UMass Extension
Vegetable Notes
For Vegetable Farmers in Massachusetts since 1975

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In this issue:

Winter greens are chugging along at Freedom Food Farm in Raynam, MA. Come to the New England Vegetable & Berry Growers' Association 600th meeting on January 3 in Hadley to hear Sue Scheufele speak about winter greens production. More details in the Events section of this issue. Photo: S.B. Scheufele

Crop conditions

Welcome to the last 2019 issue of Veg Notes! We are coming off of two busy weeks of conferences. It was great to see so many growers, Extension folks, and other ag service providers in Manchester, NH last week at the New England Vegetable & Fruit Conference—thanks to everyone who attended, presented, and helped to organize the conference! This week, we attended the Northeast Specialty Crop Water Symposium to hear from and talk with other researchers and Extension agents who are looking at agricultural water use in light of climate change. Between both of the conferences in the past two weeks, we have lots of great ideas about new ways to assist and support MA growers.

Many growers are harvesting winter greens from high tunnels and hoop houses, which are welcome sights for consumers now that winter has solidly arrived. If you grow lettuce or spinach through the winter and notice downy mildew on either crop, let us know! You can call us at 413-577-3976 or email us at umassveg@umass.edu. We are tracking which strains of these two complicated pathogens are present in New England so that we can offer better management recommendations, and would love to hear from you if you have either one.

Stay warm through these colder temps—Veg Notes will be back in your inbox in 2020!

Tomato brown rugose fruit virus

Tomato Brown Rugose Fruit Virus (ToBRFV) is an emerging disease issue in greenhouse tomato crops worldwide. First identified in Israel in 2014, a number of outbreaks have since occurred in North America, Europe, and Asia. The pathogen is known to be present in greenhouse tomatoes in Mexico, and has occasionally been found in field tomatoes there as well. An outbreak in a California greenhouse earlier this year and an outbreak in New York from tomato transplants from Canada are currently the only confirmed incidences of this virus in the USA and it was successfully contained. Natural infection of pepper has also been reported.

Foliar symptoms of ToBRFV on tomato and pepper include deformed, crinkled leaves, mosaic, mottling, flecking, chlorosis, and/or necrosis. Fruit symptoms include discoloration and rough brown patches or ringspots. Irregular fruit shape and maturation patterns may also occur. Browning of the veins in the fruit calyx in the early stages of fruit ripening may also be observed. Symptom expression can vary widely among tomato cultivars: some may be infected but remain asymptomatic.

ToBRFV is a member of the tobamovirus family along with tobacco mosaic (TMV), tomato mosaic (ToMV), and tomato mottle mosaic (ToMMV). ToBRFV is especially worrisome for tomato growers because it has overcome the Tm-22 gene that confers resistance to tobamoviruses in many tomato cultivars. Like TMV, ToBRFV is very stable and easily transmitted by mechanical means; in a highly managed crop such as greenhouse tomatoes, this means that human activity is the

primary vector. It may also be transmitted mechanically by bumblebees employed to pollinate greenhouse crops. The virus is also seedborne; however, research indicates that it is associated with the seed coat, not the embryo. This means that treatments such as hot water or steam should be effective in removing the virus from seed. For information on hot water seed treatment, see the November 14, 2019 issue of Veg Notes.

In peppers, the genes that confer resistance to TMV and Pepper mild mottle virus appear to be stable and confer resistance to ToBRFV as well. Pepper cultivars lacking these resistance genes are highly susceptible to ToBRFV. The virus may be transmitted from peppers to tomatoes or vice versa. Infection of other solanaceous crops has yet to be reported, but caution and vigilance are encouraged.

ToBRFV symptoms. Photos from https://www.freshfromflorida.com/content/download/83755/2478104/pest-alert-tomato-brown-rugose-fruit-virus.pdf

What does this mean for New England growers?

On November 15th, 2019, USDA/APHIS issued an emergency federal order that calls for pre-export testing of tomato and pepper propagative material (plants, seeds, grafts, and cuttings) and fruit produced in any country where ToBRFV has been detected; to date, this list includes Israel, Jordan, Turkey, Greece, Italy, the United Kingdom, the Netherlands, China, and Mexico. Countries where ToBRFV has not been reported may state this fact by providing a letter from the nation's plant protection organization: propagative material and fruit exported to the USA will then be exempt from the testing requirement. This federal order is similar to the one passed in August 2019 concerning several viroids known to infect tomato. Seed producers that sell large amounts of seed to the US will most likely comply with these new regulations. It's possible that companies in the above countries that supply only small amounts of seed to US seed dealers will not have enough incentive to comply and some tomato varieties will become unavailable.

Plant diagnostic labs commonly test suspect plant samples for viral pathogens with immunostrips. Immunostrips are a useful tool because they give a simple positive/negative test result within minutes. However, each immunostrip is developed for only one virus—a Potato virus Y immunostrip will only tell you whether or not a plant sample is infected with PVY and will tell you nothing about any other possible viral infections. Viruses within one family can be very similar to each other, and can sometimes produce false positives on immunostrips. For example, the tobamoviruses that infect tomato are closely related and many, including ToBRFV, will elicit a positive reaction from a TMV immunostrip test. Therefore, it is possible that a plant that is diagnosed with TMV using an immunostrip may actually be infected with ToBRFV. There is not currently an immunostrip available for ToBRFV. Suspect samples that come into the UMass Plant Diagnostic Clinic, regardless of whether they elicit a positive TMV immunostrip reaction, will be sent to the USDA for further testing.

Management practices for ToBRFV include planting of disease-free seed and seedlings, scouting plants regularly for symptoms, and isolating symptomatic plants. Disinfect tools and workers' hands frequently. Recent research has demonstrated that the most effective disinfectants include 10% bleach, 50% Lysol, and 20% weight:volume solution of nonfat dry milk. If you have reason to believe that ToBRFV is active in your tomato or pepper crop, please contact the UMass Extension Plant Diagnostic Lab at 413-545-3208 or see our website for instructions for vegetable sample submissions: http://ag.umass.edu/diagnostics.

Mechanically-transmitted viruses are typically more problematic in greenhouse crops than in the field. While an outbreak in the Northeast is not expected, it is important to be aware of the signs and symptoms of ToBRFV. See the references below for photos and further information.

Resources:

University of Florida: http://blogs.ifas.ufl.edu/pestalert/2019/07/23/tomato-brown-rugose-fruit-virus/

American Seed Trade Association: https://www.betterseed.org/wp-content/uploads/ToBRFV-QA.pdf

USDA/APHIS:

https://www.aphis.usda.gov/aphis/newsroom/stakeholder-info/sa_by_date/2019/sa-11/tomato-brown-rugose-fruit-virus

https://www.aphis.usda.gov/import_export/plants/plant_imports/federal_order/downloads/2019/DA-2019-28.pdf

--Written by Angie Madeiras, UMass Plant Diagnostic Lab and Genevieve Higgins, UMass Extension

GRASS IDENTIFICATION BASICS

--Written by Jane Mangold, Extension Invasive Plant Specialist, Hilary Parkinson, Plant Identification Diagnostician, and Matt Lavin, Agrostology course instructor, Montana State University Extension

[*Note from UMass Extension:* The first step to managing weeds on your farm is knowing which weeds are present in which locations and understanding some basic biology about each species. Efficacy of herbicides is dependent on weed species, and regardless of whether or not you use chemical weed control, knowing how a given weed species propagates itself and when it is most vulnerable to a given management technique will help you control weeds most effectively. Grasses are often the most difficult group of weeds to identify. While this publication is from Montana, the terminology and anatomy that is crucial to understanding grass identification apply to Northeast grass species as well. We encourage you to use this article in combination with a Northeast-specific ID guide to get to know the weeds on your farm. *Weeds of the Northeast*, written by Richard H. Uva, Joseph C. Neal, and Joseph M. DiTomaso, is an excellent weed identification guide for the Northeast.]

This publication covers basic grass anatomy, including terms commonly used for grass identification, and guides you through seven questions to ask about the species you are trying to identify. It will not identify specific grasses, but is intended to be used with your favorite field guide or dichotomous key.

Grasses are a ubiquitous feature of the landscape. World-wide there are about 10,000 species and nearly 700 genera of grasses, making it one of the largest flowering plant families. Grasses are one of the most economically important families of plants; they are grown as major crops, provide forage and shelter for livestock and wildlife, and serve as turf and ornamentals. In spite of their prevalence, differentiating one species of grass from another is difficult because they tend to all look very similar. However, grass identification is critical for assessing the condition of range, pasture, and crops and for judging the progress of restoration of degraded grasslands. Grass identification requires you to look at vegetative characteristics along with flowering or seed head features, all of which can be small and usually are not very showy. This publication covers basic grass anatomy, including terms commonly used for grass identification, and guides you through seven questions to ask about the species you are trying to identify. It will not identify specific grasses but is designed to be used in conjunction with your favorite field guide or dichotomous key. Keep a hand lens nearby to see smaller, detailed diagnostic features of your species of interest.

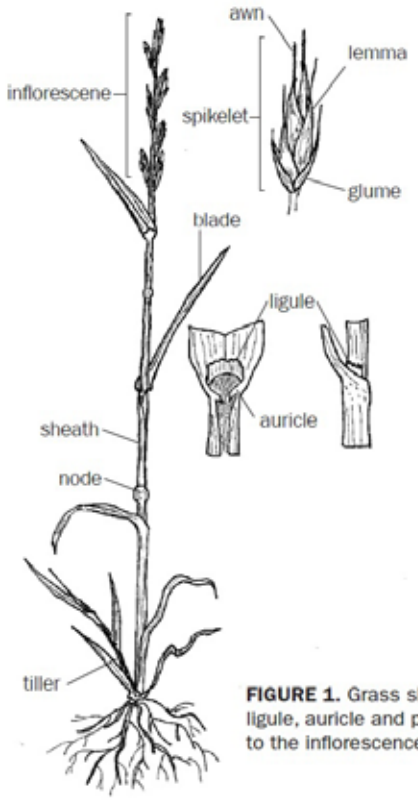


FIGURE 1. Grass sheath, node, ligule, auricle and parts relating to the inflorescence.

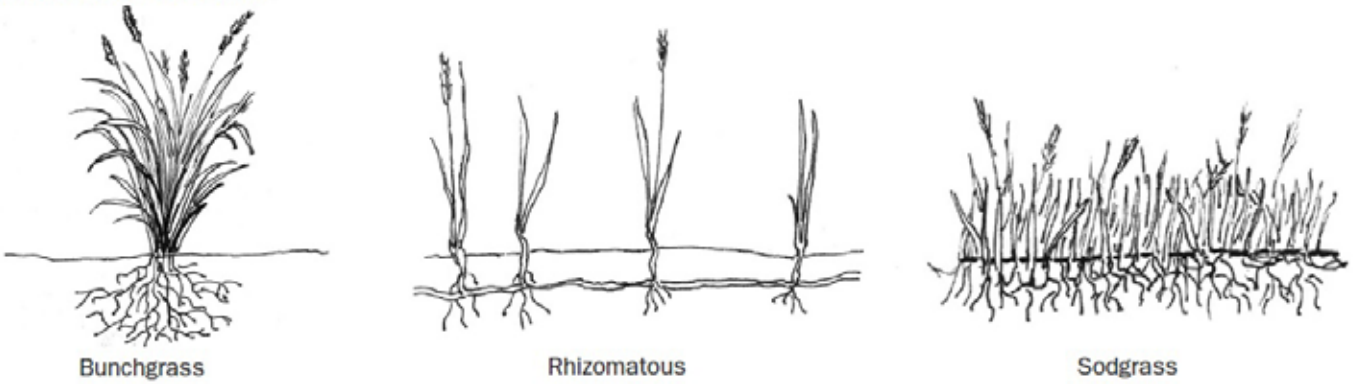
Grass anatomy

Growth in many grasses occurs close to the ground, which is why most grasses can be grazed at their tips without destroying the ground-level growth tissue (or meristem). The leaf comprises the sheath and the blade (Figure 1). The sheath arises from a node. The blade diverges from the plant at the upper end of the sheath. Features associated with the sheath and blade often distinguish grass species and will be described in more detail. Stem growth has been described as a series of cylinders or tubes, one nested within the next. The stem (also known as culm) elongates and the grass matures as new cylinders emerge from inside the existing cylinders. The last and innermost cylinder is a flowering stem, which gives rise to the seed head. Prior to emergence of the inflorescence (which matures to become the seed head), leaves and associated structures are used for identification, as well as overall

appearance of the grass plant.

After the inflorescence or seed head develops, grass identification becomes easier. The shape of the inflorescence is one diagnostic feature that is useful for identification. When observing the inflorescence more closely, anatomical features to focus on include the spikelets, glumes, florets, lemmas, paleas, and awns (Figure 1). The presence or absence of awns and the length and shape of awns, if present, are especially helpful. Awns will be further discussed, but this publication emphasizes vegetative characteristics in general. Other field guides and more technical keys will likely include terms related to inflorescence anatomy, so becoming familiar with these terms is helpful.

FIGURE 2. Grass appearance



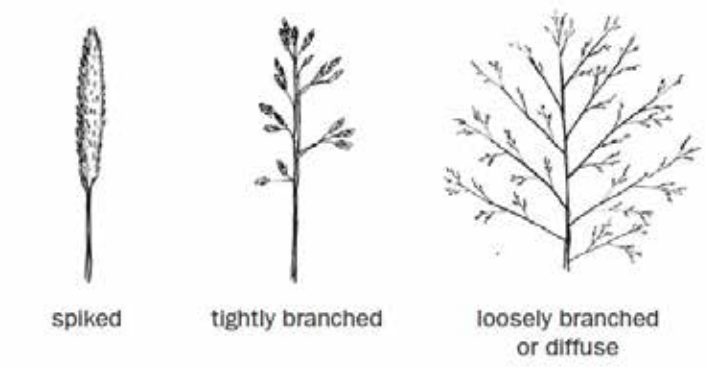
What is the overall appearance of the grass?

The overall appearance of a grass can be described as a bunch (also sometimes referred to as caespitose), rhizomatous, or sod (Figure 2). Bunchgrasses are tufted grasses that form a clump of basal leaves and stems. Examples of bunchgrasses include tall fescue (*Festuca arundinacae*) and wild oat (*Avena sativa*). Bunchgrasses reproduce by seed and produce tillers (Figure 1) but only immediately adjacent to the existing bunch. Rhizamatous grasses do not form clumps but instead grow laterally from rhizomes which give the grass a spreading appearance. Rhizomatous grasses can reproduce by seeds and vegetatively. An example of a rhizomatous grass is quackgrass (*Elytrigia repens*). Sodgrasses form a mat or mass of individuals by means of rhizomes or stolons. Bermudagrass (*Cynodon dactylon*) and Kentucky bluegrass (*Poa pratensis*) are examples of sodgrasses. Sodgrasses can reproduce by seeds and vegetatively.

What is the shape of the inflorescence or seed head?

The inflorescence or seed head can take on a variety of shapes, but it is convenient to group them into three general categories: spike, tightly branched, or loosely branched/diffuse (Figure 3). A spike is unbranched, and the spikelets are attached directly to the stem, each lacking a stalk. Timothy (*Phleum* spp.) and foxtails (*Setaria* spp.) have spike inflorescences, for example. Tightly branched inflorescences can sometimes look like a spike, but upon closer inspection you will notice that spikelets are attached to the stem by a short stalk or pedicel. Barnyard grass (*Echinochloa crus-galli*) and tall fescues (*Festuca arundinacae*) have tightly branched inflorescences. Loosely branched or diffuse inflorescences have stalks or pedicels that are long such that each spikelet is well-separated from the others, which gives the top of the grass an open or airy appearance. An example of a grass with a loosely branched inflorescence is witchgrass (*Panicum capillare*).

FIGURE 3. Seed head shapes



What is the texture of the leaf blade?

Leaf blades can be smooth, rough or ridged, or hairy. A good way to determine leaf blade texture is to run your fingers along the length of the leaf blade from the tip to the base. The leaf blade may feel smooth. In contrast, you may find that the leaf blade feels rough and somewhat sharp

or ridged; sometimes ridges are even visible. Some leaf blades have hairs on them which may or may not bevisible to the naked eye. Sometimes the entire leaf blade may be covered by hairs and sometimes only the margins or edges will have hairs. The number and length of hairs can vary greatly from grass to grass and are often used as a diagnostic feature. Witchgrass (*Panicum capillare*) is an example of a grass with distinctly hairy leaves.

What is the sheath like?

Remember that the sheath (lower part of the grass leaf) can be thought of as the outermost cylinder in the series of cylinders that make up a grass stem (Figure 1). Sheaths can be closed or fused, where the margins are attached in a manner similar to the margins of a zip-up shirt when being worn (Figure 4). Sheaths can also be open or overlapping, much like how the margins of a button-down shirt overlap. In a closed or fused sheath, the edge of the cylinder does not separate to reveal the underlying cylinder. In an open or overlapping sheath, there is a length-wise slit in the cylinder which can reveal the underlying cylinder. Another feature of the sheath is whether or not it is hairy. If hairs are present, they may occur along the overlapping margins of the sheath or all over the outer surface of the sheath.

FIGURE 4. Sheaths

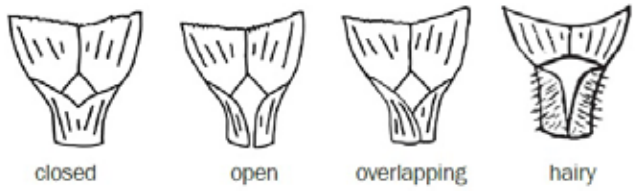


FIGURE 5. Auricles

FIGURE 6. Ligules

Are there auricles? If so, what do they look like?

Auricles are small outgrowths or ear-like lobes that occur on either side of the leaf sheath-blade junction (Figure 5). If auricles are present, they can be clasping/claw-like, rounded/lobed, or absent. Auricles are easily broken off or may dry up quickly, so a fresh plant specimen is helpful when observing this feature.

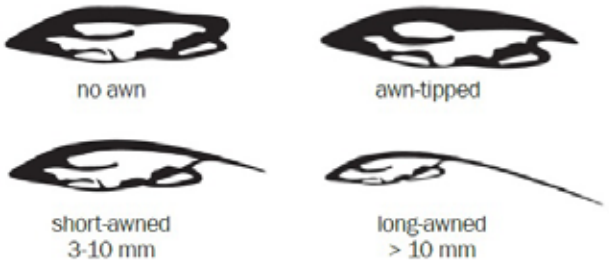
Are there ligules? If so, what do they look like?

A ligule is a thin membrane or a line of hairs on the inside of the leaf blade at the junction of the sheath and blade (Figure 6). If present, ligules are described as either membranous or hairy. The ligule is sometimes absent, as in barnyard grass (*Echinochloa crus-galli*), or very short and inconspicuous. The length of the ligule is sometimes diagnostic for a species. For example, tall fescue (*Festuca arundinacae*) has a short, membranous ligule whereas orchard grass (*Dactylis glomerata*) has a conspicuous ligule (i.e., 3-5 mm long). Witchgrass (*Panicum capillare*) has a fringe of hairs for a ligule.

Are there awns? If so, what do they look like?

An awn is a slender bristle that is attached to some portion of the floret, usually the tip or the back of the floret or lemma (Figure 1). Awns often remain attached to the seed and aid in dispersal. For example, downy brome (*Bromus tectorum*) has long conspicuous awns that stick to animal fur and human socks and shoes. Species can be divided into those that have awns and those that do not, as well as the length of the awns, if present (Figure 7). For example, the florets of bluegrasses (*Poa* spp.) are never awned, those of fescue grasses (*Festuca* spp.) are mostly awn-tipped (awn <3mm long), and those of many brome grasses are longer-awned (awn >3mm long). Whether awns are bent or straight will lend further clues to grass species identity.

FIGURE 7. Seeds with/without awns.



Summary

Grass identification is challenging, but once you get the hang of it, it can be fun and will certainly deepen your appreciation for grass diversity. After all, grasses, especially agronomic grasses, are the one family of plants whose abundance and

diversity often prospers because of humans, and the kind of grasses that follow human activity can be revealing of the historical degree and intensity of human-mediated disturbance. By asking the questions listed above, you will hopefully be on your way to successfully identifying grasses of interest.

Glossary

awn: a slender bristle frequently attached to the end or back of a glume or lemma

diagnostic feature: distinguishing characteristic that provides evidence of a species' identity

dichotomous key: a reference tool used for the identification of organisms where a series of choices between alternative characters progressively leads to the correct organism; "dichotomous" means "divided into two parts," therefore dichotomous keys always give two, mutually-exclusive choices in each step

floret: a single, small, inconspicuous reproductive unit that includes the lemma, palea, and flower parts; a spikelet usually includes at least one floret, if not several to many

glume: a pair of bracts, or scales, at the base of a spikelet

inflorescence: the arrangement of a group of flowers borne on a single stem; in grasses an inflorescence can be a spike, panicle, or raceme, and such arrangements are in reference to the spikelets (rather than flowers)

lemma: lowermost bract or scale on a floret which encloses stamens and pistil in a grass flower, usually immediately above the pair of glumes

node: a joint on a stem where leaves or branches arise; these are mostly ground-level in Montana grasses, except for the flowering stem

palea: uppermost bract or scale on a floret which encloses stamens and pistil in a grass flower

rhizome: a horizontal underground stem that usually sprouts new shoots at the nodes

spikelet: the basic unit of the inflorescence, comprised of two glumes and one or more florets

stolon: a horizontal above-ground stem that can produce new shoots and roots at the nodes

tillers: erect or upwardly ascending shoots growing from the base of a bunchgrass which add to the size of the tuft

News

New Requirements for Users of Paraquat Herbicide

--Written by Stephen Meyers, Purdue Univ., Originally published in Purdue Vegetable Crops Hotline*, December 16, 2019*

Paraquat dichloride is the active ingredient in products such as Gramoxone®, Devour®, Cyclone®, and Quik-Quat®. Earlier this year the Environmental Protection Agency (EPA) announced the following changes to paraquat requirements:

1. Additional labeling requirements and the distribution of supplemental warning materials at the point-of-purchase are now required and highlight the toxicity and risks associated with paraquat products.
2. Paraquat use is now restricted to certified applicators only. No longer can an uncertified handler use paraquat, even under the direct supervision of a certified applicator.
3. Specialized, approved paraquat training is now required for anyone who will mix, load, apply, or handle paraquat.
4. New, closed-system packaging will be used to prevent the transfer or removal of paraquat into unapproved containers or equipment.

These changes were sparked by unnecessary deaths of individuals who consumed paraquat which had been illegally poured into drink containers. Three of these deaths were children. Paraquat is highly toxic. Please, make no mistake about it, one sip of concentrated paraquat is nearly always fatal.

The EPA-approved paraquat training consists of a 30 minute video followed by a 15 question quiz. All 15 questions of the quiz must be answered correctly to pass. However, the quiz can be taken as many times as necessary to pass with no required waiting time before reattempting. The training is good for three years. For more information and a link to the EPA-approved paraquat training, please visit the EPA website here: https://www.epa.gov/pesticide-worker-safety/paraquat-dichloride-training-certified-applicators

Survey: Bird Damage in Sweet Corn & Fruit

Researchers at the University of Rhode Island are collecting information on bird damage in fruit and sweet corn crops to guide future resources. To share your experience, take the short survey here: https://riepr.org/s/birds.

For more information, contact Dr. Rebecca Brown, brownreb@uri.edu and Dr. Tom Sproul at sproul@uri.edu.

University of Rhode Island Free Seed Program

The URI Free Seed Program is back and will be accepting orders until January 13, 2020. Burpee seed packets are available at the cost of shipping and handling to individuals, schools, and other nonprofit organizations in New England, Pennsylvania, New York, and New Jersey through the generosity of Ocean State Job Lot, which donates still-viable 2019 seeds for the 2020 growing season to URI Cooperative Extension annually. Orders are filled by URI Master Gardener volunteers. Learn more about the program by watching this video.

Visit the URI Free Seed Program website for the downloadable order form (required to receive seeds), FAQs, and resources for growing your own food.

Mass Aggie Seed Library now open

The UMass Amherst Science & Engineering Library now has a Seed Library. This new community resource is open to the public. Growers and gardeners may "borrow" a small amount of seeds from the collection and grow them out, saving some seeds at the end of the season to donate back to the library. Other healthy seeds can also be donated to expand and maintain the collection. Seed libraries allow gardeners to try new varieties, provide free public access to a critical resource, and help to preserve biodiversity.

For more information on how to borrow and donate seeds, see the Seed Library website.

An important part of seed saving is maintaining healthy plants and planting healthy seeds. The UMass Plant Disease Diagnostics Laboratory and Soil and Plant Nutrient Testing Laboratory can help you identify plant pathogens and provide the best growing conditions for your crops, and our Hot Water Seed Treatment service can help you ensure that you are planting disease-free seeds. UMass Extension also has an extensive collection of fact sheets and other resources to help you grow healthy plants!

Federal and State Energy-Related Grant Programs Now Open

Now is the time to have a technical assessment completed for any energy project you are considering in preparation for upcoming energy grants! You will need a technical assessment to file an energy grant application whether with MDAR or USDA. So start planning now; if you wait until applications come out you may not be able to have one scheduled in time! The MDAR MFEP (below) pays for 75% of the technical assessment, first come, first served.

MDAR's MA Farm Energy Program (MFEP) - Energy Audits: MDAR's Massachusetts Farm Energy Program (MFEP) has funds to help farms cover audits, energy efficient projects, and select renewable energy projects. Contact us now for more information through the Center for EcoTechnology (CET), our partner carrying out the MFEP. Contact 413-727-3090, info@massfarmenergy.com, or visit www.massfarmenergy.com, submit a Request Form, and then you will be contacted.

Rural Energy for America Program (REAP) Grants **(due Mar. 31):** A family of grant programs focused on supporting energy audits and providing renewable energy development assistance to agricultural producers and rural small businesses. For more information, click here. To ask questions and to apply, contact your local USDA Rural Development Energy Coordinator.

Seguridad Alimentaria: Recursos en Español

Spanish-Language Produce Safety Resource List Now Available! See our new webpage, Seguridad Alimentaria: Recursos en Español, for resources regarding general produce safety as well as the Produce Safety Rule of the Food Safety

Modernization Act. Resources include explanatory and training videos, compliance tools, and more. If there are other topics that you'd like to be covered with Spanish-language resources, please let us know at umassveg@umass.edu or (413) 545-1045.

Events

600th Meeting of the New England Vegetable and Berry Growers' Association

When: Friday January 3, 2020

Where: Hadley Farms Meeting House, 41 Russell Street, Hadley, MA 01035

Registration: There is a $20 registration fee, which is waived for members of NEV&BGA. Lunch buffet is an additional $20. To register, please RSVP to 978-423-6694 or secretary@nevbga.org by **December 30, 2019**.

Program

9:00 - Registration

9:30 - Winter Greens: Pests, Diseases and Current Research at UMass: Susan B. Scheufele, Vegetable Specialist, UMass Vegetable Team

10:15 - Paying Minimum Wage & Overtime Correctly in 2020: John Gannon, Legal Food Hub

11:00 - Organic Strawberry Production SARE Grant: Ryan Voiland, owner of Red Fire Farm in Montague and Granby, Massachusetts

11:45 - What's new with Crop Insurance?: Tom Smiarowski and Paul Russell, UMass Risk Management Education

Noon - Lunch buffet, $20. To reserve a lunch, please contact the Secretary, Chris Grant at 978-423-6694 or secretary@nevbga.org. If you order lunch and cannot attend, please call to cancel. We will have to bill you for unpaid meals.

1:00 - Commercial member introductions, extension updates, NEV&BGA updates

1:30 - When it Rains it Pours; and it Rains a lot: Drainage Principles and Practice: Joshua Faulkner, PhD. Research Assistant Professor, Farming and Climate Change Program Coordinator UVM Extension Center for Sustainable Agriculture

2:30 - Farmer Profile: Harrison Bardwell, Bardwell Farm, Hatfield, Massachusetts

2:30 - Food Safety Modernization Act Update: What to Expect in Massachusetts Lisa McKeag, University of Massachusetts Extension

3:15 - Grower Experience of FSMA inspection

3:45 - Adjourn

** *Pesticide recertification credits have been approved for this meeting* **

Commercial members are welcome to put up table-top displays.

Co-sponsored by the UMass Extension Risk Management/Crop Insurance Education Program

Land for Good Farm Succession School

Are you unsure who will take over your farm? Feel like your family needs to start talking, but you don't know where to start? Have questions about retiring that you don't know how to answer? Can the farm support two generations?

Answer these questions and more at the 3-day Farm Succession School this winter! It is an opportunity for the senior generation to talk with peers, learn from advisors, and get support on this challenging process. We will help you get the conversation started, sort through possibilities, clarify your goals and next steps, and connect you with resources and support to keep the process going! Farmers from across New England, of all farm sizes and enterprises, are welcome.

Where: Massachusetts Department of Agricultural Resources, 64 Century Way, Suite 42, West Springfield, MA 01089

When: New Dates! January 9, February 6, and March 5, 2020 (attend all three dates)

REGISTRATION: Deadline extended to December 20, or until course is filled. For more information or to register, call (603) 357-1600 or click here to register online.

This program will also be delivered in Maine. For more information on the Maine training, click here.

Weed IPM Webinar Series - Winter 2020

UNH Extension's Fruit and Vegetable Team is hosting a series of lunchtime webinars in January and February. All sessions (noon-1pm) will include a presentation from an expert in weed management, followed by a question and answer session. Topics will range from intro to herbicides to detailed recommendations on non-chemical methods of weed management. There should be something for everyone. Join by web or phone.

Where: Online or by Phone

When: Fridays, January 24-February 21, 2020

- January 24th Session I: Why Weed IPM Matters
- January 31st Session II: Introduction to Herbicides
- February 7th Session III: Non-Chemical Weed Management
- February 14th Session IV: Tarping and Solarization
- February 21th Session V: Biological Control of Weeds

Registration: Click here to register for these webinars.

THANK YOU TO OUR SPONSORS:

Vegetable Notes. Genevieve Higgins, Lisa McKeag, Susan Scheufele, co-editors.

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