Weekly Update

Cool, wet spring weather can make it hard to think about insect pests, but there are definitely insects emerging! Sometimes they are coming out in spite of the weather, and sometimes they are actually made worse by our current conditions.

Flea beetle: Late last week we were seeing high populations of these little critters on mustard weeds in the Mohawk Valley. Populations were high enough to kill the seedlings, and could do significant damage to your brassica seedlings as well. Look for small (1-2mm) shotholes in the leaves and small beetles that jump when disturbed. Beetles are most active during sunny periods, and will certainly be back in the fields as soon as we are.

Organic growers often rely on physical exclusion by floating row covers to control flea beetles, but this strategy only works if you get it on before the beetles show up. If they are already there, you need to control them chemically. Abby Seaman, of NYS IPM, found that both Surround and hot pepper wax worked as well as Rotenone, the old standard for flea beetles, at protecting seedlings from lethal attacks by flea beetles. They will not prevent enough feeding for greens to be marketable, but they will prevent enough feeding for broccoli, cauliflower, etc. to outgrow the damage.

Conventional growers have many options for flea beetle control. Sevin XLR Plus, Warrior II, Thionex 3 EC, and Baythrod XL are a few of your options. Systemics like Thionex will provide longer-term control. Contact insecticides may have to be applied repeatedly, because infestations can rapidly ramp back up after you spray. Pay closest attention when plants have fewer than 5 true leaves, since at this point severe infestations can stunt or kill plants.

Seedcorn maggot: This pest is worse under cool, wet conditions because seeds are slower to germinate. Mated females will seek out seeds, and lay their eggs close by. Larvae (maggots) will then eat their way into the seed, causing stunting or death.

You cannot treat for seedcorn maggots after you have them, so the key is to prevent infestation in the first place. Here are some ways to do that, compiled by Carol MacNeil of the Cornell Vegetable team:

- Encourage fast germination by planting high quality seeds in a well prepared seedbed at the minimum depth consistent with soil moisture.
- Handle seeds carefully since cracked seed coats can provide entry points for maggots.
- Using transplants may reduce your risk, but maggots can tunnel in stems of young plants, especially if growth is delayed by cold weather after planting.
- Avoid low, wet areas.
- Incorporate crop residues/cover crops 2 to 3 weeks prior to planting.
- Reduced tillage seems to result in lower maggot populations because the organic matter stays on the soil surface.
- Avoid manure applications right before planting as this attracts egg-laying adults.

(Continued on page 2)
Phosphorus deficiency in greenhouse tomatoes

By Jud Reid, CVP: Phosphorus deficiency in tomatoes can be observed in a number of high tunnels this week. Leaves take on a purple to reddish cast and plant growth is slow (see photo ‘p def’). Soils in these tunnels test high for phosphorus levels and the plants were watered in with a dilution of 12-48-8 (48% phosphorus). Why then would the plants be deficient? Cold soils. Phosphorus is not readily taken up by plants at lower soil temperatures. This problem is directly related to our Spring weather. Although temperatures were not abnormally low, April (and early May) was a cloudy period. Soil temperature in tunnels is related to the amount of sunlight that penetrates the greenhouse covering, and is then transmitted via black plastic mulch to the soil. Thus even with high air temperatures soils under black mulch can remain cool if there is no sunshine to warm the mulch and the subsequent physical heating of the underlying soil. In actuality these soils may remain cooler than uncovered soils in cloudy weather as moisture is retained under the plastic. Plants showing these symptoms can quickly regain healthy color once soil temperatures rise. Avoid over applying phosphorus to remedy the deficiency as this nutrient persists in the soil considerably and can create problem at excess levels.

Row covers may prevent egg laying and subsequent plant damage.

Use insecticide and fungicide treated seed to protect seeds/seedlings – Cruiser 5FS (beans, peas, sweet corn), Lorsban 50-SL (beans), Sepresto 75WS (onions), Poncho 600 (sweet corn).

In furrow insecticide treatments can be used: Lorsban 4E (onions, legume vegetables) or 15 G (corn); Capture LRF, Force CS or Counter 15G (sweet corn).

Planter box treatments for field/sweet/popcorn include Concur Seed Treatment, Latitude Seed Treatment, and Kernel Guard Supreme.—CLS
Welcome, Mallory Ryan!

The CDVSFP team is happy to announce that Mallory Ryan, a senior at Cornell University, will assist them this summer on a variety of applied research projects. Mallory comes to the program with research experience in the animal science department and also some education background through her course work at Cornell.

Ms. Ryan is familiar with Cornell University Cooperative Extension as she is a Troy resident and was the 2010 Lohnes Award winner in Rensselaer County 4-H. She also has plenty of local work experience and a good understanding of local agricultural issues.

The primary project that Mallory will be working on will be a Research and Education project on improving soil health through the use of cover crops. She will receive training in interpreting the Cornell Soil Health Report, and in selecting cover crops. Mallory will help ensure that on-farm trial operations happen as planned and help the grower collect data that reveal whether the cover crop treatment is effective. Additionally, Mallory will learn about and assist with other extension projects in which the team is involved. This may include monitoring insect traps that are distributed throughout the 11 county region and assisting them with the newsletter and integrating social media into the educational program.

Mallory will begin work on May 31st and will be present at the June 1st cover crop field meetings in Washington and Schoharie counties. Please help us welcome her back to the Capital District! -LGM

Welcome, Rosy Cohane-Mann!

Cornell student Rosy Cohane-Mann has been hired as a Cornell Cooperative Extension intern in the Capital District this summer. Her job will be to gather data about the impact and contribution of local food production on the greater Capital District economy. She will be working under the direction of Dr. Todd Schmit and Dr. Miguel Gomez of the Charles H. Dyson School of Applied Economics and Management at Cornell University. At the local level, the Capital District Vegetable and Small Fruit team members along with several area CCE educators will assist her with the project.

Increasing consumer interest in local foods in this 11 county region* provided the impetus for the study. This work seeks to describe the effect that local food purchases have on imported food and also describing how local food purchasing enhances additional, unrelated local purchasing.

Cornell Cooperative Extension agents and the student intern will gather economic data from local farmers that participate in summer and winter farmers markets; Community Supported Agriculture (CSAs); farm stands; wholesale sales including food brokers, restaurants, traditional supermarkets, and Produce Auctions. The economic information gathered will be confidential and individual farmers will not be identified in the study. Analysis of the survey results will be augmented with the help of the Cornell AEM faculty using IMPLAN, economic impact planning software to estimate secondary or “multiplier” effects.

The local Extension staff looks forward to introducing this intern to local farmers and food vendors and appreciate their willingness to participate in this study.

Managing weeds in blueberry plantings is important to protecting potential yield and plant vigor and longevity. Increased interest in blueberry production has resulted in more options for chemical control, and with proper understanding of application timing and susceptible weed species, chemical control can still be kept to a minimum with very good results.

Dr. Eric Hanson of Michigan State University recently shared some thoughts on blueberry weed management with Cornell extension educators and other industry professionals during the weekly berry call. Here are some of his thoughts on 3 herbicides that are popular with blueberry growers:

• Chateau is primarily a pre-emergent herbicide that has some limited post-emergent properties. Chateau controls a broad spectrum of weed species, and is quite persistent, providing weed suppression longer into the growing season than other herbicides, BUT the big limitation is that Chateau cannot be applied after bud break in the spring. That means that we are too late this spring for an application. However, Chateau does provide good control into the next season if it’s applied in the fall. This protocol is especially effective on marestail to prevent seedling establishment in the fall.

• Callisto exhibits good pre- and post-emergent activity, and Dr. Hanson reports that growers have been very happy with this newer type of herbicide. Callisto is good on difficult broadleaves including morning glory and it has no restrictions apart from a 2 week PHI. Callisto also provides goldenrod and horse nettle suppression. This chemical should go on RIGHT NOW, before bloom and after weed emergence. Callisto is not particularly strong on annual grasses such as crab grass or fall panicum. The later you can wait to apply (up to bloom), the more bang you get for your buck.

• Sandea is another post-emergent herbicide that has some pre-emergent residual activity, BUT SANDEA is NOT LABELLED in NYS yet. We are waiting for a supplemental label that lists high bush blueberries. That will be nice as Sandea provides good yellow nutsedge control along with other broadleaves. More information on Sandea will be forthcoming when the label is approved.

These chemicals may provide a long enough residual to get through the harvest season. Annual grasses in particular can become a problem later. Additionally, the heavy spring rains that we are getting may leach materials below where they can inhibit germination. This means that if early pre-emergent materials leach, then what do you use later in the season?

The label restrictions for pre-emergent materials are:

- Solicam: Apply when plants are dormant.
- Casuron: Apply when daily temperatures hold below 45°F.
- Princep 4L and Princep Caliber 90WG: Do not apply when fruit are present.
- Sinbar: Apply during early seedling stage of weed growth, or after harvest.
- Velpar: Apply in spring before lower leaves have fully expanded.
- Chateau: Do not apply after bud break through final harvest.
- Callisto: Do not apply after onset of the bloom stage.

Excessive rates of Solicam cause distinct leaf symptoms. Veins turn white or pinkish white. Current-season shoots may turn white. One-year-old bark turns pinkish. Symptoms usually appear first on lower branches. Solicam (Norflurazon) is persistent in the soil, so symptoms may not be apparent until the following year. Images: Michigan State University.

Diagnose pest and disease problems using color pictures: [http://vegetablemdonline.ppath.cornell.edu/](http://vegetablemdonline.ppath.cornell.edu/)

Cornell Guidelines for fruit and vegetables: [http://www.nysaes.cals.cornell.edu/recommends/](http://www.nysaes.cals.cornell.edu/recommends/)


USDA Fruit and Vegetable Market News: [www.marketnews.usda.gov/portal/fv](http://www.marketnews.usda.gov/portal/fv)

Several post-emergent herbicides can potentially be used in the summer. Some can still be used before harvest, but others cannot be applied until after harvest. Each herbicide has different characteristics that need to be considered when making choices.

Aim, Gramoxone, and Rely are burn-down materials. Pre-harvest intervals are listed on the labels for Aim (one day) and Rely (14 days). Gramoxone should not be applied after new cane growth begins. These herbicides kill treated plant parts, but do not move within the plant. This results in perennial weeds being stunted but not killed. Rates increase as weed size increases, but effectiveness may be inversely proportional to the size of the weed. All three herbicides can stunt blueberries if drift touches desired vegetation.

Fusilade and Poast are selective grass killers, so they do not hurt broadleaf weeds or blueberry plants. Poast has a PHI of 30 days, and Fusilade can only be used in new plantings. Again, these products are only effective if application can be made before the grass is too tall – 8” should be the cut-off point.

Glyphosate (Roundup) products have a PHI of 14 days, so they can still be applied to most fields. Glyphosate is a very effective post-emergent herbicide, but it can also severely damage blueberries. The most effective time to treat perennial weeds is late in the summer because plants are moving carbohydrates to the roots for winter storage, so more absorbed glyphosate moves downward where it will be most effective. Unfortunately the same thing is happening to blueberries, so extreme care should be taken during application. Shielded sprayers or wick applicators are mandatory.

Non-chemical weed control is very prevalent with blueberry growers. Six inches of organic mulch reduces weed growth, helps conserve moisture and keep the root zone cool. Studies have shown that mulching with organic materials improves soil by adding humus as the mulch breaks down and it helps prevent plant heaving in the winter if we have poor snow insulation. Moore and Pavlis, 1979 report that the most desirable mulch is well composted softwood sawdust, but pine bark is excellent and compacts less than sawdust and does not form a “crust” that sheds water. If fresh sawdust is used, additional N might be necessary to compensate for increased microbial activity tying up nitrogen. Other organic materials that may be used include corn cobs, straw, leaves and pine needles. Be careful of composted manures, because even though they may help nutritionally, they tend to increase soil pH. This is especially true of horse manure if the stable limes the stalls.

Landscape fabric and black plastic have been used especially during blueberry plantation establishment. This material is often stretched over a raised bed. It is too soon to tell if the economics support this high input type of system. Biodegradable black plastic, used in conjunction with a small amount of organic mulch appears to be a promising way to establish blueberry plantings. This material does not need to be removed, and because it is corn starch based, it merely melts away. IT is still very expensive, probably even more expensive than landscape fabric.

Care must be taken when fertilizing under black plastic since fertilizer placed close to the plant crown can cause severe burning. According to a study done by Mainland and Lilly in 1984) a single application of 925 Kg/ha of a 10-10-10 fertilizer incorporated into the soil before laying the plastic provided adequate nutrition for two years, the effective life of the plastic.

A blueberry mulch demonstration plot in southeast Pennsylvania used three different mulches: corn cobs, wood chips and sawdust. After five years it was determined there was no significant yield difference. This points to the fact that the best mulch may be the mulch that you can get! Keep in mind that it has been reported that sawdust or wood chips from red maple and beech should not be used as those two trees may injure or retard blueberry plant growth.

For more information about special weed problems in blueberries, this website may be helpful: http://www.blueberries.msu.edu/Weeds.html. –LGM
Weather Data

Weekly and Seasonal Weather Information

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NA¹—The Granville weather station was established this year (2011) so there will be no 2010 data reported as we have no records.

Upcoming Meetings and Notices

**Organic Field Days:** June 1st. Join Dr. Thomas Bjorkman and Elizabeth Dyck as we tour two farms using cover cropping extensively in their rotations. We will discuss ways to increase cover crop use in your rotation, ways to control cover crops, and the effects cover crops have had on the health of soils on these farms.

**Washington County:** 9am-11: Windflower farm, 585 Meeting House Road, Valley Falls, NY 12185.

**Schoharie County:** 3 p.m. to 5 p.m: Fox Creek Farm, 182 Fox Creek Farm Road, Schoharie, NY 12157—in addition to cover crop information, Raymond Luhrman will also discuss using alternative energy sources including solar and wind to power his farm.