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EXTENSION

Vegetable Pest Alert

June 18, 2022

Squash bugs: Be on the lookout for squash bugs. Adults survive the winter in the field margins or under plant debris within fields. Adult squash bugs move into vine crops this time of year to mate and lay eggs. Adults often hide around the base of the plant or under plastic mulch and are hard to target with sprays. Eggs are usually deposited on the leaves in an organized, neatly-spaced pattern, in groups of 10 to 20. Scout undersides of leaves for squash bug adults and eggs and treat if egg masses exceed 1 per plant. Time squash bug sprays to kill young nymphs which are easiest to control. Thorough coverage is necessary. As this often coincides with the bloom period, treat late in the day to reduce risk to bees and select products with lower bee toxicity. See <https://nevegetable.org/crops/insect-control-19> for spray options.



Eggs and newly hatched nymphs (Photo: UMass Extension)

Squash vine borers are early this year. One farm in Berlin, CT capture 3 adults in a Scentry Heliiothis pheromone trap this week. They lay their eggs on the base of cucurbit plants (winter squash, pumpkins, zucchini are hosts, cucumber, watermelon, and butternut are not hosts). Once larvae have bored inside the stem, insecticide application will have little control. So, application should be applied with the first sight of adult activity. Threshold for spraying is 5 moths/trap for crowning cucurbits and 12 moths/trap for vining cucurbits. Treat base of stems thoroughly to target hatching larvae. Some selective materials used for other caterpillars in squash, such as spinosyns and *Bacillus thuringiensis*

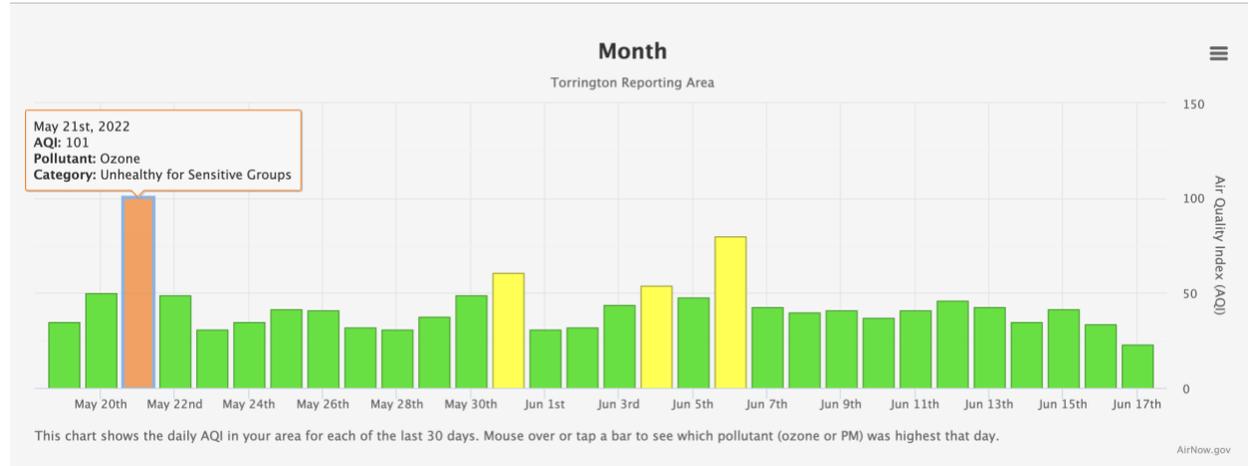


Squash vine borer adult (above) and egg laid singly on the stem of a cucurbit (photo credit: Alan Eaton, University of New Hampshire Cooperative Extension)

aizawi, have demonstrated efficacy in trials. See [New England Vegetable Management Guide](#) for spray options.

Ozone injury: Ozone is the most common air pollutant in the eastern United States. Ozone is formed by the action of sunlight on products of fuel combustion. It is moved from areas of high concentration (cities, heavy traffic areas) to nearby fields by wind. Common symptoms of ozone injury are very small irregularly shaped spots that are dark brown to black or light tan to white on the upper leaf surface. Injury is usually more pronounced at the leaf tip and along the margins. Injury is most likely during hot, humid weather with stagnant air masses.

There were a few surges on ozone level to toxic levels for crops in Torrington, Connecticut in the last month (figure below). Ozone injury in susceptible vegetable varieties develops when ozone levels are over 80 ppb for four or five consecutive hours, or 70 ppb for a day or two when vegetable foliage at a susceptible stage of growth. Susceptible vegetables are cucumber, potatoes, watermelons, cantaloupes, snap beans, pumpkins, and squash.



This chart shows the daily AQI in Torrington, CT for the last 30 days.

Source: <https://www.airnow.gov/?city=Falls%20Village&state=CT&country=USA>

The recommendation is to the extent possible avoid additional stresses on the plants. Do not apply unwarranted pesticides or nutrients. Note which varieties show fewer symptoms and, in the future, select varieties that are less susceptible.

Below are some pictures of ozone injury on cucumbers and squashes.









Aphids on tomatoes. Scout weekly across the field, sampling 3 leaves per plant at lower, mid, and upper levels. Count aphid adults and nymphs and note if numbers are increasing. Treat when aphids exceed 6 per leaf. Beneficials generally (NOT always) keep aphids under control in tomato, unless broad spectrum insecticides are used for other pests. DO NOT use emulsifiable concentrates on tomatoes setting young fruit, or injury may occur. See <https://nevegetable.org/crops/insect-control-24> for spray options.



Aphid colony on underside of tomato leaf (note white skins shed by aphids)

Potato leafhoppers are being seen in beans and potatoes. They are also an important pest of eggplant. Presence of nymphs indicates an established population. Signs of injury begin with leaf veins turning pale, followed by yellowing or browning of areas of the leaf or leaf tips, which is known as ‘hopperburn’. Leaves become brown, curl up, and die. Plants may be stunted, and yields reduced or lost. This process may take less than a week. PLH may also vector many viruses.

Scout using sweep net or observing adults flying up when plants are shaken. Nymphs can be counted on undersides of leaves. Seedling beans should be treated if they have 2 adults per foot of row. From 3rd trifoliolate leaf to bud stage, treat when PLH exceed 1 nymph/leaflet or 5 adults per foot of row, and repeat application in 7 to 10 days, if necessary. In potatoes, treat if more than 1 adult per sweep is found or more than 15 nymphs are found per 50 leaves. Be sure to treat lower leaf surfaces. In fields where a systemic seed treatment was used, foliar treatment should not be needed before bloom. See <http://nevegetable.org/crops/insect-control-18> for spray options.

Hopperburn from potato leafhopper feeding damage





Potato leafhoppers on bean

Bacterial leaf spots on pepper. Be on the lookout for this disease. This is one of the most destructive diseases of peppers in New England. Chemical controls are often ineffective. Effective management requires rotating to fields where solanaceous crops and weeds in the nightshade family have not existed for at least 2 years. Hot water treat pepper seeds at 122°F for 25 minutes. Use disease-resistant varieties <https://www.vegetables.cornell.edu/pest-management/disease-factsheets/disease-resistant-vegetable-varieties/disease-resistant-pepper-varieties/>. Scout fields weekly for plants with small brown leaf spots. Work infected fields last. Do not use high pressure, air-blast sprayers which cause increased leaf infection in rows adjacent to spray alleys and spread bacterial diseases across rows. Destroy crop residue after harvest to encourage rapid decomposition.



Corn earworm (CEW). This year, they are **being caught in traps earlier than in the past.** Trap capture was 1.5/night this week in a farm in Berlin, CT and 0.5/night in Shelton, CT. CEW feeds in a wide range of crops and among vegetables its favorite crops are corn and tomato (hence it is also known as ‘tomato fruitworm’).

Table. Spray Intervals for Corn Earworm based on moth captures in Heliothis net traps.

Moths/Night	Moths/Week	Spray Interval
0 - 0.2	0 - 1.4	no spray
0.2 - 0.5	1.4 - 3.5	6 days
0.5 - 1	3.5 - 7	5 days
1 - 13	7 - 91	4 days
Over 13	Over 91	3 days



Corn earworm, photo by D. Ferro

European corn borers (ECB) are continuing to be trapped. This week 2 ECB NY (E) moths were captured in a trap set in Shelton, CT, and 3 ECB NY moths were captured in Berlin, CT. Corn with newly emerging tassels should be



scouted weekly for the presence of ECB larvae by inspecting the tassels of 50 to 100 plants, in groups of 5 to 20 plants throughout the field. Treat if more than 15% of the plants have one or more larvae present. Use of selective products to control ECB will conserve natural enemies of aphids and ECB.



Typical "shot-gun" damage to corn caused by ECB larval feeding.

Fall armyworm (FAW). They do not overwinter in New England. Infestations result from moths carried northward on storm fronts usually from mid-July into September. But this year, **they are very early**. The trap capture was 5 FAW moths this week in a farm in Berlin. FAW flights are sporadic and unpredictable, and do not necessarily correspond with corn earworm flights, so monitoring with pheromone traps in whorl stage corn is very useful. See <https://nevegetable.org/crops/insect-control-6> for detailed management strategies all sweet corn insect pests.

A video on how to set up traps for sweet corn pest monitoring by Cornell University
<https://www.youtube.com/watch?v=i7r96MRix2I&t=199s>

Continue to be on the lookout for

- Zimmerman's flea beetles on brassica
- Imported cabbageworm
- Diamond back moth
- Colorado potato beetle (egg masses were spotted this week)
- Brassica flea beetle
- Onion thrips
- Striped cucumber beetles

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