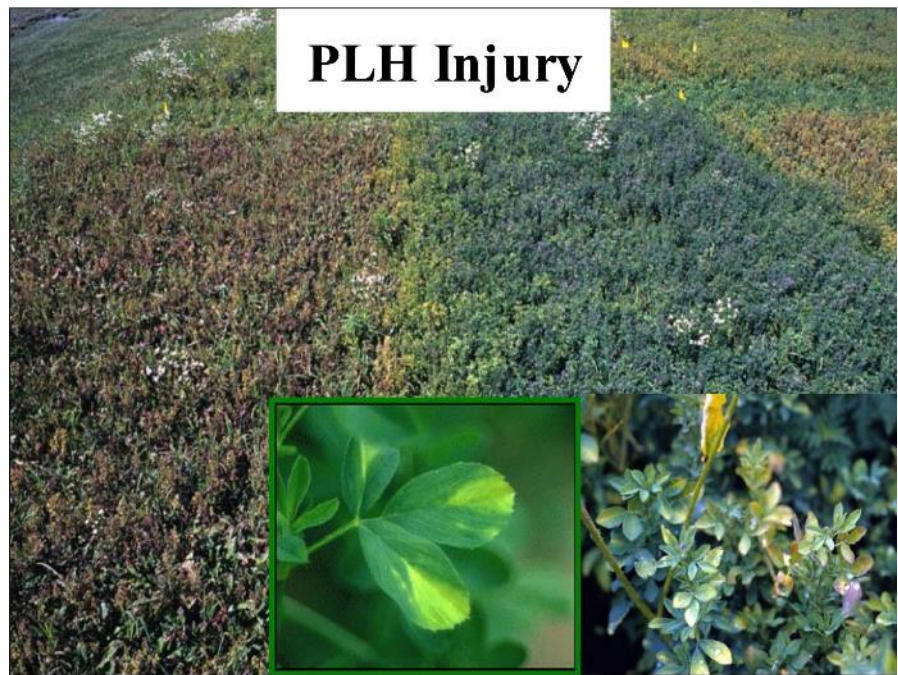
Early harvest is an alternative to spraying, but monitor the regrowth to prevent damage to tender young tissues by surviving PLH. Insecticides are the best option for fields more than 10 days from harvest. Options are summarized in the table below. Always read and adhere to label information.

	Insecticide	Rate per acre	Timing and Restrictions*
Clear Alfalfa Seedings	cyfluthrin (Baythroid XL)	0.0065 - 0.0125 lb AI or 0.8 - 1.6 fl oz product	Wait 7 days for harvest or grazing.
	chlorpyrifox (Lorsban 4E)	0.5 lb AI or 16 fl oz product	Wait 14 days before harvest.
	dimethoate	0.25 - 0.5 lb AI	Wait 10 days before harvest. Do not apply to alfalfa in bloom.
	lambda-cyhalothrin (Warrior II)	0.015 - 0.025 lb AI or 0.96 - 1.60 fl oz product	Wait 1 day before forage harvest, 7 days before hay harvest.
	permethrin (Ambush, Pounce)	0.1 - 0.2 lb AI	For > 0.1 lb/acre, wait 14 days before harvest or feeding. For < 0.1 lb/acre, crop may be harvested immediately.
Mixed Seedings	cyfluthrin (Baythroid XL)	0.013 - 0.015 lb AI or 1.6 - 1.9 fl oz product	Wait 7 days after application to harvest.
	Zeta-cypermethrin (Mustang)	0.014 - 0.025 lb AI or 2.24 - 4.0 fl oz product	Wait 3 days before cutting

From 2017 Cornell Guide for Integrated Field Crop Management, pages 110-111. *Consult labels for per cutting and per season limits on applications.

Affected fields can look pale and discolored from the road, which indicates damage has already been done. Once mowed, some PLH adults can move to nearby fields.

PLH suck plant sap from leaf tissues, inject their saliva and cause a 'burn' on leaf tips. Leaves may also have a yellow or purple color. Plants become stunted as a result of damage to the vascular system. Growth is slowed and nutritional quality is reduced – mainly protein content.



Scout, sweep and when a field over threshold is identified, treat or mow within a few days. Call for help.

- Western Bean Cutworm (WBC) season is juuust beginning.** One field over threshold has already been identified in Jefferson County. Despite its name, WBC is a corn pest in NNY. The adult WBC moths overwinter here and also arrive on weather fronts. Peak population numbers occur in late July and early August. Cornell Cooperative Extension's WBC trap network is installed across NNY as well as the rest of the state to monitor population size. Trap catches have begun to increase this week. Female WBC moths look for pre-tassel corn fields to lay eggs. This year, tasseling is later than normal, so WBC damage may be partly avoided. WBC eggs hatch and growing larvae eat tassels and make their way down the plant to the ear where they eat silks and, eventually, developing kernels underneath the husks. There are 2 ways to control WBC in the field – Bt traits in the seed or chemical application at the time of larvae hatching. The window of opportunity for chemically controlling this pest occurs between egg hatching and arrival inside the ear – a span of only a few days. Once the larvae are inside the ear, chemicals will are not effective. Some Bt traits are no longer providing adequate control of WBC, so some Bt fields in must be scouted and sprayed similar to non-Bt corn. Two Bt events, Cry1F and Vip3A have been advertised to have activity against WBC. However, the Cry1F event found in Herculex and SmartStax corn hybrids has provided incomplete control of the WBC in NNY. Results from our NNY 2016 research trials to evaluate these traits side-by-side showed failure of the Cry1F trait to adequately control WBC. The Vip3A trait has continued to work well in NNY though its effectiveness is beginning to be questioned in the



Newly hatched Western Bean Cutworm larvae on the upper surface of a corn leaf. Inset: egg mass prior to hatching. Photos by Mike Hunter, Jefferson County, July 2017.

Midwest US states. Threshold to consider chemical treatment is egg masses on 5% or more of plants. Report any WBC damage to your seed dealer, agronomist or CCE so the field can be checked.

- **Impact of Northern Corn Leaf Blight (NCLB) could be more serious this year.** NCLB is caused by a fungal pathogen and can cause significant yield losses in corn. Impacts of NCLB are worsened by cool, wet weather, susceptible varieties and development of lesions early in the season, before tasseling. Cool, wet and humid conditions are prevalent this season, so infections are likely. Spores are windblown and are also present in corn residues on the soil surface. Rain splashes spores up onto the plant from the residues and from previously developed lesions low on the plant. Wet, overcast days and humid nights ensure periods several hours of water on leaf surfaces, perfect for the fungus to start an infection. Lesions are often observed after periods of rainy weather, heavy dews and along shaded or low portions of fields where leaves remain wet all night and into the morning hours. Many years, symptoms don't develop until late in the season when days become cooler. This year's weather will probably allow infections to occur earlier. Lesions will appear 7 to 12 days after infection, when leaf tissues begin to die. The greater the upper leaves' surface area lost to lesions, the less photosynthetic capacity the plant has for ear and grain development. Hot, dry weather restricts disease development and spread.



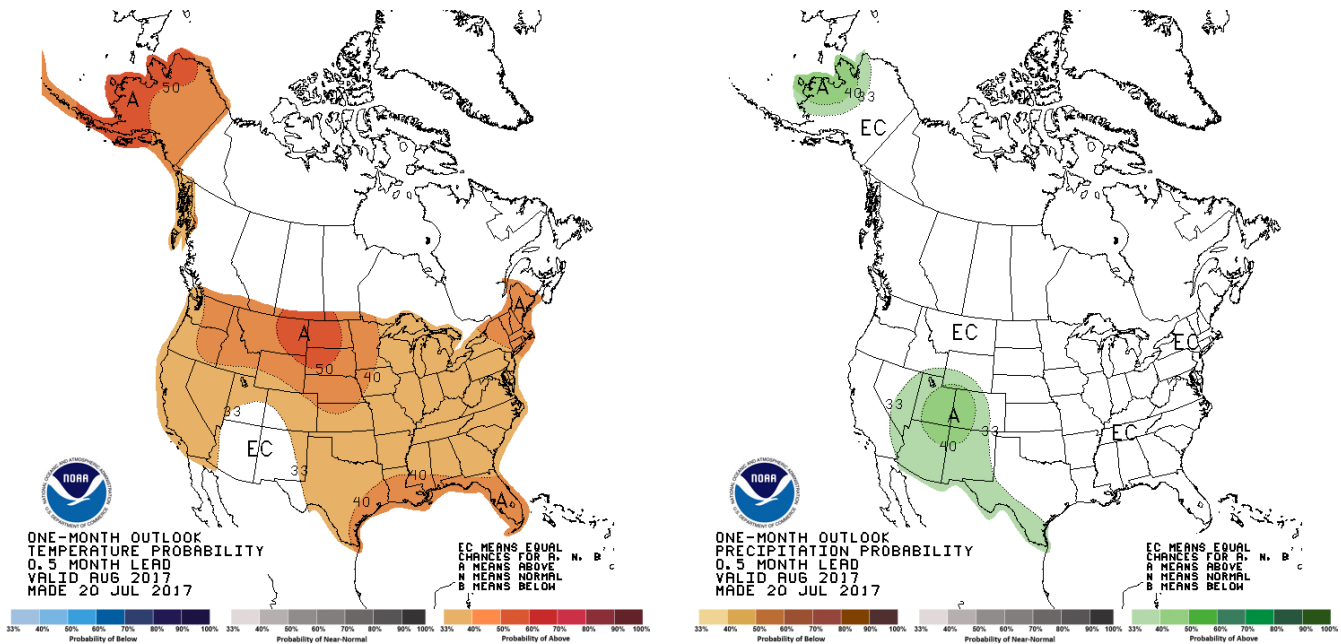
A typical, cigar-shaped lesion characteristic of Northern Corn Leaf Blight. Photo by K. O'Neil, Early August 2015.

- Scout at tasseling. If lesions are greater than 5% of leaf area and are on leaves at and above the ear, consider applying fungicide.

There are a number of fungicides that can help reduce to losses when disease develops. This may be a year when those treatments can help your fields – if you've scouted and found lesions on leaves at or above the ear leaf and it's early enough in the season. These fungicides have been shown to have no effect in the absence of disease symptoms on upper leaves or late in the season. Fungicides should be applied at disease onset and when conditions for disease are expected to continue. A sprayer than can apply over tall corn is needed to apply these fungicides or they can be flown on.

- **White mold in soybeans may also be problematic this year.** White mold in soybeans is also caused by a fungal pathogen which thrives in cool, persistently wet conditions. Infection of the soybean plant by the *Sclerotinia* fungus occurs at flowering, but disease symptoms typically do not appear until early reproductive growth stages. Wilt and death of upper leaves at growth stages R3 to R4 are often the first obvious symptoms of a white mold infection in a field. Application of appropriate fungicides at flowering stage can provide suppression of white mold in soybeans. If a fungicide is applied, the spray application needs to penetrate the canopy and reach the flowers. It may also require more than one application to protect the plant.
- **Weather outlook for August in the North Country is warmer than average with typical precipitation.** NOAA's one month outlook maps show a greater than 50% chance of warmer than average temperatures for most of the country, including NNY. Precipitation prediction is equal

chances of above or below normal rain. If this prediction proves accurate, NNY should fully recover from early summer GDD deficits.



For more information about field crop and soil management, contact your local Cornell Cooperative Extension office or NNY Cornell University Cooperative Extension Regional Field Crops and Soils Specialists, Mike Hunter and Kitty O’Neil.

Kitty O’Neil
St. Lawrence County CCE Office, Canton
(315) 854-1218
kitty.oneil@cornell.edu

Mike Hunter
Jefferson County CCE Office, Watertown
(315) 788-8450
meh27@cornell.edu

Our Mission

“The North Country Regional Ag Team aims to improve the productivity and viability of agricultural industries, people and communities in Jefferson, Lewis, St. Lawrence, Franklin, Clinton and Essex Counties by promoting productive, safe, economically and environmentally sustainable management practices and by providing assistance to industry, government, and other agencies in evaluating the impact of public policies affecting the industry.”