



UMass Extension

Vegetable Notes

For Vegetable Farmers in Massachusetts since 1975



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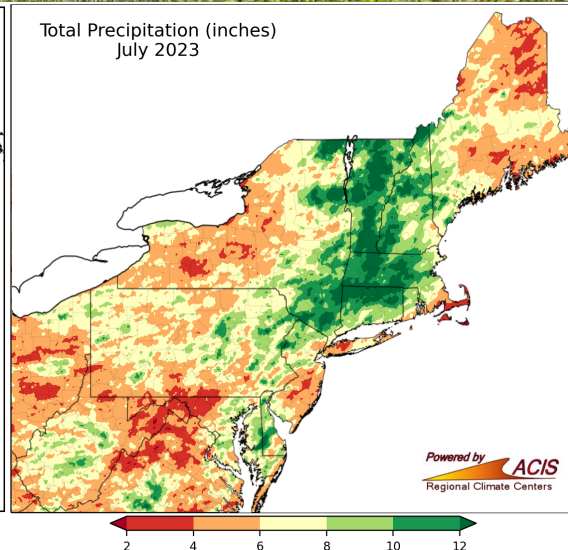
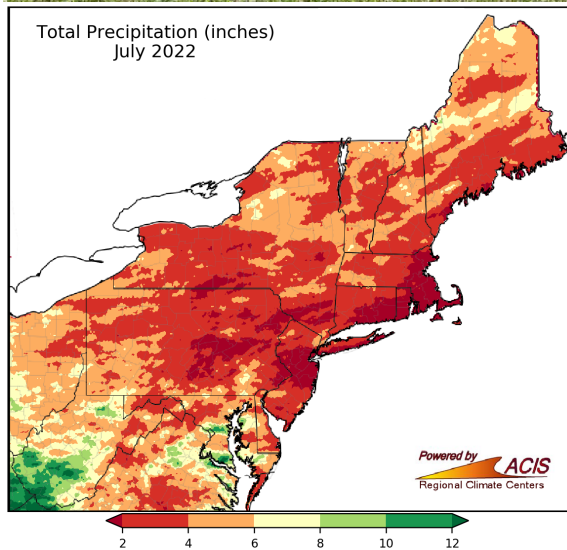
August 10, 2023

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CROP CONDITIONS

Some parts of the state are drying out a bit, but Middlesex Co. got hit by another storm on Tuesday, bringing 1-4" in a short amount of time and causing flash flooding. With soils saturated from all the rain in July, even small amounts of rain feel extra impactful. In fields that are dry enough, growers are cultivating to aerate soils and sidedressing with fertilizer to reinvigorate crops that are yellowing and stagnating due to leached nutrients. Each [crop section in the New England Vegetable Management Guide](#) includes fertility recommendations, and most include recommendations for sidedressing. *(cont. on next page)*



Above: The incredible difference between July 2022 and July 2023. The photos above are an irrigation pond in Middlesex Co., taken the same week 1 year apart. Photos: L. McKeag

To the left are the Northeast Regional Climate Center precipitation maps showing less than 4" of rain in most of the state in July 2022 vs. more than 10" in most of the state in July 2023.

The sidedressing amounts are meant for split nutrient applications, but are a good starting point for sidedressing due to nutrient leaching at this point in the season also.

On August 1, Governor Healy signed a supplemental budget that includes \$20 million in farm relief for growers affected by July's heavy rains, as well as the freeze events from earlier this year. This money will be distributed as grants and is different from [FSA funds](#) that are available as emergency loans. We are waiting to hear how this relief money will be distributed and will include any news here. Other support options for farmers affected by this year's severe weather include the [Massachusetts Farm Resiliency Fund](#), which is raising funds to provide direct aid to farmers, and [CISA's Emergency Farm Fund](#) to provide no-interest loans up to \$25,000.

We have 3 events coming up next week! Tuesday we'll be at [Parlee Farms in Tyngsborough](#) to talk about automated irrigation systems, pumpkin varieties, and sweet corn IPM. On Wednesday you're invited to the [UMass Research Farm](#) for a tour of the farm and the current research in the afternoon and/or a vegetable twilight meeting in the evening, where we'll go into more detail specifically on the Extension research for vegetable farmers at the farm. Of course irrigation is not on anyone's mind this year, but we're excited to have a representative from Toro and Trevor Hardy from Brookdale Farm Supplies, both at Parlee on Tuesday and at the Research Farm on Wednesday, to give growers on both sides of the state a chance to see these automated irrigation systems in practice. Let us know if you're coming at the links above, and we hope to see you there!

PEST ALERTS

Brassicas

[Alternaria leaf spot](#) is widespread in untreated fields now. Alternaria can be controlled using conventional fungicides if applied early and often. See this [cheat sheet from Cornell Cooperative Extension](#) on the efficacy of materials labeled for Alternaria control plus FRAC groups and any restrictions around spray intervals, maximums, or harvest timing.

[Cabbage root maggot](#) flies are active now, laying eggs in brassica crops. There are 2 summer generations of CRM that generally do not cause significant damage, but this final flight of the season can cause wilting, stunting, and plant death in all brassica crops, as well as tunneling damage in brassica root crops. GDDs indicate that we are nearing or just past peak flight (and peak egg laying) for this flight. Row cover will protect crops being planted or seeded now, as long as the field was not infested with CRM this spring. Coragen (chlorantraniliprole) or Verimark (cyantraniliprole) may be applied at planting and Radiant (spinetoram) or Entrust (spinosad) may be applied to leafy (not root) brassicas at planting and in up to two additional applications to seedlings.



Cabbage root maggot damage on hakurei turnips (left) and CRM eggs in the soil at the base of a brassica transplant (right).



Cucurbit downy mildew symptoms on the upper side (left) and underside (right) of a cucumber leaf.

Cucurbits

[Cucurbit downy mildew](#) (CDM) was confirmed on cucumber in Franklin Co. this week. This is the first report of CDM in MA this year. It has been present in southern VT, western NY, and on Long Island for several weeks now. MA growers should now add targeted DM materials to cucurbit spray programs. Recommended targeted materials include Orondis (FRAC 9), Omega (29), Ranman (21), Zampro (40 + 45), Zing! and Gavel (22), Ariston, Curzate, and Tanos (27), and Previcur Flex (28). Tank mix

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 **Email:** umassveg@umass.edu

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

Table 1. Squash vine borer trap captures for week ending August 9

Whately	0
Leominster	1
North Easton	-
Sharon	1
Westhampton	2

targeted fungicides with protectants and rotate FRAC groups to prevent resistance development. The following fungicides are no longer recommended because of known resistance: Presidio (43), Revus and Forum (40). Cucumber and cantaloupe are at the highest risk currently. CDM has not been reported on crops other than cucumber north of South Carolina, but the national reporting system is less robust this year, so CDM may be out there on other cucurbit crops as well. All cucurbits are susceptible to this disease, with cucumbers and melons most at risk. Resistant cucumber varieties can effectively hold off CDM development for several weeks; varieties include Brickyard, Bristol, Citadel, and DMR401.

Squash vine borer trap counts have dropped to low numbers at all trapping locations in MA (see Table 1).

There is sometimes a second generation of SVB in late August that can bore into squash and pumpkin fruit. If trap captures start to rise again, we will alert you here!

Nightshades

Late blight: There have been no further reports of late blight beyond western NY since last week.

Sweet Corn

European corn borer: Trap counts from the 2nd generation flight have remained low except for at a few sites. At the few sites with a significant number of moths caught last week, numbers have dropped this week, but

Table 2. Sweetcorn pest trap captures for week ending August 9

Location	GDD* (base 50°F)	ECB NY	ECB IA	FAW	CEW	CEW Spray Interval
Western MA						
Feeding Hills	1822	7	0	0	12	4 days
Southwick		1	0	3	7	4 days
Granby	1732	14	1	0	5	5 days
Whately	1817	2	0	0	4	5 days
Central MA						
Leominster	1864	4	0	0	5	5 days
Lancaster		6	1	0	3	6 days
North Grafton	1597	4	0	0	8	4 days
Spencer	1684	0	0	0	3	6 days
Eastern MA						
Bolton	1718	0	0	-	2.5	6 days
Concord	1695	7	0	0	4	5 days
Haverhill*	1760	2	0	0	6	5 days
Ipswich*	1655	1	0	0	15	4 days
Millis	-	4	0	-	42	4 days
North Easton	1793	0	0	0	29	4 days
Sharon		0	0	4	40	4 days
Sherborn	1796	-	-	-	-	-
Seekonk	1712	0	0	0	27	4 days
Swansea		0	0	1	11	4 days
- no numbers reported for this trap						
N/A this site does not trap for this pest						
*GDDs are reported from the nearest weather station to the trapping site						

Table 3. Corn earworm spray intervals based on Heliothis trap moth captures

Moths per night	Moths per 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

adults are still flying and laying eggs.

Corn earworm trap counts have jumped up in some eastern MA locations this week, bumping growers up to a 4-day spray schedule. In the rest of the state, growers remain on a 5- to 6-day schedule.

Fall armyworm trap counts remain low, with only 3/16 sites reporting captures this week. Larvae are continuing to feed in whorl corn now.

SOIL HEALTH RECOMMENDATIONS FOLLOWING JULY RAINS

--Written by Becky Maden, UVM Extension Vegetable Nutrient Management Specialist

Flooding and prolonged saturation of soil from excessive rainfall can also have long term negative impacts on soil health. Nutrients in a water-soluble form, like nitrate and potassium are likely lost through leaching. Bioavailable phosphorus (P) may be released into the flood waters, leading to soil P losses and potential surface water contamination (Young & Ross, 2018). In saturated conditions, most beneficial microbes become inactive or die, which leads to further nitrogen losses via denitrification. Phosphorus is also less available during and after soil saturation because anaerobic soil conditions reduce vesicular arbuscular mycorrhizal fungi (VAM), which are critical organisms that assist crops in P uptake. **In summary, flood events cause immediate nutrient losses with longer term consequences to soil health and nutrient availability due to a reduction in soil biota.**

Soil tests are one tool to understand the impact of flooding on soils. In particular, soil tests can help reveal if soils are contaminated with heavy metals after a flood as well as changes in pH, nutrients and organic matter levels. MA growers can have soil tested for all of these things at the [UMass Soil Testing Lab](#) for a price of \$108 (standard soil test + nitrate = \$28; total sorbed metals = \$70).

The most practical agronomic way to remediate soil health problems due to flooding is to grow a cover crop. Cover crops uptake excess soil nutrients that might otherwise leach or erode while holding vulnerable soil in place. Cover crops also provide living roots for VAM and other soil microbes to rebuild populations. Most research shows that while flooding suppresses soil microbial communities, planting a cover crop is an efficient and effective way to allow populations to rebound quickly. *[See the next article for some options of late summer cover crops to seed now/soon.]*

- **Sidedress nitrogen** for crops that have survived as soon as soil is dry enough. For organic growers, use North Country Organics Pro-booster (10-0-0) at a rate of 30-40 lb N/acre or sodium nitrate (15-0-2, which is 100% plant available nitrate N) at a rate of 20 lb N/acre. Sidedress and lightly incorporate. For conventional growers, any nitrate fertilizer is a good option at a rate of 20 lb N/acre; but if soils are still saturated, stay away from ammonium N fertilizers since a lack of oxygen (which is necessary to convert NH_4^+ to NO_3^-) can make ammonium toxic in saturated soils. A [presidedress nitrate test \(PSNT\)](#) (\$15) is useful to understand how much nitrate is actually available in the soil.
- **Sidedress other nutrients such as phosphorus, potassium, and magnesium for longer season & fruiting crops.** Ideally, a soil test can guide you in these applications, but since time is probably tight, use these basic rates: apply P at a rate of 10 lb/acre; K at a rate of 30 lb/acre; magnesium at a rate of 15 lb/acre. For organic growers, this can be achieved with 185 lb/acre bone char for P (0-16-0) and 135 lb/acre KMag for potassium and magnesium (0-0-22).
- **Grow a cover crop to improve soil biology.** Saturated and flooded soils can quickly degrade soil biological activity because of prolonged lack of oxygen. One of the best ways to rebuild soil biology is to grow a cover crop, ideally a legume/grass mix. Living roots will help rebuild fungal networks and other microbial activity. Cover crops will also help reduce further erosion losses.
- **Physical soil management.** Surface crusting may exacerbate prolonged wet periods and make sidedressing or seeding difficult. Use gentle cultivation to break up surface crusts and help oxidize the soil.
- **Remove flowers and fruit to promote growth of stressed plants.** If fruiting plants survive but are stressed, remove flowers and fruit to promote vegetative growth.

LATE SEASON COVER CROPS

There are many reasons to plant a late season cover crop. This year in particular, growers are putting cover crops in to

fields that flooded last month and are now unusable, and others are trying to remediate waterlogged fields where cash crops have finished early due to disease, nutrient leaching, or excessive weeds. Generally, a late-season cover crop will increase organic matter, improve soil structure, scavenge remaining nutrients, choke out weeds, and prevent soil erosion. There are several types of grasses, legumes and brassicas that work well as winter cover crops, and each have their own strengths and weaknesses. Below we've described several good choices, depending on your specific goals and field conditions. We've noticed that the fall planting window has extended, in some cases into November (!), though many of these species do best when planted in late summer or early fall (see individual entries below for more details).

GRASSES can reduce erosion and return a significant portion of organic matter and other nutrients to the soil if planted after removing a seasonal crop and if given enough time to mature. Kill grasses before maturity in the spring to ensure efficient decomposition. Mix grass species with a legume to reduce the C:N ratio and supply more nitrogen for the following year's crop, or with any broadleaf species to increase weed suppression.

Winter or cereal rye (*Secale cereale*) is the most common cover crop used by growers in Massachusetts. It is inexpensive, easy to get and to establish, and can be seeded up until 2 weeks before a killing frost. However, it is best planted before September 15 in order to recover the available N from the soil and produce enough canopy to outcompete weeds and protect the soil from erosion. It consistently overwinters here and will continue to grow in the spring, producing up to 7,000 lbs/A of biomass contributing to soil organic matter. It should be seeded with a legume to keep the C:N ratio low, making more N available in the spring. It can take several weeks and multiple tillage passes to break down in the spring, so it is best used in fields that will be planted into a later-spring/early summer crop next year. **Seeding rate:** 90-120 lbs/A broadcast; 60-120 lbs/A drilled; 50-60 lbs/A mixed with a legume.

Annual or Italian ryegrass (*Lolium multiflorum*) and perennial ryegrass (*Lolium perenne*) is also gaining popularity in the Northeast. These grasses have dense root systems that outcompete weeds, protect against erosion, and are easy to incorporate in the spring. Annual ryegrass can tolerate some flooding. Perennial ryegrass is more cold-hardy but also harder to kill if it goes to seed. Both are shade tolerant but may not germinate very well under dry conditions. Plant 6-8 weeks before the fall frost date. The seed is small and light, so specialized equipment such as a Brillion seeder is needed to seed a large area. **Seeding rate:** 20-30 lbs/A broadcast; 10-20 lbs/A drilled; 8-15 lbs/A mixed with a legume.

Winter wheat (*Triticum aestivum*) is increasingly being used as a cereal grain and as a cover crop. It is winter hardy, but does not grow as tall or mature as quickly as rye so there is no rush to kill it in early spring and risk compacting wet soils. Wheat is excellent for erosion control, scavenging N, P, and K, building soil organic matter, and improving tilth. For best results, plant it in late-summer to early-fall, before September 15. Best growth will be in well-drained soils with moderate fertility. Rye is a better choice on wet soils. Wheat works well as a nurse crop for legumes such as hairy vetch, clover, or peas. **Seeding rate:** 90-160 lbs/A broadcast; 60-120 lbs/A drilled; 60-90 lbs/A mixed with a legume.

Triticale (*x Triticosecale*) is a hybrid between wheat and rye. It can be seeded as early as August or as late as late October and can produce more fall growth than winter wheat, providing more weed suppression and erosion control. **Seeding rate:** 90-100 lbs/A broadcast; 75-80 lbs/A drilled; 60-90 lbs/A mixed with a legume.

Oats (*Avena sativa*) come up quickly and can be seeded in the late summer. It is best planted before September 15, similar to winter rye. Unlike winter rye, oats will winterkill in Massachusetts, making for simpler field preparation in the spring. However, oats provide less weed control and lower organic matter contribution. To maximize nitrogen carry-over to the following crop, mix with a legume that will overwinter such as hairy vetch. **Seeding rate:** 110-140 lbs/A broadcast; 80-110 lbs/A drilled; 60-90 lbs/A mixed with a legume.



Oats and peas

LEGUMES are a good choice if you are interested in adding nitrogen to the soil and reducing nitrogen fertility bill. Legumes fix nitrogen from the air and store it in their leaves and then roots during the winter. That nitrogen is made avail-

able to plants when the legume is tilled in and starts to decompose in the soil. Before planting, it is important to inoculate seed with the appropriate root-nodulating bacteria that will fix nitrogen from the air. Some growers use Coke or sugar water to help the inoculum stick to the seed. Plant while the seed is still wet to keep the bacteria alive. There are several bacterial inoculants that are each specific to certain legumes and therefore must be used with the correct plant groups in order to establish. If well-managed, legume cover crops can provide as much as 100-150 lbs N per acre to the following crop.

Hairy vetch (*Vicia villosa*) usually benefits from growing with a nurse crop such as rye, oats, or wheat to help reduce matting during the spring and to keep weeds down. The vetch and the grain can be mixed together in the seed drill or broadcast seeder. A vetch + grass cover crop mixture retains more soil moisture than a grass planted alone. In the spring, incorporate vetch at early bloom, typically in late-May. Vetch seeded soon (early-August) is less likely to survive the winter, which can be a good thing if you've ever struggled with vetch that has re-seeded itself. With a good flail mower, vetch can be used in a reduced tillage system without matting and tangling in the equipment. **Seeding rate:** 25-40 lbs/A broadcast; 15-40 lbs/A drilled, 15-20 lbs/A mixed with a grass.

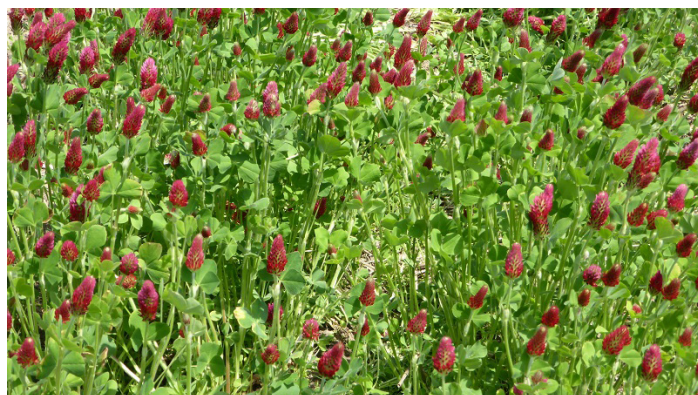


Rye and vetch.

Photo: K. Campbell-Nelson

Red clover (*Trifolium pratense*) is a short-lived perennial that is somewhat tolerant of soil acidity and poor drainage. Mammoth red clover produces more biomass for plow-down than medium red clover but does not regrow as well after mowing. Mammoth will often establish better than medium red clover in dry or acid soils. Sow in early-spring or late-summer. Red clover can be undersown in mid-summer into corn or winter squash before it vines, and into other crops such as fall brassicas if soil moisture is plentiful. Clovers germinate and grow slowly and so can be planted along with a faster-growing grass and/or peas as a nurse crop. Clovers are a good option to include in a field that won't be planted into a cash crop for a full year or more. **Seeding rate:** 10-15 lbs/A broadcast; 6-15 lbs/A drilled; 6-10 lbs/A mixed with a grass.

Crimson clover (*Trifolium incarnatum*) grown as a winter annual should be seeded early-August to early-September in New England; seed it too early and it will make seeds in the fall and won't re-grow until spring soils warm up. While it grows well in dry conditions, it may have trouble germinating. This clover is a better fall weed suppressor than hairy vetch. This crop is easily killed by incorporation or can even be rolled or mowed in the spring at late-bloom stage for no-till operations. See notes above in the red clover section about germination speed. **Seeding rate:** 22-30 lbs/A (15-20 lbs/A in a mixture) broadcast; 15-18 lb/A (10-12 lbs/A in a mixture) drilled.



Crimson clover. Photo: K. Campbell-Nelson

Field pea (*Pisum sativum* subsp. *arvense*) also known as Austrian winter peas (black peas) or Canadian field peas (spring peas) should be planted mid-August to mid-September in much of New England. These peas fix nitrogen more quickly in dry conditions than white clover, crimson clover, or hairy vetch. Field peas are susceptible to *Sclerotinia* so don't plant them in a field with a history of white mold. Drill or incorporate seed 1-3 inches deep to ensure good soil moisture contact. **Seeding rate:** 80-120 lbs/A broadcast; 75-100 lbs/A drilled; 60-80 lbs/A in a mix.

BRASSICAS are used as cover crops for pest management or, in the case of the tillage radish, for improving water drainage and soil structure. Brassica cover crop species are susceptible to the same pests as brassica cash crops, so be sure to factor in any brassica cover crops that you plant when planning crop rotations for pest management.

Tillage radish (*Raphanus sativus*) is also known as daikon, forage, or oilseed radish. They act as biological subsoilers as their taproots can grow to 8-14 inches long. With its deep roots, this cover crop can recover N, P, S, Ca, and B for the following season, but a cash crop must be planted early in the spring or else these nutrients are lost through fast

decomposition and the deep root holes. Best planted in late-August, this cover crop typically winterkills in November or December. A unique no-till strategy with forage radish includes seeding it in the late summer along with cover crop mixtures on 6-ft. centered beds, then in the spring, place transplant plugs directly in the holes where the radishes grew. This cover crop releases most of its harvested N by May, unless seeded with a grass such as oats. Higher seeding rates are effective for weed management, while lower seeding rates are better for breaking compaction. **Seeding rate:** 10-13 lbs/A broadcast; 7-10lbs/A drilled; 5-8 lbs/A in a mixture.



Flowering mustard crop

Brown mustard (*Brassica juncea*) found in many of the ‘Caliente’ seed mixes is a biofumigant planted to combat root-knot nematode and a variety of soil-borne fungal pathogens, including *Fusarium*, *Verticillium*, *Rhizoctonia*, *Pythium*, and *Phytophthora capsici*. It is also allelopathic against weeds. If allowed to flower, this crop is highly attractive to honey bees. Successful biofumigation with this cover crop is achieved by following these steps: 1) Apply adequate fertility (50 lbs N/A and 20 lbs S/A); 2) allow it to flower before incorporation; 3) mow, disc, or rototill under, and roll or pack the soil immediately; 6) irrigate after incorporation or incorporate before rain to enhance fumigation. Plant brown mustard in late-August through September. Other brassica cover crops include rapeseed or canola and turnips, which are often used as livestock forage. **Seeding rate:** 10-15lbs/A broadcast; 8-12 lbs/A drilled.

It is always better to plant a cover crop, regardless of the type, than leave a field bare; leaving a field bare over the winter is very damaging to soil structure, increasing erosion and reducing long-term fertility. Though it may take several growing seasons or a lifetime to perfect the art of cover cropping, your soil will thank you.

Resources:

Northeast Cover Crops Council [Cover Crop Explorer and Species Selector Tool](#).

[A Comprehensive Guide to Cover Crop Species Used in the Northeast United States](#). Prepared by USDA-NRCS.

[Managing Cover Crops Profitably](#). 3rd ed. Published by the Sustainable Agriculture Network, Beltsville, MD.

[Cover Crop Plant Guides](#) prepared for USDA by NRCS, RMA and FSA.

[Cover Crop Chart](#) prepared by USDA-ARS.

--UMass Veg Program. Contributors include Katie Campell-Nelson, Ruth Hazzard, Frank Mangan, Vern Grubinger, Thomas Bjorkman, and Julie Fine.

HARVEST AND CURING TIPS FOR ONIONS

Onion harvest is underway, and greenhouses and barns are filling up with tables and crates of curing onions. Deciding when and how to harvest onions, then where and how to cure them can be challenging. When are they really ready to be pulled? Is the weather too wet, hot, or weedy to field cure? What should I do if there is a lot of foliar disease in my crop? These relatively cool August temperatures are closer to ideal than normal for curing, but the unpredictable rainstorms are making field curing difficult. Here are a few tips, originally from University of Minnesota Extension:



*Lodged tops in an onion crop, drying down in the field.
Photo: C. Hoeping*

Harvest: Optimum harvest from the standpoint of maximum storage life, occurs while the onion foliage is still partially (30-40%) erect, and long before maximum yield is attained (when

tops are completely down and dry). Yields may increase 30-40% between the stage when tops begin to go down and when the leaves are fully down and dry, so it is tempting to leave onions in the field as long as possible. The optimum time for harvest therefore, must be a balance between highest yields and reduced bulb storage quality. From [UGA Extension](#): “Maturity is best determined by pinching the neck of the growing onion. Necks of immature onions are stiff, while necks of optimally mature onions are soft and limber. When the necks are so weak that they cannot support the tops, the onions are over-mature. Simply observing the percentage of tops having fallen over is not a true indication of maturity, since the tops can be knocked over by strong winds, rain or become limp from lack of moisture.”

Digging and windrowing: To facilitate curing onions for harvest and storage, onion rows are undercut and lifted and, if the onions will be cured in the field, they are windrowed. Rod-weeder diggers and knife undercutters are most often used. Onions are commonly dug and windrowed with tops on – tops can be layered on top of bulbs to protect the bulbs from sunscald. After field drying has occurred, the onions may be topped and placed in storage buildings or moved to a curing space to continue drying down.

Curing: The goals of curing onions are to properly dry down the outer bulb layers to protect the onion bulb and to dry down and seal any wounds that may have occurred during harvest. Onions can be cured in the field, in open sheds, or by artificial means before or in storage. Adequate curing in open sheds may require 2 to 4 weeks, depending on the weather, with faster curing occurring in hotter, dryer weather. Optimal curing conditions, which also result in the best skin color, are 75 to 80°F and 70-80% relative humidity, with good air circulation. Onions are considered fully cured when the neck is tight and the outer scales are dry and make a rustling sound when handled. When you pinch the neck between your fingers, it should feel dry and not juicy and slippery. This condition is reached when onions have lost 3-5% of their weight. If not adequately cured, onions are likely to decay in storage. The common form of decay is *Botrytis* neck rot, which occurs at the top (or “neck”) of the bulb.



Topped and cured onions are brought into a well ventilated barn to bring them down to temperature slowly for storage.

Photo: R. Hazzard

Topping: Most onions are cured with tops on and topped before being moved to storage. Remove tops when they are totally dry, or, only remove the dry portion. Cutting through any portion of the top while it is still green or moist allows for entry of bacteria and fungi and most commonly can result in excessive *Botrytis* neck rot in storage. When all or a portion of the onion top is left on, the remaining tops are removed during grading and packing. Topping is either done by hand or with mechanical roller toppers.

Here are our low-tech recommendations for curing and storage in New England: A greenhouse or hoophouse provides a good environment for curing, where temperature, airflow, and moisture can be somewhat controlled. Be sure to keep the temperature in the house below 85°F, which will probably require turning on fans and/or leaving sides and doors wide open. Consider using shade cloth over the house to help moderate temperature. Curing can be done in the field, but it is harder to achieve good conditions for curing in an uncontrolled field setting. Avoid field-curing onions if rain is forecasted and, if it does rain, let the onions dry fully before handling. Handling bulbs when they are wet can facilitate the spread of fungal and bacterial diseases that can further develop in storage. Weedy fields, which are common this year, may be excessively moist and air circulation may be limited; these conditions are not suitable for curing, so bring onions inside to cure. Temperature and sun are also factors to consider—sunshine and temperatures in the 80s will enhance the bronze color in the skins, but extremely hot sun and temperatures in the 90s can cause sunscald. Onions curing on a sandy soil will heat up more quickly than those curing on a heavier soil.

Storage: To ensure maximum storage life, onions must be promptly stored after curing. Get them out of the sun, as exposure to light after curing will induce greening of the outer scales. The optimum temperature for long-term storage of onions is 32°F with 65-70% relative humidity, but it is important to bring them down to this temperature slowly. In fact, holding onions in a barn or garage so that they cool along with the average outdoor temperature in late-summer and fall

works quite well. Avoid cooling bulbs to well-below the average daily temperature because they will draw moisture from the warmer air, which can lead to disease. If you are selling the onions within a couple of months, keeping them in an un-insulated barn is fine. An insulated storage room is needed for longer-term storage.

Quick Tips for Best Quality

- **Be sure onions are well-dried and necks are tight** (i.e. the tissue does not slide when you roll the neck between your fingers) before topping. Bacterial diseases and Botrytis neck rot can move through green tissue into the bulbs. These diseases do not move through dry tissue.
- **Leave 2-3 inches of neck on the bulb.** This increases the distance from the cut surface to the bulb for these pathogens to travel.
- **Minimize mechanical injury during harvest & topping.** Reduce drops to 6” and pad sharp surfaces. Bruises provide direct entry points for diseases to get started.
- **Grade out damaged onions before putting them into storage.** Damaged bulbs give off moisture, which is favorable for development of diseases in storage.

--Written by the UMass Vegetable Program

EVENTS

TWILIGHT MEETING AT PARLEE FARMS

When: Tuesday, August 15

Where: Parlee Farms, 95 Farwell Rd, Tyngsborough, MA 01879

Registration: [Click here to register.](#) Pre-registration is not required but is greatly appreciated for food and hayride planning purposes!

Join UMass Extension and Parlee Farms for a twilight meeting! We’ll tour the farm on a hayride and follow the talks with a light supper and strawberry shortcake dessert.

Mark Parlee will share his experience setting up and using their automated irrigation system from Toro. He’ll discuss his use of the automated system for frost protection in strawberries during the May 18 freeze event. Representatives from Toro and Brookdale Irrigation Supplies will also be there to answer questions.

Christopher Hernandez, Assistant Professor of Plant Breeding at UNH, will share information about his pumpkin breeding program and facilitate a grower roundtable discussion on pumpkin varieties.

Sue Scheufele of UMass Extension will share observations from the 2023 season and current sweet corn pest management recommendations.

1 pesticide credit available.

UMASS RESEARCH FARM TOUR AND VEGETABLE TWILIGHT MEETING

When: Wednesday, August 16, 2023

2:30-4:30pm: Research Farm Tour

5:00-6:30pm: Vegetable Twilight Meeting

Where: UMass Amherst Crop and Animal Research and Education Farm, 91 River Rd., South Deerfield, MA

Registration: Free! Please register in advance. [Click here to register.](#)

Join UMass Extension for a research tour and grower twilight meeting! In the afternoon, we’ll tour the UMass Research Farm and hear about the graduate student and Extension research underway on the farm. Students and faculty are encouraged to come to learn about applied research and the research farm. In the evening, we’ll have talks targeted more to commercial vegetable growers. A representative from Toro will discuss the automated irrigation system set up at the research farm, and the Extension Vegetable Program will discuss their applied research trials in more detail. Join us for both parts or just one! A light supper will follow the twilight meeting.

Up to 2 pesticide credits available (1 each for the farm tour and twilight meeting).

[Click here for a full agenda.](#)

THE 38TH MASSACHUSETTS TOMATO CONTEST TO BE HELD ON AUGUST 22

When: Tuesday, August 22, 2023

Where: Boston Public Market, 100 Hanover St, Boston, MA 02108

Registration: [Click here to register.](#)

The 38th Massachusetts Tomato Contest will be held at the Boston Public Market on Tuesday, August 22nd. Tomatoes will be judged by a panel of experts on flavor, firmness/slicing quality, exterior color and shape. Always a lively and fun event, the day is designed to increase awareness of locally grown produce.

Open to commercial farmers in Massachusetts, growers can bring tomatoes to the market between 8:45 am and 10:45 am on August 22nd or drop their entries off with a registration form to one of the regional drop-off locations on Monday, August 21st. Drop off locations include sites in South Deerfield, Southboro, Dighton and West Newbury. These tomatoes will be brought to Boston on Tuesday.

For complete details, including drop off locations, contest criteria, and a registration form, click [here](#). Be sure to include the [registration form](#) with all entries.

The 38th Tomato Contest is sponsored by the Massachusetts Department of Agricultural Resources, [New England Vegetable and Berry Growers Association](#) and [Mass Farmers Markets](#) in cooperation with the [Boston Public Market](#). Please consider participating to showcase one of the season's most anticipated crops!

Questions? Please contact David Webber, David.Webber@mass.gov.

TWILIGHT MEETING AT HEART BEETS FARM: SWEET POTATO PRODUCTION AND FALL PEST MANAGEMENT

When: Thursday, September 21, 4-6pm

Where: Heart Beets Farm, 181 Bayview Ave, Berkley, MA 02779

Join UMass Extension to hear about sweet potato production at Heart Beets Farm, and to learn timely info about fall pest management.

1.5 pesticide credits available.

EASTERN MA CRAFT MEETING: [GEOTHERMAL WATER USE AND GOOD AGRICULTURAL PRACTICES AT FARMER DAVE'S](#)

When: Saturday, October 21, 4-6pm

Where: Farmer Dave's, Dracut, MA

We will take a tour of their solar and geothermal systems and the reuse of the geothermal water for hoop house irrigation. Lisa McKeag from UMass Extension will share about a project the farm is involved in to assess pre- and post-harvest agricultural water quality for food safety. She'll talk about the results of water samples taken at the farm in 2022-23 and give an update on current food safety regulations related to agricultural water.

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

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