

UConn

COLLEGE OF AGRICULTURE,
HEALTH AND NATURAL
RESOURCES

EXTENSION

Vegetable Pest Alert

July 22, 2022

Alternaria leaf spot and head rot on broccoli were observed this week. Diseased crop debris is the primary site of survival from year to year. The diseases are favored by warm temperatures (60-78° F) and at least 12 hours of relative humidity of 90 % or more. The fungi sporulate profusely and are spread throughout fields by wind, splashing water, equipment, and workers. The main means of introduction into new areas is on infested seed.



Alternaria leaf spot on broccoli (photo: Cornell Univ).

Start with certified disease-free seed, or treat seed with hot water. Practice a 3-year crop rotation with all brassica crops. Take measures to decrease the amount of time that leaves are wet: increase row and plant spacing to improve air circulation and irrigate with overhead irrigation early in the mornings on sunny days or use drip irrigation instead of overhead irrigation. Control brassica weeds. Avoid working in fields when foliage is wet. Promptly incorporate plant debris after harvest, or mow if tillage is not possible in late fall crops.

Differences in variety susceptibility exist but no resistant varieties are available. Spray options: <https://nevegetable.org/crops/disease-control-3>

Black rot in brassica crops. The symptoms of this bacterial disease can appear at any growth stage as yellow, V-shaped lesions that extend toward the base of the leaf resulting in wilt and necrosis. Blackening of veins within lesions and adjacent areas is a diagnostic feature of this pathogen. Bactericides are only marginally effective; sanitation and environmental management are important disease management principles.



Black rot symptom on a cabbage leaf (Photo: S. Ghimire)

Bacterial canker, early blight, Septoria leaf spot, and leaf mold of tomatoes

Several tomato diseases have been reported in high tunnel- and field- grown tomatoes: **leaf mold** and suspected **bacterial canker** (waiting for lab confirmation) in high tunnels, and **Septoria leaf spot**, early blight, and suspected bacterial canker in field-grown tomatoes. For fungal diseases like leaf mold, Septoria, and Botrytis, 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.

Initial symptoms of bacterial canker are leaf curling, wilting, chlorosis, and shriveling of lower leaves. In advanced stages, the pathogen spreads throughout the plant and causes poor growth, wilt, and plant death. Foliage throughout the canopy wilts, yellows, turns brown, and collapses. Stems can split resulting in open breaks or cankers and stems break easily. Spots occur on green fruit and are very characteristic: white to yellow spots, 3-4 mm with raised brown centers (“bird’s eye spots”). Bacterial canker can spread rapidly and lead to significant losses.



Bacterial canker of tomato (Photo: [Cornell Univ.](#))

All bacterial diseases (including bacterial speck and spot) may be seed-borne or may overwinter in crop debris in the field. Buy hot-water treated seed or seed certified to be free of bacteria. Hot water seed treatment can be done at home. Treat seed for 25 minutes at 122°F. Avoid working in fields when plants are wet. Rotate out of tomatoes for at least 2 years.

Phytophthora blight on squash has been reported in Connecticut. When contaminated soils are saturated for several hours and temperatures are relatively warm, 75°F to 85°F range, *Phytophthora capsica*, oomycete/water mold thrives and spreads quickly. So, be on the lookout for this disease.



Phytophthora on squash (photo: S. Ghimire)

P. capsici cannot be managed by fungicide applications alone; successful disease control is achieved only by a season-long effort to manage water and other cultural practices. The single most effective way to control this disease is to prevent its movement into clean fields by equipment, humans, or infested water. If possible, plant susceptible crops (tomatoes, peppers, eggplant, and all cucurbit species) in fields that have no history of this disease and are well-drained. Plant non-vining crops on raised beds, avoid planting in low areas where water puddles, and improve drainage by sub-soiling after heavy rain events. Promptly disk under small areas where the disease appears along with a border of healthy appearing plants. Avoid working in wet fields and compacting the soil. Biofumigate the infested field with mustard cover crop.

A preventive application schedule is needed to ensure effective control in known infested fields. Alternate among targeted fungicides to manage resistance. Spray options here: <https://nevegetable.org/crops/disease-control-7>

Squash vine borers were trapped in high number this week: capture was 7 in a farm in Berlin, and 20 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.

Corn earworm (CEW). Trap capture was 0 in a farm in Berlin; 0.8/night in Norwich; and 1/night in a farm in Shelton.

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

European corn borers (ECB) are continuing to be trapped, but in low numbers. This week 6 ECB NY, none of IA and 1 hybrid ECB was captured in a farm in Berlin; 4 ECB NY, 1 ECB IA and 5 ECB Hybrid moths were captured in each trap set in Norwich; and 1 ECB NY and 1 IA in a farm in Shelton.

Continue to be on the lookout for the following pests:

- Cucurbit downy mildew
- Cucurbit powdery mildew
- Leaf mold in high tunnel tomatoes
- Bacterial diseases of pumpkins
- Verticillium wilt on tomatoes and eggplants
- Mexican bean beetles
- Tobacco/tomato hornworms
- Squash bugs
- Pepper maggot
- Bacterial leaf spots on peppers
- Colorado potato beetle
- Potato leaf hopper
- Brassica flea beetle
- Striped and spotted cucumber beetles

Food Safety Certification for Specialty Crops Program

Did your specialty crop operation recently incur on-farm food safety program expenses related to obtaining or renewing a food safety certification in calendar years 2022 or 2023? You may be eligible for financial assistance through USDA's Food Safety Certification for Specialty Crops Program (FSCSC).

USDA's Farm Service Agency will accept FSCSC applications for program year 2022 from June 27, 2022, through January 31, 2023. Applications for program year 2023 will be announced at a later date. More info here: https://www.farmers.gov/pandemic-assistance/food-safety?utm_medium=email&utm_source=govdelivery.

A video on grower's innovative method of tomato pollination

<https://www.facebook.com/shureshg/videos/1494204344384265> (in UConn Extension-Vegetable IPM Private Facebook group)

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