Grub Hub... for Skunks

It seems that the easiest way to determine if you have grub problems is to look for where skunks have been digging. When they go grubbing, they dig very targeted, conical holes, often at an angle. Skunks have been out in force getting their protein from this hayfield (above) and this high tunnel (left). We found a grub about 2 inches down in the very first cut with the shovel. At this time of year, grubs have moved upwards towards the surface to feed on plant roots, whether they be vegetable, fruit, or grass. You may recall an article from last September 19th’s Pest Spotlight on Japanese beetle grubs feeding on the roots of early fall greens. While some grubs have two year life cycles, like the June beetle and the green June beetle, most of our problematic ones have cycles similar to each other, much like winter annual weeds. Egg laying takes place...
from mid-July through August; eggs hatch in late summer and larvae feed through the fall, overwintering as partially grown larvae. They resume feeding in the spring; pupation is in late spring, and new adults emerge starting in June and throughout July. Let’s also not forget that adults of some of these scarab beetle species feed on foliage, too, with basil and snap bean damage causing probably the most vegetable grower headaches.

Like the suite of four caterpillar species that cause damage to the larger Brassica crops, all of these grub species can be managed similarly, though not as easily. Still, it is important to know which of these (and it could be more than one) are causing the problem. Telling the differences between adults is much easier than the larval forms, which we call grubs. These are all c-shaped, whitish larvae which have beige to brown head capsules and are only present in the soil. Superficially, they are hard to distinguish. The way to do it is to look at what is referred to as the “raster,” which is patch of hairs on its bum. Below-left is a picture that Heather Faubert took through the microscope.

This particular pattern allowed her, along with URI entomology professor Steve Alm, to confirm its identity as the European Chafer. This and the other common species, like the Asiatic garden beetle, the Oriental beetle, the Japanese beetle, the June beetle, and the green June beetle, are all in our area, and appear in varying proportions of abundance, locally. But the common threads are: a) late spring to early summer emergence of adults and b) egg hatch from late July through August. This makes late August into early September the ideal time to apply a control treatment for these young larvae which begin feeding just below the surface.

The chart above shows four biological insecticides’ efficacies through the season. Note that there is reasonable control (in Indiana) from August into Sep-
Federal Assistance *Extended* for Vegetable & Fruit Producers

Tom Smiarowski and Paul Russell, UMass Cooperative Extension Risk Management Educators

Two Federal programs, the **Coronavirus Food Assistance Program 2 (CFAP 2)** and the **Paycheck Protection Program (PPP)**, which can provide financial assistance to Rhode Island fruit and vegetable producers, recently announced the reopening/extension of signup periods.

**Coronavirus Food Assistance Program 2 (CFAP 2)**
Signup reopened on April 5 and will continue for at least an additional 60 days (actual signup deadline is yet to be determined) for the second round of Coronavirus Food Assistance Program payments (CFAP 2) at the USDA Farm Service Agency (FSA). The purpose of CFAP 2 is to provide financial assistance to producers who faced market disruptions and incurred associated costs because of COVID-19.

CFAP 2 significantly expanded the number of eligible fruit, vegetable and other crops and uses 2019 calendar year sales of eligible specialty crops as the basis for payments. CFAP 2 also provides assistance for dairy, livestock, poultry, honey, maple sap, wool, Christmas trees, flowers and eligible nursery crops, (including other crops not listed here) grown by producers.

Crops purchased for resale are ineligible for CFAP 2. Value-added or processed crops (such as apple cider) are eligible but applicants will have to determine the value of the commodity prior to processing and use that figure rather than the sales of the value added or processed commodity. Eligible crops sold through CSA’s may be eligible provided they meet the FSA requirements for eligible CSA’s.

Payment reports as of 4/4/21 show that over $3.1 million has been paid out to 141 approved Rhode Island applicants under the “Sales Commodities” category. “Sales Commodities” include fruits and vegetables. More detailed information can be found here: [https://www.farmers.gov/cfap](https://www.farmers.gov/cfap)

Producers are encouraged to contact the FSA Office in Warwick with any questions they have, along with procedures to file an application and related paperwork. Producers should call (401) 828-3120 x2 since the FSA Office likely has restrictions in place for in-person office visits. Sales records are not be required at the time of signup but producers will have to provide evidence of total sales if the application is selected for a later spot-check.

**Bottom Line:** If you grew and marketed an eligible crop, you are eligible for a CFAP 2 payment!

**Paycheck Protection Program (PPP)**
The U.S. Small Business Administration (SBA) announced on March 30, 2021 that signup for PPP has been extended to May 31, 2021. We strongly encourage producers who have not taken advantage of the PPP to take a close look at the PPP, which can provide financial assistance to vegetable and fruit operations. We have found that many agricultural operations don’t believe they are eligible for PPP benefits since it is not administered by USDA. **BUT:** agricultural operations are eligible!

PPP provides loans to help businesses (including agricultural operations) keep their workforce employed during the Coronavirus (COVID-19) crisis. PPP is offered by the U. S. Small Business Administration (SBA) with applications processed by approved local lenders. [NOTE: The RI Small Business Development Center can assist you!] A key component of the PPP is that the entire loan (or a portion of the loan) may be forgiven provided certain criteria are met! We believe that the PPP has been an under-publicized/under-utilized program in the agricultural community and encourage all types of agricultural operations to take a closer look at the PPP.

Further details can be found at the SBA website: [https://www.sba.gov/funding-programs/loans/covid-19-relief](https://www.sba.gov/funding-programs/loans/covid-19-relief)

You can watch a good video presentation on the PPP from UMass Extension [at this link](#). Starts at the 2:30 mark.
tember, but only with GrubGone (*Bacillus thuringiensis galleriae*) and Nemasys G (*Heterorhabditis bacteriophora*). The degree of control is rated as “good,” not “excellent.” Perhaps we’ll find out how good the control was with *B.t. galleriae* on the farm that was treated last September for grubs feeding on salad green roots.

Control with synthetics can be very effective and may be the right choice under certain circumstances, not to mention much less costly than biologicals.

The only cultural control, as was suggested by Steve Alm, would be to plow, which would suddenly place a gigantic buffet for birds right on the soil surface. Such a strategy, though, may not be compatible with everyone’s cropping or tillage plans.

**The cutworm in winter (or fall or spring)**

All around New England, we’ve been seeing more and more of this foliage-consuming, generalist Noctuid moth larva called the Winter Cutworm (*Noctua pronuba*). Snazzy and handsome though it is, it can really cause damage to high tunnel greens in winter, as well as early spring field-planted crops. I’ve seen them several times over the years and have referred to them generically as cutworms until last fall when I finally identified it. There are reports of damage from around New England right now.

First seen in North America in 1979 (Nova Scotia), it is a common European native. Though reports from Michigan and Oregon stand out in web searches, it is most likely established in many states, though it may not (yet) have made economic impacts in all locations.

From what I’ve seen and from reports from all around, they feed on a wide range of plants, including strawberry, chard, tomato, brassicas of all kinds, and even hay crops (grasses, alfalfa, clovers.) They do both the “cutworm thing” (clipping plants off at soil level) and also climb up onto and feed on larger leaves.

Egg laying and hatching take place through the summer, caterpillars feed and grow from fall to mid-spring, when pupation takes place. Adults emerge in late spring to early summer. Caterpillars are quite winter hardy and on warmer winter days can even be seen feeding outside. This means that any winter sunny day in a high tunnel is ideal feeding conditions. Our familiar black cutworm has a similar life cycle but they are not often active during the winter. If you are seeing foliar damage on greens in your tunnel or early-transplanted field greens, try to find the critter, or give Heather or myself a call. We’d like to see just how common they are in Rhode island.
I just received both a text message and an email from two individuals with the same message: What’s this?

Unfortunately, it’s the perennial weed known as Mugwort, aptly named *Artemesia vulgaris* because it certainly is. And here it comes again. There are places where it lines roadsides and colonizes unused areas, and because it is tall, dense, and rhizomatous, it grows in pretty pure stands. It can also get established in neglected hay fields, which sometimes get turned into vegetable fields. It can take a few years of intensive tillage to eradicate it, but this would not be possible in ditches and waste areas, from which seed can be dispersed.

Mugwort originates in Eurasia but has been in North America for at least a few hundred years. Known also as Artemisia, it was commonly used as a medicine to treat a wide variety of ailments, and is still used by many who partake of herbal medicines.

Seeds are less than 1mm in diameter and are released from brown capsules through the winter months. They can spread by wind, moving water, on animals, or even in mud on tires. But rhizomes which have been cut and spread by tillage or excavation can easily start new plants as well. This includes compost or manure piles which have been left to sit for excessively long periods. Beware of purchasing compost from people who have it piled up at the back of their farms: you should really dig in and look for perennial roots that could cause you nightmares. This is especially the case if you are obtaining such material in the winter months.

Mowing immature seed heads is effective at reducing new seed production, as verified by Jeffrey Ward at the Connecticut Agricultural Experiment Station, but it must take place before seed maturation, which is probably late September. Meanwhile, mowing in late spring to early summer can reduce the aggressiveness of a patch and allow competitors to rise above its canopy. Some herbicides are effective at eradication when they are applied at the right time.

Keep an eye on this stuff—especially if you have perennial plantings of asparagus, small fruits, or an orchard.

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NRCS, a federal agency, helps landowners develop conservation plans, create and restore wetlands, restore and manage other natural ecosystems as well as advise on storm water remediation, nutrient and animal waste management and watershed planning.

United States Department of Agriculture
Natural Resources Conservation Service

NRCS is located at 60 Quaker Lane, Suite 40, Warwick, RI 02886. Phone: 401-828-1300, Option 1 fax: 855-924-4748. [link]

The Rhode Island Agricultural Energy Program is a competitive grant program for the implementation of agricultural projects that improve energy efficiency and facilitate renewable energy. It is a collaborative project of RI RC&D, the RIDEM, Division of Agriculture, and Office of Air Resources and the Office of Energy Resources.

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