



UMass
Extension

Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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CROP CONDITIONS

Well it's officially fall and really feeling like it, with cool temperatures and long dew periods, and harvests by the binful. Potatoes and squash, sweet potatoes, carrots and beets, all the brassicas, radishes and turnips, and peppers and eggplants still coming in. It feels so cold and wet now it's hard to remember how extremely hot and dry it was just a month ago! Many folks are happily tearing out tunnel tomatoes and cukes, getting things cleaned up and planting winter greens, or overwintering onions and carrots. It's not too late to direct-seed greens for winter, or start transplants to put in after mid-October. It's also not too late to get a cover crop down, there is still time for germination and growth in most of southern New England. It looks like we will make it to October without a killing frost but growers are still keeping an eye on the thermometer and scrambling to get things in as the harvest list is just so long this time of year, it's easy to get behind or get caught by a sudden frost. Now is also a big season for agritourism—from pick-your-own apples and pumpkins to fall festivals and corn mazes—a time when consumers love to come out and visit farms and participate in the local harvest. Take time to celebrate the amazing bounty we saw this year, despite the challenges of droughts, labor shortages, and supply chain issues.

PEST ALERTS

We're still seeing squash bugs, disease in brassicas, cabbage root maggot, allium leafminer, and a lot of virus on squash of all kinds. See our [last Veg Notes Pest Alerts](#) for more details.

We received a report of a Spotted Lanternfly sighting from a farm in Worcester County. MDAR is asking the public to be on the lookout for this pest and to report sightings



A side view of Spotted Lanternfly at rest. Photo: Mass NRC



Fall colors aren't just for leaves! Red and orange peppers and purple kohlrabi in Middlesex County.

Photos: L. McKeag

using [this reporting form](#). Reporters are asked to take photos and collect specimens if possible. Follow [this link](#) for Spotted Lanternfly ID information.

2022 CORN PEST TRAPPING SUMMARY

Last week we finished trapping sweet corn pests for the 2022 season. We trapped corn earworm (CEW), fall armyworm (FAW), and European corn borer (ECB) moths (both New York and Iowa strains) at 21 sites across the state. To carry out this project, we collaborated with private IPM scout Jim Mussoni as well as several vegetable growers who maintained traps and checked them every week – this large-scale monitoring effort wouldn't be possible without them!

CONTACT US:

Contact the UMass Extension Vegetable Program with your farm-related questions, any time of the year. We always do our best to respond to all inquiries. **Office phone:** (413) 577-3976 *We are currently working remotely but checking these messages daily, so please leave us a message!* **Email:** umassveg@umass.edu

Home Gardeners: Please contact the UMass GreenInfo Help Line with home gardening and homesteading questions, at greeninfo@umext.umass.edu.

In general, growers had pretty good corn yields this year, despite the drought. Water was a bigger issue than insect control and success often depended on whether the crop had enough moisture to germinate well, and for the ears to fill out properly.

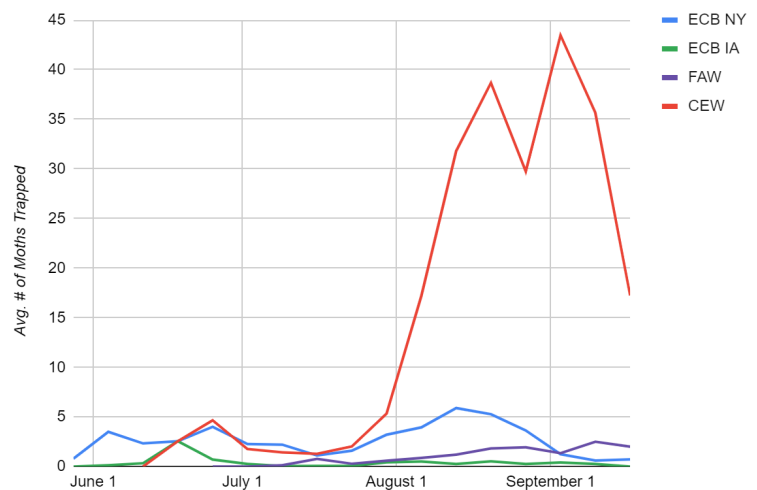
You can find the 2022 corn pest results in Figures 1 and 2. First, you can see a graph showing trap counts for all corn pests over the course of the season (Figure 1, a). We've included data from 2021 for comparison (Figure 1, b). This figure can give you a sense for how prevalent pests are relative to each other, and for the times of year when they are most active. This year, corn earworm was the most prevalent pest, and peaked between late-August and early-September. This peak was higher than last year; it also began slightly earlier and lasted for longer. Compared to last year, 2022 fall armyworm numbers were quite low.

In Figure 2 (next page), you can see the results broken down by pest (note that the scales are different, so that you can see the data more clearly). We've included data from 2020 and 2021 for comparison. (a) We began trapping ECB in late-May. You can see two general peaks for each strain (corresponding with two insect flights), one in June, and the other in mid-August. Trap counts for the NY strain are consistently higher than trap counts for the IA strain across years. This year, it is interesting to note that the first IA peak was much higher than it was in 2021 or 2020. (b) We started catching FAW moths in mid-July, and populations grew steadily until early-September. You can see again how 2022 fall armyworm trap counts were significantly lower than 2021 (2020 trap counts were lower than 2021, but still much higher than this year). (c) We started trapping CEW in mid-June. Numbers generally increased throughout the season, reaching a prolonged peak between mid-August and early-September.

These trends are relatively consistent with numbers from New York. In NY, they also captured fewer FAW in 2022 compared with 2021 (though

Figure 1

a) 2022 Trap Counts for European Corn Borer, Fall Armyworm and Corn Earworm



b) 2021 Trap Counts for European Corn Borer, Fall Armyworm and Corn Earworm

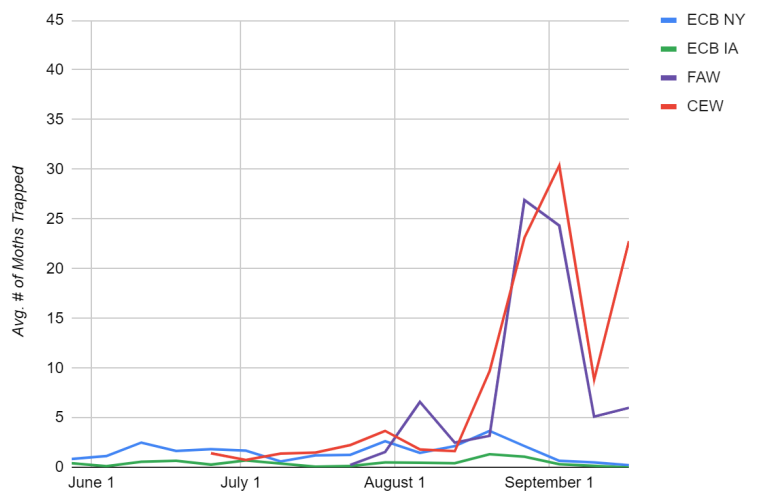
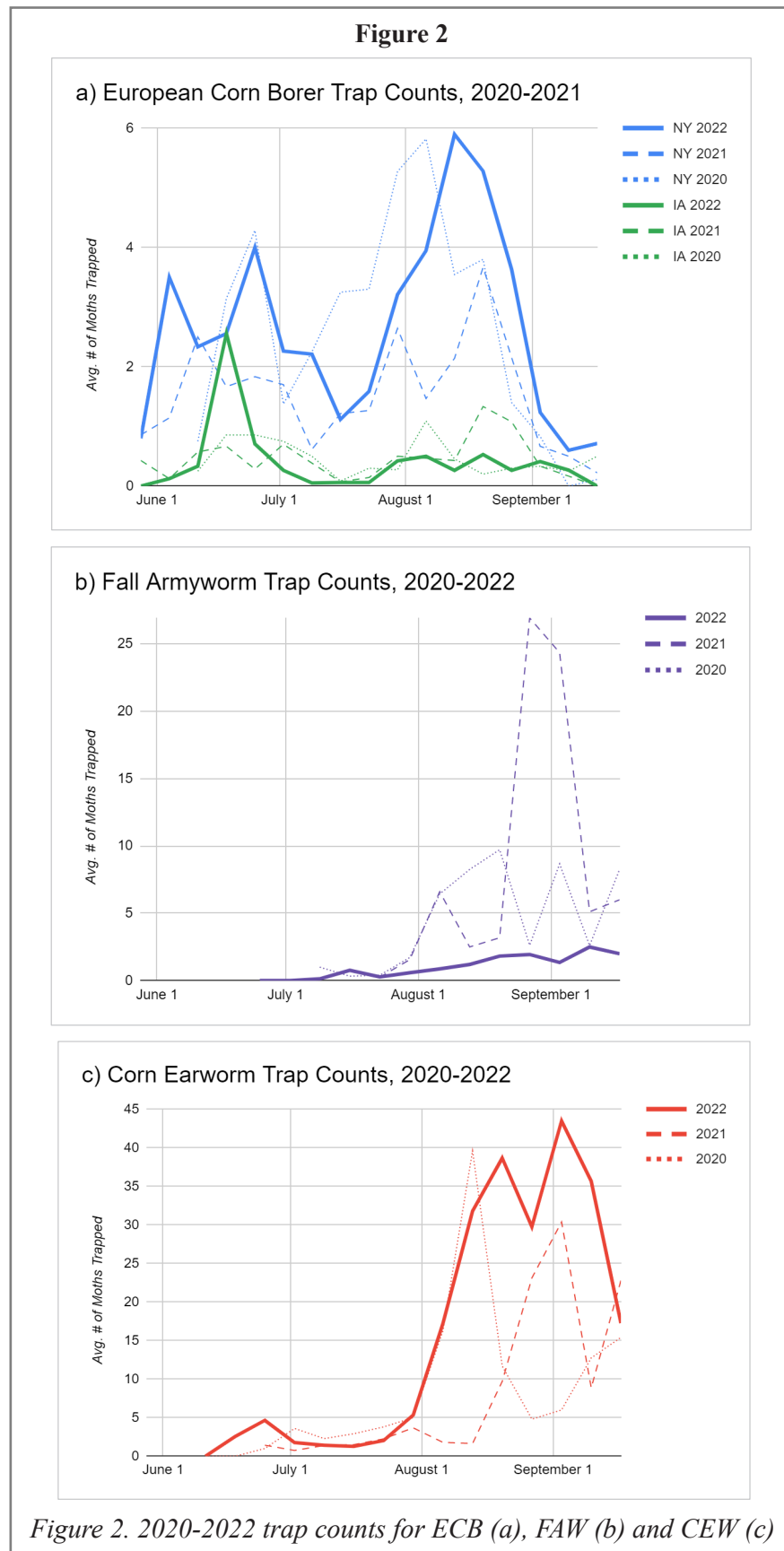


Figure 1. 2022 Trap Counts for ECB, FAW and CEW (a), and 2021 Trap Counts for ECB, FAW and CEW (b)

not quite as low as we did in MA). Their CEW numbers peaked slightly later than ours but followed a similar trajectory. To read more about the NY trapping results, check out [this summary](#).

-- UMass Extension Vegetable Program



IDENTIFYING AND PREVENTING FREEZE DAMAGE IN FALL VEGETABLES

--Written by Benjamin Phillips and Collin Thompson, Michigan State University Extension - October 4, 2019

Vegetable crops planted for fall harvest can be susceptible to early overnight cold snaps, and delayed summer plantings may not fully mature before cold temperatures put the brakes on growth. Preventative actions can be taken, but once severe freeze injury occurs, it is irreversible.

Frost versus freezing

A frost occurs when air temperatures dip to 32 degrees Fahrenheit or lower at ground level. With a frost, the water within plant tissue may or may not actually freeze, depending on other conditions. A frost becomes a freeze event when ice forms within and between the cell walls of plant tissue. When this occurs, water expands and can burst cell walls like cracks in Michigan roads in January. However, some plants have more room to spare in their tissues and can withstand a certain amount and duration of internal ice formation without serious injury. However, when freeze damage occurs, it is irreversible.

Plant hardiness

Depending on crop tolerance, a killing frost can result from canopy temperatures dropping 2-5 degrees below freezing for 5-10 minutes, or from a sustained temperature 31.5–32 F lasting 3-5 hours. Fall vegetables have a range of temperature tolerances, reflecting their area of origin. Vegetables that come from flowers, such as vine and solanaceous crops, okra, sweet corn and beans, have largely been cultivated and bred from tropical and subtropical plants, and are easily damaged by a light frost (28-32 F).

When freezing occurs, water expands and can burst cell walls. However, leaf and root vegetables are generally more capable of withstanding hard frosts (less than 28 F), and have more room to spare in their tissues for water expansion and internal ice-formation.

Hard frost hardy (less than 28°F)

- | | | |
|------------------|-------------------------|-----------|
| •Collards | •Mustard | •Rutabaga |
| •Endive/escarole | •Onion (sets and seeds) | •Spinach |
| •Kale | •Pea | •Turnip |
| •Kohlrabi | •Potato | |
| •Lettuce | •Rhubarb | |

Light frost hardy (28–32°F)

- | | | |
|-----------|--------------|-----------------|
| •Beet | •Cauliflower | •Onion (plants) |
| •Broccoli | •Celeriac | •Parsnip |
| •Cabbage | •Celery | •Radish |
| •Carrot | •Chard | |

Light frost susceptible (28–32°F)

- | | | |
|---------------|------------------------|---------------|
| •Cucumber | •Okra | •Sweet corn |
| •Edible beans | •Pepper | •Sweet potato |
| •Eggplant | •Pumpkin | •Tomato |
| •Muskmelon | •Squash, summer/winter | •Watermelon |

How to tell if you have frost-damaged vegetables

Freeze-killed leaves will at first turn brown and look somewhat transparent as they thaw, a term generally referred to as

“water-soaked.” Once dry, they may curl up and become brittle. The marketable part of the plant may also show signs of damage.

The list below is adapted from Purdue Extension Bulletin HO-203, “Effects of Cold Weather on Horticultural Plants in Indiana,” (see references below) and describes what to look for in freeze-damaged vegetables. For positive identification of suspected freeze damage, contact your regional Extension educator.

- **Beet:** External and internal water-soaking; sometimes blackening of conducting tissue.
- **Broccoli:** The youngest florets in the center of the curd are most sensitive to freezing injury. They turn brown and give off strong odors upon thawing.
- **Cabbage:** Leaves become water-soaked, translucent and limp upon thawing; epidermis separates.
- **Carrot:** Blistered appearance, jagged, length-wise cracks. Interior becomes water-soaked and darkened upon thawing.
- **Cauliflower:** Curds turn brown and have a strong off-odor when cooked.
- **Celery:** Leaves and petioles appear wilted and water-soaked upon thawing. Petioles freeze more readily than leaves.
- **Cucumber:** Transparent, water-soaked appearance in cross section, just under the skin.
- **Garlic:** Thawed cloves appear grayish-yellow and water-soaked.
- **Lettuce:** Blistering; dead cells of the separated epidermis on outer leaves become tan; increased susceptibility to physical damage and decay.
- **Onion:** Thawed bulbs are soft, grayish-yellow and water-soaked in cross section; often limited to individual scales.
- **Pepper:** Dead, water-soaked tissue in part or all of pericarp surface; pitting, shriveling and decay follow thawing.
- **Potato:** Freezing injury may not be externally evident, but shows as gray or bluish-gray patches beneath the skin. Thawed tubers become soft and watery.
- **Pumpkin:** Water-soaked spots on upper surface of fruit which soften the rind. Badly damaged fruit will eventually collapse in on itself.
- **Radish:** Thawed tissues appear translucent; roots soften and shrivel.
- **Squash:** Water-soaked spots on upper surface of fruit. Ornamental and winter squashes may still harden, but others will soften and rot.
- **Sweet corn:** Reduced ear size and weight with shriveled kernels. Ears can take a “bar-bell” shape if they are still developing.
- **Sweet potato:** A yellowish-brown discoloration of the vascular ring and a yellowish-green, water-soaked appearance of other tissues. Roots soften and become very susceptible to decay.
- **Tomato:** Water-soaked and soft upon thawing. In partially frozen fruits, the margin between healthy and dead tissue is distinct, especially in green fruits.
- **Turnip:** Small, water-soaked spots or pitting on the surface. Injured tissues appear tan or gray and give off an objectionable odor.

Methods for protecting frost-sensitive crops

Depending on what materials are available, as well as what crops are being protected, there are several options growers can use to extend the productive season. Commercial growers often rely on passive or heated high tunnels, greenhouses, hoop houses or cold frames to offer several degrees of protection for light-frost susceptible crops in the fall. These structures can also be used to protect hard and light frost hardy crops deeper into



A “water-soaked” appearance is a common identifier of freeze damage on fruiting vegetables. Photo: B. Phillips MSU Extension

the winter months, long after the internal temperatures have dropped below what is appropriate for light frost-susceptible crops.

Commercial growers and home gardeners also rely on floating row covers and other protective covers as a low-cost way to protect sensitive crops from frost. These covers are supported above the crop using wire or metal hoops, or bent PVC hoops. Material edges are commonly weighted with sand bags or simply buried with soil to prevent loss due to wind. Lightweight covers come in varying sizes and weights, providing different levels of frost protection.



The same row covers used in early season production can also protect some vegetables now. Photo: B. Phillips MSU Extension

The table below provides a few examples of row cover options that provide frost protection. It must be noted that as covers grow heavier, the light transmission drops, meaning less photosynthetic activity will occur unless covers are removed. A notable exception is that of greenhouse film (plastic), which provides significant frost protection while still allowing substantial light transmission. The primary drawback, however, is that this material is not self-venting, meaning growers must remove the cover on sunny days to prevent overheating.

Hoop house and greenhouse structures can be more effective when used in conjunction with interior floating row covers. This double layer of protection creates a microclimate at plant level that can be significantly warmer than exterior temperatures. In areas with relatively mild winters, a lightweight row cover can be effective and does not need to be removed for ventilation or to allow solar exposure. In colder climates, multiple layers of lightweight covers or heavier covers can be used to protect cold-hardy crops throughout the winter months. These covers are typically removed on sunny days to warm the soil, allow plants to thaw or photosynthesize, as well as ventilate and exchange air to discourage disease.

For further reading on low-cost season extension options for commercial growers and home gardeners, visit the MSU North Farm’s Resources page, including the Low-Cost Season Extension Skill-Seeker workshop presentation.

Row covers

The same row covers used in early season production can also protect some vegetables now. Fall plantings can be double-insulated under low tunnels inside of high tunnels or greenhouses as well, but will need ventilation on sunny days.

Row covers that provide frost protection

Product	Frost protection (degrees)	Light transmission (%)
Floating Row Cover 0.55 ounces per square yard	4	85
Floating Row Cover 0.9 ounces per square yard	6	70
Floating Row Cover 1.5 ounces per square yard	8	50
Floating Row Cover 2.0 ounces per square yard	10	30
Tyvar Row Cover 1.25 ounces per square yard	6	70
Greenhouse Film 6 mil	10	95

References

- [Effects of Cold Weather on Horticultural Plants in Indiana](#), Purdue University Cooperative Extension Service
- [Understanding Frost](#), Cornell Cooperative Extension
- [Frost protection: fundamentals, practice and economics](#), Food and Agriculture Organization of the United Nations
- [Irrigation Method and Rowcover Use for Strawberry](#), Journal of the American Society for Horticultural Science
- [Row Covers for Commercial Vegetable Culture in Florida](#), University of Florida Extension

FRUIT ROTS OF PUMPKINS AND WINTER SQUASH

Many types of pathogens—fungi, bacteria, and viruses—can cause fruit rots, spots, and other abnormalities in pumpkins and winter squash that render them unmarketable. The most common rots, which happen to be caused by fungi, will be discussed below. Other less common fruit rots include bacterial leaf spot (*Xanthomonas campestris* pv. *Cucurbitae*) and angular leaf spot (*Pseudomonas syringae* pv. *lachrymans*), both caused by bacteria, and other fungal diseases such as Alternaria Rot (*Alternaria alternata*), Blue Mold (*Penicillium* spp.), Crater Rot (*Myrothecium roridum*), Cottony Leak (*Pythium* spp.), and Rhizopus Soft Rot (*Rhizopus stolonifera*). Viral diseases usually cause distortions of fruit and/or discolorations or ring-spots rather than fruit spots and rotting. Most of these fruit rotting pathogens also affect the foliage, controlling the disease on the leaves can reduce the amount of inoculum present to infect fruit later in the season—for descriptions of foliar symptoms and tips for managing the disease on the foliage see [this issue of Veg Notes](#) and for chemical recommendations, please see the pumpkin and squash disease section of the [New England Vegetable Management Guide](#).

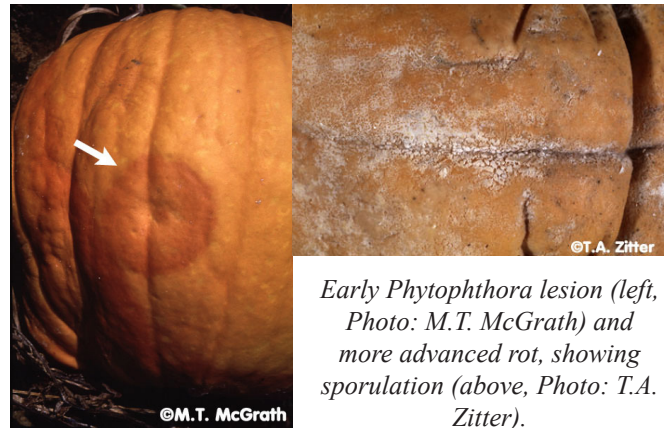
Phytophthora Blight (*Phytophthora capsici*, an oomycete pathogen): Perhaps the most serious fruit rot in wet years, infection with *Phytophthora* begins as a water-soaked or depressed spot, most often occurring at the site of fruit contact with the soil, since that is where the pathogen is spreading from. As the rot develops, a mass of powdery white sporangia will develop in the water-soaked spot and will continue to spread, eventually covering the entire fruit. The pathogen survives in the soil for many years—the exact duration is not known, but a reasonable estimate is 8-10 years. Disease can develop and spread rapidly when soil moisture is high and temperatures are between 80-90°F. Entire fields may be destroyed very quickly.

Tips for Managing Phytophthora Blight: Manage soil moisture by sub-soiling, avoiding over-irrigating, selecting well-drained fields, and avoiding areas of fields that do not drain well. Destroying diseased areas at the start of an outbreak can be effective in slowing the spread of disease.

Planting pumpkins into cover crop mulch (e.g. no-till) or following the biofumigant cover crop ‘Caliente’ mustard has been shown to reduce severity of outbreaks in research trials. Pumpkins with hard, gourd-like rinds are less susceptible to *Phytophthora* blight: ‘Lil’ Ironsides’, ‘Apprentice,’ ‘IronMan,’ ‘Rockafellow,’ and ‘CannonBall’ have been reported as moderately-resistant, and ‘IronMan,’ ‘CannonBall,’ and ‘Rockafellow’ also have resistance to powdery mildew. Newer oomycete-specific fungicides can be effective in reducing severity of *Phytophthora* blight in squash and other hosts such as peppers and tomatoes.

Fusarium Fruit Rot (*Fusarium solani* f.sp. *cucurbitae*): *Fusarium* is another soil-borne pathogen that attacks squash and pumpkin fruits at the soil line. Surfaces of fruit that are in contact with the soil develop tan to brown, firm, dry and sunken lesions which may occur in concentric rings and remain firm unless invaded by secondary organisms. Severity of infection varies with soil moisture and the age of the rind when infection occurs. *Fusarium* can survive in seed but does not affect the germination or viability of the seed. *Fusarium* produces abundant overwintering structures (chlamydospores), but only persists there for 2-3 years. Cultivars vary in their resistance, with larger pumpkins generally being more susceptible.

Black Rot (*Didymella bryoniae*): Also called Gummy stem blight when it occurs on other plant parts, this disease produces a distinctive black decay. Initially, a brown to pink, water-soaked area develops, in which numerous, black fruiting bodies (pycnidia) are embedded. Black rot on butternut may appear as a superficial, hardened, tan to white area which can develop concentric rings. Large Halloween pumpkins are more susceptible to black rot than smaller pie types. The pathogen is soil- and seed-borne and can overwinter in infected crop debris as dormant mycelium or chlamydospores. Wounding is not required for disease



Early *Phytophthora* lesion (left, Photo: M.T. McGrath) and more advanced rot, showing sporulation (above, Photo: T.A. Zitter).



Fusarium on pumpkin. Photos: T.A. Zitter

initiation, but wounding by striped cucumber beetles, aphid feeding, and powdery mildew infection all lead to increased susceptibility.

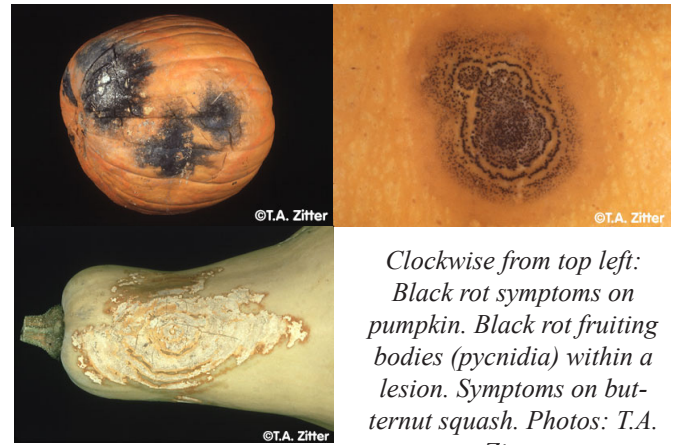
Anthracnose (*Colletotrichum orbiculare*): Cucurbit anthracnose is common on the fruit and foliage of watermelons, squash, melons, and cucumbers in humid regions. Young fruit may turn black and die if their pedicels are infected, while older fruit develop circular, noticeably sunken, dark-green to black lesions which may produce a salmon colored exudate under moist conditions. In addition to the lesions, infected fruit may have a bitter or off-taste. Infected fruits can deteriorate quickly due to the invasion of secondary rot organisms. *C. orbiculare* can be seed-borne and also survives between crops in infected crop debris, volunteer plants, and weeds in the cucurbit family and is spread by splashing water, workers, and tools in warm, humid weather.

Scab (*Cladosporium cucumerinum*): Scab can affect all parts of cucurbit plants, but is a concern primarily because of the disfiguring scabby lesions that develop on fruit. The disease is favored by heavy fog, heavy dews, or light rains, and temperatures at or below 70°F. The spores are produced in long chains and are easily dislodged and spread long distances by wind. On foliage, the first sign of the disease is pale-green, water-soaked lesions which turn gray and become angular as they are contained by leaf veins. On fruit, spots first appear as small sunken areas which can be mistaken for insect injury. The spots may ooze a sticky liquid and become crater-like as they darken with age. Dark green, velvety layers of spores may appear in the cavities and secondary soft-rotting bacteria can invade. Severity of symptoms varies with the age of the fruit when it becomes infected. *C. cucumerinum* overwinters in infected crop debris and soil, and may also be seed-borne. Spores produced in the spring can infect in as little as 9 hours, produce spots within 3 days, and produce a new crop of spores within 4 days.

Plectosporium Blight (*Plectosporium tabacinum*): Plectosporium blight affects many plant parts but is most damaging when it affects cucurbit fruit. Pumpkins, yellow squash, and zucchini are the most susceptible. Lens to diamond shaped, white to tan, lesions occur on stems, leaf veins, petioles, and peduncles, while fruit lesions are more rounded. Severe stem and petiole infections cause leaves to become brittle and can result in death of leaves and defoliation. On fruit, the pathogen causes white, tan, or silvery russetting; individual lesions can coalesce to form a continuous scabby layer. Plectosporium blight is favored by wet weather; in wet years, crop losses in no-spray and low-spray fields can range from 50 to 100%. No resistant cultivar of pumpkins has been reported and it is not known to be seed-borne.

Management of Fungal Fruit Rots:

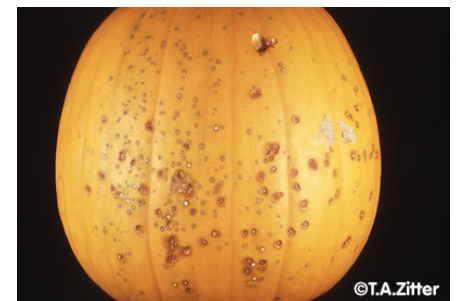
- Start with disease-free seed or use fungicide-treated seed.
- Do not save your own seed if disease is present in the field.
- Select well-drained fields with good air circulation to promote rapid drying of foliage and fruit.
- Rotate out of cucurbits for 2 or more years.
- Fungicide sprays can reduce diseases which start in the foliage and then splash on the fruit e.g. Plectosporium, scab,



Clockwise from top left: Black rot symptoms on pumpkin. Black rot fruiting bodies (pycnidia) within a lesion. Symptoms on butternut squash. Photos: T.A. Zitter



Sunken lesions on kabocha squash caused by Anthracnose. Photo: K. Campbell-Nelson



Scab on pumpkin. Photo: T.A. Zitter



White russetting from Plectosporium blight on pumpkin. Photo: TA Zitter

anthracnose.

- Spraying copper can reduce infection of fruit by the foliar diseases angular leaf spot and bacterial leaf spot.
- Destroy and plow crop residues promptly after harvest to prevent their spreading and hasten their breakdown in the soil.
- Controlling powdery mildew can significantly reduce black rot infection of pumpkins. For recommendations for chemical control of powdery mildew, see the [June 11, 2020 issue of Veg Notes](#).
- Avoid chilling injury to winter squash and pumpkins in storage, as this can allow for spread of some diseases in storage. Store fruit at 50-55°F and ~60% relative humidity. For information on curing and storage conditions for pumpkins and winter squash, see [last week's issue of Veg Notes](#).

—M. Bess Dicklow, UMass Plant Diagnostic Lab (retired)

FARMAID'S HOTLINE IS HEARING FROM MORE FARMERS. HERE'S WHAT THEY'RE CALLING ABOUT.

--By Farm Aid, September 19, 2022

Resources for Farmers: Our Farmer Resource Network contains services and opportunities that can help your farm thrive. Click [here](#) to visit.

Those of us working on the Farm Aid Hotline have experienced a major increase in call and email volume recently. Like most of us in the United States, farmers have been hit hard by inflation for the cost of essential goods and services. Skyrocketing input costs greatly increase risk for our farmers who are also facing climate extremes of every kind. Many areas of the country have had record flooding while others are in a multiyear drought that seems to have no end in sight. Farmers are both tough and independent, but many are nearing their breaking point, accounting for the upsurge in our call volume.

Throughout the month of August, Hotline Operator Molly Carey noticed similar trends in her hotline cases. Molly spoke to multiple farmers in Texas, California, Oklahoma and Nebraska struggling with drought and water management. Many of these farmers and ranchers have gone through extensive periods without rainfall, are lacking adequate irrigation infrastructure for crops and livestock forage, and are struggling to keep their animals fed. Molly also spoke to several farmers in Wisconsin, Oklahoma and Washington struggling due to the effect inflation has had on farm inputs and operating costs. These farmers are struggling to be able to afford typical farming expenses such as feed, seed, fertilizer and fuel due to inflated prices. Despite these increasingly prevalent issues, the overwhelming majority of Molly's hotline cases in August were from beginning and future farmers seeking start-up funding and land access resources in order to establish their farm businesses. Molly finds it encouraging to hear the enthusiasm these farmers have about bringing their farming visions to reality in order to feed their communities.

Hotline operator Rachel Van Boven says the increase in calls from farmers is essentially boiling down to inflation and high input costs, and weather-related stresses. As far as weather-related stress, Rachel has heard from a lot of farmers impacted by the drought in the West, and other extreme weather events around the country. Rachel says, "The drought has been going on for a very long time, and folks have been using up their reserves until now, a couple years down the road, they will be out. Some of it is still related to Covid as well. Folks are hanging on to get through it, but it's now 2.5 years on, and things are starting to really fray. There are some massive crises going on, that have been ongoing, and it feels like it's taking its toll on even the most resilient folks. While these crises impact almost every farmer, it seems like it has had the greatest impact on "beginning farmers," folks who have been farming for less than 10 years. It takes a while to establish a farm business, and the first few years are precarious. However, still surprisingly, many of our calls are also from folks looking to get into farming!"

"It's helpful just to have someone listen and understand our needs, thanks for being there to take my call and offer resource options."

All farmers have a kinship, and they know they are one extreme weather event from disaster, such as the recent floods in

Eastern Kentucky. However, not every call is from a farmer in distress. It's more than a little encouraging when we hear from farmers who call the hotline wanting to help other farmers. Sometimes all we can do is just encourage farmers and let them know they are not alone and connect them to farmers who want to help their fellow farmers. The Hotline team tries our best to point farmers to both private and government sources of assistance wherever it can be found. As one recent caller told us, "It's helpful just to have someone listen and understand our needs, thanks for being there to take my call and offer resource options."

Farmers in difficult financial circumstances are a large percentage of our calls and emails but more than half of our contacts are from beginning and future farmers. Some are military veterans motivated to make the farm both a profitable business and a form of personal therapy. We find that those coming from the military are dedicated to a mission whether it's protecting our country or starting a small farm. They are task-oriented and are very familiar with stressful conditions. Another hopeful trend is the number of young people who are not from a farming background but want to start a new farm. It is our privilege to try and help farmers and future farmers like these on a daily basis.

We all know that farming is a challenging occupation in the best of times, but the double whammy of extreme weather events and high input costs are particularly difficult coming immediately after a worldwide pandemic that impacted farmers just as much, if not more than, the rest of the economy. Farm stress is extremely high and sometimes farmers need help dealing with that stress. This is another significant subset of callers we hear from. It's not a stretch to say most of our calls from experienced farmers have stress related issues as an underlying, if not front and center, concern. We can be a listening ear but often farmers need more help than we can provide, and we try to connect them with mental health experts who understand farm related stressors. Thankfully we have more resources to which to refer farmers than ever before so they can get the help they need.

Despite the difficulty of both established farms and those trying to get started, the mission of Farm Aid to "keep family farmers on the land" remains unchanged. As our founder Willie Nelson said, "After more than 30 years, we are still here, you're still here, and together we're still fighting for the farmers. The fight ain't over yet but we're gaining on those suckers, so stay with us." The Hotline Team is proud to be a part of this fight.

IF YOU ARE A FARMER, FARM AID IS HERE FOR YOU.

We have more than 35 years of experience working with farmers – whether you're looking to expand your farm or you're in need of emergency resources. When you contact Farm Aid, our goal is to connect you with helpful services, resources and opportunities specific to your individual needs. Our [Farmer Resource Network](#) offers many ways for you to connect.

NEWS

MDAR SURVEY

MDAR values your earned insights and vision. We would appreciate you taking a few minutes to complete our online survey to better understand the challenges you're facing, your view of current mental health services for the Commonwealth's agriculture community and the beneficial services MDAR can offer you. Click [here](#) to find the survey

SEEKING COMMERCIAL FARMERS TO TRIAL ADVANCED KIWIBERRY SELECTIONS

The University of New Hampshire Kiwiberry Research and Breeding Program is now 10 years old, and we have nearly 20 advanced breeding lines ready for multi-locational testing. We're looking for 25 farmers across the northeast who are interested in participating in a grant-funded project that will support participatory evaluation of these potential new varieties, starting Spring 2023. If you are a current or aspiring kiwiberry producer, have an interest in new varieties, wish to receive more technical training, and have room for at least 12 vines, please complete this short questionnaire*.

To be eligible to participate, you must be a commercial producer, either with kiwiberries currently as one of your enterprises or as an enterprise you are interested in integrating into your system. Specific experience with kiwiberries is not required, as one of the goals of the program is to train farmers in their production. Participating growers will be compensated for their time.



Massachusetts Agricultural Community Mental Health & Wellness Program

The Massachusetts Department of Agricultural Resources (MDAR) supports the Commonwealth's farming community and understands the impact of mental health and wellness extends beyond the field. We are excited to update you on our Mental Health & Wellness program and are asking for your input!



If you would like to learn more about kiwiberries, a production guide developed by our program is available online at: <http://www.noreastkiwiberries.com/>

* Questionnaire link: https://unh.az1.qualtrics.com/jfe/form/SV_3aSbLzVNjJ1R3Se

CORNELL COOPERATIVE EXTENSION SEEKING DOWNY MILDEW SAMPLES ON BRASSICAS

Late summer into fall is when conditions are most favorable for downy mildew to develop on brassica (cruciferous) crops. Meg McGrath from Cornell University is very interested in hearing if you are growing any of these crops and you see symptoms, especially on collards and arugula. Knowing about on farm occurrences will help in determining degree of host specialization in the pathogen causing DM on all the brassica crops. She'd also be interested to hear at season end if you don't see any symptoms of DM on your brassica crops to provide perspective for how widespread the disease occurs. **Samples are needed for research, so if you see DM and can make the time to collect and box up some leaves, she would love to receive them. Pre-paid label will be provided. Email mtm3@cornell.edu to report disease, and to get more information on shipping.** If you don't know what downy mildew in brassicas looks like, check out some photos at <https://blogs.cornell.edu/livegpath/gallery/>.

NORTHEAST SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION (SARE) CALLING FOR 2023 FARMER GRANT PROPOSALS

The Call for 2023 Northeast SARE Farmer Grants is now available. Awards typically range from \$5,000 to \$30,000, depending upon a project's complexity and duration. Northeast SARE Farmer Grants provide the resources farmers need to explore new concepts in sustainable agriculture conducted through experiments, surveys, prototypes, on-farm demonstrations or other research and education techniques. Northeast SARE funds projects in a wide variety of topics, including marketing and business, crop production, raising livestock, aquaculture, social sustainability, climate-smart agriculture practices, urban and Indigenous agriculture and more. The Northeast region includes Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, West Virginia, Vermont, and Washington, D.C.

The online system for submitting proposals will open on Oct 1, 2022. Proposals are due no later than **5:00 p.m. EST on November 15, 2022**. An [informational webinar](#) featuring multiple Farmer Grant recipient Tommye Lou Rafes will take place at 12:00 p.m. on October 4, 2022.

- Learn more about Farmer Grants – northeast.sare.org/farmer
- View the full call for proposals – northeast.sare.org/farmergrantcall
- Register for the webinar – northeast.sare.org/farmergrantwebinar
- View previous SARE Projects – <https://projects.sare.org/search-projects/>

MDAR NOW ACCEPTING APPLICATIONS FOR THE AG FOOD SAFETY IMPROVEMENT PROGRAM

The goal of the Ag Food Safety Improvement Program (AFSIP) is to support **produce and aquaculture** operations that are looking to upgrade their food safety practices that work towards minimizing the risk of microbial contamination and food-borne illnesses, meet regulatory requirements, and improve market access. AFSIP is a competitive, reimbursement grant program that funds 80% of total project costs up to \$50,000.

Applications are due by 4:00PM on Friday, September 30, 2022. Please refer to the AFSIP website for more information and a copy of the application: www.mass.gov/how-to/agricultural-food-safety-improvement-program-afsip

EVENTS

[2022 MA FOOD SYSTEM FORUM](#)

When: October 12 - 2022. 8:30am– 4pm.

Where: Sturbridge Host Hotel & Conference Center

MA Food System Collaborative hosts Forum. Join hundreds of advocates, farmers, and other food system stakeholders in celebrating the innovative work and positive changes in the Massachusetts food system since the completion of the MA Local Food Action Plan in 2015, and in planning our next steps as we continue to work together toward an equitable, sustainable, and resilient local food system. Details [here](#).

PRODUCE SAFETY ALLIANCE GROWER TRAINING – SAVE THE DATE!

When: Wednesday, November 2, 2022 from 9 am to 5 pm

Where: Brigham Hill Community Barn, 37 Wheeler Road, North Grafton, MA 01536

Who Should Attend: Fruit and vegetable growers and others interested in learning about produce safety, the Food Safety Modernization Act (FSMA) Produce Safety Rule, Good Agricultural Practices (GAPs), and co-management of natural resources and food safety. This course will also cover the Massachusetts Commonwealth Quality Program (CQP), a voluntary 3rd-party audit program. Presented by UMass Extension and the Massachusetts Department of Agricultural Resources (MDAR).

This training satisfies the FSMA Produce Safety Rule requirement for covered farms that “at least one supervisor or responsible party” completes “food safety training ... recognized as adequate” by FDA (21 C.F.R. §112.22(c)).

Registration information coming soon!

This is an in-person event. Registration is limited to 40 participants. In the event that the course fills up, registration priority will be given to farms that are required to receive training to comply with federal and state produce safety regulations.

Contact Lisa McKeag, lmckeag@umass.edu, 413-658-8631 with questions

[NEW ENGLAND VEGETABLE AND FRUIT CONFERENCE 2022](#) - **REGISTRATION OPEN!**

When: December 13, 14 & 15, 2022

Where: DoubleTree Hotel and Conference Center, 700 Elm Street, Manchester, New Hampshire

The New England Vegetable & Fruit Conference Steering Committee is excited to announce that the conference will return **in person** this December! The NEVF Conference includes more than 25 educational sessions over three days, covering major vegetable, berry and tree fruit crops as well as various special topics. A Farmer to Farmer meeting after each morning and afternoon session will bring speakers and farmers together for informal, in-depth discussion on certain issues.

For more information on session, accommodations, and registration: <https://newenglandvfc.org/>

GROWING YOUR FARM BUSINESS PLANNING COURSE

When: January 17th – March 14th, 2023 - Tuesday evenings 5:30 – 8:30pm

Where: MDAR office in Southborough, MA

A hands-on course to help established farmers develop a business plan and financial projections for their farm business. This course covers topics including resource assessment, marketing strategy, financial management, risk management, quality of life, and goal setting. The course is taught by a professional business planner with years of experience working with Massachusetts farms and guest speakers on topics such as succession planning and online marketing. Enrollment is open to farmers who have been operating a farm business in Massachusetts for at least the two prior years. Eight weekly classes will be held in person in Southborough on Tuesday evenings starting January 17th and ending March 14th, (no class February 21st). The course fee, subsidized by MDAR, is \$150 per farm. The Growing Your Farm business planning course has been approved as a certified USDA Farm Service Agency (FSA) borrower training for financial management.

If interested, please complete the brief Growing Your Farm [application](#) and email it to Diego.Irizarry-Gerould@mass.gov, or mail a hard copy to: MDAR, Attn: Diego Irizarry-Gerould, 138 Memorial Ave, Suite 42, West Springfield, MA 01089. For more information, see [ABTP program webpage](#) or contact Diego Irizarry-Gerould at 857-248-1671.

EXPLORING THE SMALL FARM DREAM COURSE

When: January 12 – February 9, 2023 - Thursday evenings 6:00pm – 9:00pm

Where: MDAR office in Southborough, MA

This [5-session course](#) provides guidance to aspiring farmers through the decision-making process of whether to start a farm business. Participants will learn about the many aspects of starting a farm business, assess their own skills and knowledge, and get help finding resources for support, including marketing, financing, and regulations. The course utilizes the Exploring the Small Farm Dream curriculum and workbook developed by the New England Small Farm Institute. Through four guided group sessions and a farmer panel session, participants will analyze the feasibility of their small farm dream and clarify their vision together with other class participants. This course is sponsored and financially supported by the Massachusetts Department of Agricultural Resources and is intended for new agricultural entrepreneurs planning to start their farm business in Massachusetts. The course fee is \$100 for up to two participants per enterprise, as space allows.

If interested, please complete the brief application found here: [Exploring the Small Farm Dream](#) and email it to Jessica.Camp@mass.gov, or mail a hard copy to: MDAR, Attn: Jessica Camp, 138 Memorial Ave, Suite 42, West Springfield, MA 01089. For more information, see [ABTP program webpage](#) or contact Jess Camp at 617-823-0871.

Applications for these winter courses will be accepted until December 2, or until each course is full. *Applications are accepted on a rolling basis, with course session locations selected based on interest from those on the waitlist. If you are interested, but unable to attend the current session, please consider submitting an application in order to be placed on the waitlist for an upcoming session.

THANK YOU TO OUR 2022 SPONSORS!



Become a sponsor!

Vegetable Notes. Genevieve Higgins, Lisa McKeag, Susan Scheufele, Hannah Whitehead, Maggie Ng co-editors. All photos in this publication are credited to the UMass Extension Vegetable Program unless otherwise noted.

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