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Vegetable Pest Alert

July 9, 2022

Powdery mildew on squash was observed this week in CT. Scout fields regularly and apply fungicides early in disease development. Fungicides should be applied at the first sign of disease as powdery mildew spreads rapidly and cannot be controlled once disease is well established. See <https://nevegetable.org/crops/disease-control-18> for spray options. A great resource by Meg McGrath, Cornell on cucurbit powdery mildew with organic and conventional management options: <https://www.vegetables.cornell.edu/pest-management/disease-factsheets/cucurbit-powdery-mildew/>



Powdery mildew on squash (Photo: S. Ghimire)

Leaf mold was observed this week in **high tunnel tomatoes** in CT. The recent hot, humid weather in combination with tomato plants rapidly growing into dense plantings creates the perfect environment for the fungal diseases like leaf mold. To control leaf mold, it is critical to improve airflow and reduce humidity by venting, pruning, and checking placement of fans. Removing infected foliage can slow the spread of disease from leaf to leaf and plant to plant. See <https://nevegetable.org/crops/disease-control-24> for spray options.



Early leaf mold symptoms: yellow spots on surface of leaf.



Typical early leaf mold lesions: yellow on top of leaf, brown and sporulating on underside of leaf.

Photos: Cornell Univ. Coop. Ext.

Bacterial disease of pumpkin: A few cases of bacterial diseases in pumpkins have been observed this week and last week. Angular leaf spots (*Pseudomonas syringae* pv. *lachrymans*) is more common in our region than bacterial leaf spot (*Xanthomonas cucurbitae*). In case of bacterial leaf spots, lesions are very small (0.07 inches), but as lesions enlarge (0.07-0.15 inches), they can coalesce and look like angular leaf spots. Therefore, it can be difficult to visually distinguish between them. Since both are bacterial pathogens, their management is essentially the same. While the efficacy of copper materials is limited after the onset of the diseases, it can help to reduce the spread. Tank-mixing or alternating between products such as ManKocide, Actigard, or Serenade may be more effective in reducing the spread than single copper material. Both diseases can be seedborne. So, start with disease-free seeds. Plow under crop residue after harvest and rotate away from cucurbits for 1-2



Angular leaf spot (left; photo courtesy of T.A. Zitter, Cornell Univ.) and bacterial leaf spot (right; photo courtesy of Margaret McGrath, Cornell Univ.)

years when practical. Avoid working fields when plants are wet (morning dew or after rain) as this minimizes bacterial spread from diseased to healthy plants. If irrigation is needed, avoid using overhead irrigation to minimize bacterial pathogen dispersal.

Japanese, oriental and Asiatic Garden beetles were spotted on various crops (mainly basil, and brassicas, but no significant damage). Japanese and Oriental beetles feed during the day, while Asiatic Garden beetles feed at night and take refuge in the soil during the day. Heavy infestations may warrant insecticide applications. see the applicable crop section of the New England Vegetable Management Guide for a list of labeled materials. In small plantings, hand-picking into a bucket of soapy water is effective.



Japanese, Oriental, and Asiatic Garden beetles from left to right (photos: The Garden Barn, Vernon, CT)

Tarnished plant bugs (TPB) on lettuce. The sucking injury from adults and nymphs can cause dieback of the growing tip, death and drop of buds or flowers, brown scars on leaf ribs, and distorted or stunted growth of leaves, pods, seeds or fruit. TPB injury in lettuce includes piercing of leaf ribs, which leaves a brown scar; this is especially noticeable on romaine. The range of vegetable and fruit crops affected by TPB is great; field crops such as alfalfa and many weeds are also favored hosts.

In vegetables, TPB is generally not a seriously damaging pest unless the vegetation surrounding crop fields is serving as a source of large populations, and the crop offers more succulent feeding than the surrounding fields. Avoid planting lettuce near abandoned, weedy fields or alfalfa crops. While alfalfa may serve as a trap crop, mowing alfalfa may cause TPB to leave mowed fields for nearby vegetables causing TPB populations to increase. See <https://nevegetable.org/crops/insect-control-11> for spray options.



Tarnish plant bug nymph on lettuce (Photo: S. Ghimire)

Squash vine borers. The trap capture was high this week: 52 in a farm in South Windsor, 19 in a farm in Berlin, and 10 in a farm Norwich. 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 aizawi*, have demonstrated efficacy in trials. See [New England Vegetable Management Guide](#) for spray options.



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

Corn earworm (CEW). Trap captures are continued to be low this week. It was 0.16/night in a farm in Berlin; 0.28/night in Norwich. CEW feeds in a wide range of crops and among vegetables its favorite crops are corn and tomato.

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, but in low numbers. This week 2 ECB NY and 4 ECB Hybrid moths were captured in each trap set in Norwich; 1 ECB hybrid in Berlin. 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.

Continue to be on the lookout for:

- Early blight on tomatoes and eggplants
- Spider mites on eggplants
- Tobacco/tomato hornworms
- Sap beetles
- Squash lady beetles
- Tomato Spotted Wilt Virus (TSWV)
- Verticillium wilt on eggplant
- Basil downy mildew
- Squash bugs
- Bacterial leaf spots on peppers
- Imported cabbageworm and diamond back moth in brassica
- Colorado potato beetle
- Potato leaf hopper
- Thrips and aphids on tomato, peppers
- Brassica flea beetle
- Striped and spotted cucumber beetles
- Fall armyworm

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