



UMASS
EXTENSION



Vegetable Notes

For Vegetable Farmers in Massachusetts

Volume 19, Number 19

October 1, 2008

IN THIS ISSUE:

Fall Programs
Verrill Farmstand Fire
Evaluating New Herb Crops For Massachusetts
Phytophthora infestans or Phytophthora capsici?
Downy Mildew of Basil
Fruit Rots of Pumpkins
October Sown Cover Crops

VERRILL FARM KEEPS ON GOING AFTER THE FIRE

As many of you know, a fire destroyed the farmstand at Verrill Farm in Concord on the night of Saturday, September 20. Fortunately, everyone made it out of the stand safely and the fields and crops were not touched by fire, but the farmstand with its large kitchen and deli, washing areas, offices and sales room was gone. Customers, friends, business associates and neighbors stopped to offer support. Miraculously, by Monday morning the family and farm crew had set up shop in the wagon that was once used for a farmstand, and the farm was open for business again. Plans for rebuilding have already begun. A temporary building has been ordered. The daily display of fresh veggies and flowers and the

weekly pulled pork barbecue night are up and running. There is a daily blog and lots more information at www.verrillfarm.com

Many have asked how they can help. For those who would like to contribute to the rebuilding of the stand, Verrill Farm has set up a special account, The Verrill Farmstand Fund, at the Middlesex Savings Bank, 1208 Main Street, West Concord, MA 01742.

Steve and Joan Verrill have contributed to the vegetable industry and to the vitality of agriculture in Massachusetts in a multitude of ways, and their warmth and spirit of community service permeates their business. Just this August, they hosted a wonderful twilight meeting for vegetable farmers. We wish them well in their rebuilding.

-- UMass Extension Agriculture and Landscape Program.

FALL PROGRAMS, 2008-2009

Wednesday, November 5 - Friday, November 7, 2008

New England Greenhouse Conference & Expo

DCU Center, 50 Foster Street, Worcester, MA 01608

If greenhouses are important in your business, this conference is not to be missed! The New England Greenhouse Conference and Expo is held in even-numbered years in Massachusetts for the region's floriculture industry, both production and retail. The conference has continually grown over its 32 years, and now attracts about 2000 attendees to its three full days of concurrent educational sessions and its trade show of nearly 150 vendors.

Pre-Conference Short Courses Wednesday, November 5th, 5:30 - 7:00PM

In-depth education on focused topics, presented by experts to small groups with plenty of opportunity to ask your specific questions. Speakers will be available during lunch between sessions for questions and informal discussion. An additional fee of \$28 and pre-registration is required for the lunch with speakers.

Conference Workshops and Trade Show Thursday, November 6th, and Friday, November 7th

More than 35 educational sessions address production, marketing and management topics over two days, with dedicated

trade show time each day from 10:15 a.m. – 1:30 p.m.

For more details and registration go to: <http://www.negreenhouse.org/index.html>

Monday, December 1, 2008, 9:00 am – 3:30 pm

Zone-Tillage & Soil Health Conference

Publick House, Rt. 131, Sturbridge, MA

Do you want to save \$44/acre in diesel fuel? Would you like to improve the organic matter levels, structure and fertility of your soils? Do you have a soil compaction problem or a plow pan? Does water tend to pool on the surface of your fields leaving crops vulnerable to wilts and rots? Did you have trouble with soil erosion with all the rain in 2003, 2004, 2006 and 2008? Do you have trouble getting on to your land to plant when it is too wet or planting on schedule when it is too dry? Would you like to improve crop quality and yields without increasing nutrient inputs? Are you tired of picking rocks after plowing and harrowing? Would you like to rent land from a trust or municipality, but they won't let you conventionally-till their land? Well maybe it is time to look into a better way of farming called zone-tillage. Come hear researchers, Extension folks and growers describe what zone-tillage can do for your farm and why they would never recommend conventional tillage again!

Pre-registration: \$35 by Nov. 21 (rain or shine, no refunds), \$40 at the door – if space is available. Send name of attendee(s) and a check made out to UConn, to the University of Connecticut, Cooperative Extension System, 24 Hyde Ave., Vernon, CT 06066. Contact: Jude Boucher, 860-875-3331, jude.boucher@uconn.edu

(Note: this meeting is at the Publick House, around the corner from the Sturbridge Host Hotel, not at the Sturbridge Host Hotel)

Sponsored by Northeast SARE, and the University of Connecticut, University of Rhode Island and Cornell University Cooperative Extension Systems

Thursday, December 4, 2008

Transitioning to Renewable Energy for Greenhouse Heat

8:30-4 pm

Sturbridge Host Hotel and Conference Center

Sturbridge, MA

Are you wondering how you can afford to heat your greenhouse this winter? Do you need options that you can use right now? This one-day conference will focus on alternative technologies & fuel sources that are immediately available, locally produced, and economically favorable in comparison to traditional fossil fuels. While the emphasis will be placed on showcasing the experiences of growers who have made the switch to renewable fuels, we will also provide information on sources of funding that may be available, conservation strategies, and procuring, producing, and using wood and corn as biomass fuels.

A pre- registration fee of \$40.00 is due by December 1st. Please make checks payable to the University of Massachusetts and mail to: Energy Program, Marilyn Kusmeskus, 250 Natural Resources Rd., University of Massachusetts, Amherst, MA 01003. Cost of admission includes: handouts, lunch, snacks and beverages during break.

Contact Tina Smith, 413-545-5306, tsmith@umext.umass.edu, Andy Cavanagh, acavanagh@psis.umass.edu, 413-577-3976, Paul Lopes, 508-295-2212 ext. 24, lopes@umext.umass.edu University of Massachusetts Extension.

Sponsored by the University of Massachusetts Extension Floriculture and Vegetable Programs, New England Vegetable and Berry Growers Association and Massachusetts Flower Growers Association.

Friday, December 12, 2008.

Alternative Greenhouse and High Tunnel Crops

Sturbridge Host Hotel, Sturbridge, MA

If you are looking for new crops for your greenhouses and unheated high tunnels, or you want to put these structures for use for more months of the year, this program will give you lots of new ideas. Among the speakers at the conference are: Vern Grubinger from the University of Vermont, who will be speaking on Growing in Greenhouses and High Tunnels. Becky Grube from the University of New Hampshire will be speaking on Growing Winter Sprouting Broccoli in Unheated High Tunnels for the Fresh Market. Sandie Shores from Herb's Herb & Such, will be speaking on Growing Fresh Cut Herbs and Edible Flowers. Sandie is the author of "Growing and Selling Fresh Cut Herbs" and will have autographed books available for sale. Pete Johnson of Pete's Greens, in Craftbury, Vermont will discuss Growing Greens. David Zemelsky from Starlight Gardens in Durham, CT will discuss Salad Greens for High Tunnel Production and Missy Bahret and Casey Steinberg from Old Friends Farm in Amherst, MA will talk about Growing and Marketing Ginger Root.

A pre- registration fee of \$35.00 is due by December 5th. Please make checks payable to the University of Massachusetts and mail to: Greenhouse Crops Program, Room 203 French Hall, University of Massachusetts, Amherst, MA 01003. Cost of admission includes: handouts, lunch, snacks and beverages during break.

For more information see: <http://www.umass.edu/umext/floriculture/>

Or contact: Tina Smith, University of Massachusetts, 413-545-5306, tsmith@umext.umass.edu; Paul Lopes, University of Massachusetts 508-295-2212 ext 12 or lopes@umext.umass.edu or

Leanne Pundt, University of Connecticut, 860-626-6240, leanne.pundt@uconn.edu

Sponsored by University of Massachusetts Extension, University of Connecticut Cooperative Extension System, and Northeast SARE.

EVALUATING NEW HERB CROPS FOR MASSACHUSETTS

In 2008, several crops that are new to Massachusetts were grown at the UMass Research Farm and on co-operating farms to establish and fine-tune sustainable production practices and also to evaluate market acceptance. Five herbs, mostly popular among Latinos, were evaluated. Table 1 provides the names of these herbs and where they are popular – some don't have common/familiar names in English.

Chipilín is a leguminous herb popular in El Salvador, Guatemala and Southern Mexico where it is used primarily in soups and as an ingredient in tomares (a traditional corn-based dish). Chipilín has a distinctive flavor that is released when cooked - it is not



Chipilín grown at the UMass Research Farm for sale at a market in Chelsea

used raw. It is a perennial that can be grown as an annual in temperate climates such as Massachusetts.

This crop was first evaluated at the UMass Research Farm in 2006 with seed provided by the Salvadoran Ministry of Agriculture, with the assistance of the Massachusetts Department of Agricultural Resources and USDA. The growth habit is very similar to alfalfa, which is also a legume and a perennial. Preliminary trials at the UMass Research Farm and also market analysis at Latino stores in Massachusetts showed tremendous promise for this crop and merited further studies.

| Crop name | Other names | Latin name | Where popular |
|------------|--------------------------|--------------------------|--|
| Chipilín | Chepil | Crotalaria longirostrata | El Salvador, Guatemala, Southern Mexico |
| Epazote | Wormseed, Mexican tea | | Mexico, Brazil |
| Huauzontle | Lambsquarters, Goosefoot | | Mexico |
| Pápalo | Pápaloquelite | Porophyllum spp. | Central Mexico |
| Verdolaga | Purslane, Portulaca | Portulaca oleracea | Throughout Latin America and increasingly mainstream markets |



Chipilín under row cover

Chipilín is extremely susceptible to potato leaf hopper feeding. PyGanic was evaluated in 2007 with poor results; the insecticide gave acceptable knock-down on leafhopper but provided very little residual management – potato leaf hopper would quickly re-colonize the leaves after pesticide application and continue to cause damage. Despite repeated applications, the leaf hopper damage to leaves left the chipilín unmarketable for the season after three weeks of infestation. In 2008, a combination of row cover (Agribon+ AG 15 Insect Barrier) and PyGanic provided excellent management of potato leaf hopper.

Epazote is an herb native to Mexico and used in many dishes in that country. It has a pungent flavor similar to licorice and fennel, but stronger. It is commonly added to beans for flavor and also as an anti-flatulent. Epazote is also used for medicinal purposes in many other countries in

Latin America. In Brazil, where it is known as *mastruz* or *Erva-de-Santa-Maria*, it is used for many different purposes, from healing scars to use as an insecticide.

This herb grows very well in our climate, and can be cut multiple times during the season and will re-grow. The Mexican population is growing in Massachusetts, but it is still a relatively small percentage of the Latino groups in our state, which are still dominated by Puerto Ricans, Dominicans, and a growing Central American population. These other Latino groups do not commonly use this herb in their cuisines; however, some do use it for medicinal purposes. An owner of a Mexican restaurant in Boston said that he can only get this herb dried since it is rarely available fresh. The shelf life of epazote is relatively short, based on preliminary work, which may limit its distribution.



Epazote at the UMass Research Farm in June of 2008



Huauzontle at the UMass Research Farm in June of 2008

Huauzontle is an herb native to Mexico and has a very similar look and growth to lambsquarters (*Chenopodium album*), a very common weed in the Northeastern United States. It is grown for its seed heads which are used in several traditional recipes.

Two seed sources of huauzontle were evaluated at the UMass Research Farm. The plants grew well, but the inflorescence did not readily form the thick seed heads desired by this market. This could be due to longer days here in Massachusetts.

Pápalo is an herb used in Mexican cooking that has a very strong and exotic aroma and flavor. It is similar to cilantro with a citrus/lemony flavor. It is most popular in Central Mexico and in particular the state of Puebla. People in other parts of Mexico may not be familiar with it.

This herb is used fresh to flavor tacos and beans, among other dishes. In some Mexican restaurants, stems of the herb are left in vases on the table and customers will take leaves from it to put on certain dishes.

Two sources of this herb were evaluated at the UMass Research Farm. The plants were very productive and were cut several times and would continue to produce marketable leaves. It is extremely frost sensitive, and began to show chilling injury on the leaves when night temperatures fell below 40° F.



Pápalo at the UMass Research Farm in June of 2008.

The marketing component for this crop, again due to the relatively small Mexican population in Massachusetts, focused on the non-Latino community due to its very unique and interesting flavor. Salsas using Mexican peppers grown at the UMass Research Farm were developed and made using this herb instead of cilantro. These were used in a promotional event at Wilson Farms in Lexington MA and also at an event at UMass (Natural Resources and the Environment College Day). The feedback from people trying this unusual herb was extremely positive. Potential work in 2009 will focus on market development and promotion.



Verdolaga at the UMass Research Farm in 2008

Verdolaga is a vegetable green used in many Latin American countries with a similar taste and consistency to watercress. This herbaceous green vegetable is also valued in Latin America for its medicinal properties. It is believed to be native to Iran or India, although it was present in the New World at the time of European colonization. Many farmers in the Northeast know this crop as the weed common purslane (also *Portulaca oleracea*). There are cultivated varieties that grow in a more upright fashion than the weed.

Plants from three seed sources were evaluated and all grew well. There was an aphid infestation that was managed with an application of Insecticidal soap, which managed the aphids but caused severe phytotoxicity to the leaves.

-Frank Mangan, Krystian Madrid, Zoraia Barros, Maria Moreira, Fernando Finger and Ruth Hazzard

PHYTOPHTHORA INFESTANS OR PHYTOPHTHORA CAPSICI? YOU NEED TO KNOW THE DIFFERENCE TO PLAN FOR NEXT YEAR.

This has been a bad year for vegetable crops with both *Phytophthora capsici* and *Phytophthora infestans* at epidemic levels. It is difficult to tell the difference between the pathogens based upon symptoms; laboratory identification is also hard. Which species of *Phytophthora* is present on your farm will dictate your rotation choices for next year.

Phytophthora infestans (late Blight) attacks both potato and tomato. Some strains are more virulent on potato than tomato and vice versa. As far as we know, *P. infestans* is not able to survive in our area unless it survives in the middle of a cull pile that did not freeze completely in the winter time. The pathogen could also survive on tubers that don't freeze in the ground and then emerge as volunteer plants in the spring. Symptoms on potato and tomato include foliage blight and stem cankers. Tomato fruit develops buckeye rot that looks exactly like rot from *P. capsici*. However, *P. capsici* usually does not cause a blight of the tomato foliage and stem cankers. If you are certain you had late blight (*P. infestans*) then you will be able to plant cucurbits, peppers, and eggplant in these fields. On the other hand, if *P. capsici* was the cause of buckeye rot, then your rotation choices are limited to potato, cruciferous crops, or corn but not tomato, pepper, eggplant, or cucurbits. In addition the presence of *P. capsici* in your field will make very long rotations out of these crops necessary.

If either disease was present on your farm, it is important to confirm the identity of the pathogen at the Plant Disease Clinic (call 413-545-3208). The species of *Phytophthora* present in your fields will govern what crops you can grow in that field next year.

- Robert Wick and Bess Dicklow, UMass Extension

DOWNY MILDEW OF BASIL, A NEW AND DESTRUCTIVE DISEASE

Downy mildew (*Peronospora* species) of basil was first detected in the continental United States last year in Florida. This year it appears to be wide spread in Massachusetts, New York, and New Jersey. The disease is probably much more widespread than we realize. Symptoms occur on the top of the foliage as yellowing as if the plants are nitrogen or nutrient deficient. The underside of the leaves appear "dirty" due to the growth of sporangia, the distributive form of the fungus. Other possible hosts include members of the mint family such as rosemary, sage, salvia, and coleus. A survey of the fresh basil available in three of our local stores did not find any basil free of downy mildew. We are not aware of any fully effective management for this disease. It can be seed-borne but the single seed lot we tested was negative for the pathogen. We suspect that the downy mildew is moving in air currents from one farm to another and it is occurring both in greenhouses and in the field. The pathogen is favored by cool and humid conditions. Cultural controls are directed at reducing the amount of time leaves remain wet by reducing plant density and watering early in the day. In the greenhouse, horizon-

tal air flow can be increased and condensation reduced by fans. Removing and destroying severely infected plants can slow disease development. Please contact the Plant Disease Clinic (call 413-545-3208) if you think you have this disease; we are trying to understand the distribution in Massachusetts, and in the northeast.

- Robert Wick and Bess Dicklow, UMass Extension

FRUIT ROTS OF PUMPKINS

Many pathogens- fungi, bacteria, and viruses- cause fruit rot, fruit spotting, and other fruit abnormalities in pumpkins that render them unmarketable. The vast majority of fruit rotting organisms are fungal, although several bacteria can also cause soft rots. Viruses lead to fruit deformities and wild discolorations. Successful management of pumpkin fruit rots depends on accurate identification of the causal organism so that the appropriate control measures can be employed. Many of these diseases show up in storage, and it is important to know which disease is present and dispose of the infected fruit properly. Dumping rotting fruit in your fields or compost pile may result in higher inoculum and more disease the following year, and in the case of *Phytophthora capsici* it could be devastating for years to come.

Phytophthora Fruit Rot (*Phytophthora capsici*)

Perhaps the most serious fruit rot in wet years, *Phytophthora* fruit rot begins as a water-soaked or depressed spot, most often on fruit undersides which are in contact with the soil. The pathogen produces a white, yeast-like growth that contains many fruiting bodies (sporangia) and affected fruit may be completely covered. The disease can develop and spread rapidly with the correct environmental conditions. Planting pumpkins into cover crop mulch has shown promise in research trials. Care must be taken during harvest to leave infected fruit in the field. However, fruit that appear fine at harvest can develop symptoms in storage, or even worse after shipping to markets. Chemical treatment options include seed treatments with metalaxyl (Allegiance) or mefenoxam (Apron XL LS) and fruit/foliar sprays with copper sulfate (CuproFix Disperr), cymoxanil (Curzate 60 DF), dimethomorph (Forum 4.18 SC), potassium salts of phosphorous acid (ProPhyt), or famoxadone plus cymoxanil (Tanos). It should be noted that chemical treatments alone can not be relied on to give adequate control of this disease, especially in wet years.

Fusarium Fruit Rot (*Fusarium solani f.sp. cucurbitae*)

Pumpkin fruits are attacked by *Fusarium* at the soil line and the severity of infection varies with soil moisture and the age of the rind when infection occurs. The pathogen can be seed-borne-both internally and externally. It does not survive for more than 1-2 years in seed and does not affect germination or viability of the seed. *Fusarium* produces abundant resting spores (chlamydo spores) in the soil, but only persists there for 2-3 years. Cultivars vary in their resistance with larger pumpkins being generally more susceptible. Wounding is not necessary for infection to occur. A four year rotation out of pumpkins will eliminate soil propagules and fungicide treated seed will reduce initial inoculum. Culling of unmarketable fruit can reduce the risk of spread during the post harvest period.

Black Rot (*Didymella bryoniae*)

Also called Gummy stem blight when it occurs on other plant parts, Black Rot produces a distinctive black decay. Initially, a brown to pink, water-soaked area develops in which numerous, conspicuous black fruiting bodies are embedded. The pathogen is soil and seed borne and can overwinter in infected crop debris as dormant mycelium or chlamydo spores. Both temperature and moisture influence disease development, but high relative humidity, rainfall and wetness duration are most critical. Wounding is not required for disease initiation, but wounding, striped cucumber beetles, aphid feeding, and powdery mildew infection enhance susceptibility. Control of Black fruit rot starts with control of gummy stem blight. Start with certified, disease-free seed. A two year rotation out of cucurbits can reduce field inoculum. Crop debris should be plowed under promptly after harvest. Control of Powdery mildew can significantly reduce black rot infection of pumpkins. Fungicides registered for Powdery mildew on pumpkins include myclobutanil (Nova 40 W), triflumizole (Procure), and pyraclostrobin plus boscalid (Pristine). Powdery mildew populations rapidly develop resistance to fungicides; be sure to alternate fungicide treatments among chemical class and to include a broad spectrum protectant (chlorothalonil, copper) in your program. Nova and Procure have a narrow spectrum of activity; control of Black Rot requires different fungicides such as azoxystrobin (Quadris, Armistar), thiram, or Pristine.

Scab (*Cladosporium cucumerinum*)

This pathogen attacks all parts of the plants, but is most serious because of the disfiguring scab lesions that develop on

fruit. The disease is widespread in North America and can occur annually if rainfall is abundant and temperatures cool. The spores (conidia) are borne in long chains, are easily dislodged, and spread long distances on wind. On foliage, the first sign of the disease is pale-green, water-soaked lesions which turn gray and become angular. 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 fruit when it becomes infected. *C. cucumerinum* overwinters in infected squash and pumpkins vines, but may also be seedborne. Spores produced in the spring can infect in as little as 9 hours, produce spots by 3 days, and produces a new crop of spores by 4 days. The disease is favored by heavy fog, heavy dews, light rains, and temperatures at or below 70° F. Start with disease-free seed or treat with a seed fungicide. Do not save your own seed if the disease is present. 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. During cool, wet weather fungicide sprays may not be entirely effective because of the rapid disease cycle. Spray intervals may need to be shortened to 5 days under these conditions. Fungicides registered on pumpkins for scab control include maneb and chlorothalonil (Bravo).

Plectosporium Blight (*Plectosporium tabacinum*)

Like Scab, *Plectosporium* Blight is most damaging when it appears on the fruit. Pumpkins, yellow squash, and zucchini are the most susceptible of the cucurbits. Lens to diamond shaped, white to tan, lesions occur on stems, leaf veins, petioles, peduncles, and fruit. Severe stem and petiole infections can result in death of leaves and defoliation. Infected stems are dry and brittle. On fruit, the pathogen causes white, tan, to silvery russetting; individual lesions can coalesce to form a continuous scabby layer. *Plectosporium* survives in crop debris and is favored by warm, wet weather. No resistant cultivar of pumpkins has been reported. Rotation with non cucurbit crops can reduce disease. The fungus is readily controlled with protectant fungicides such as chlorothalonil (Bravo), maneb, and trifloxystrobin (Flint).

The list of fungi that can cause fruit rots is long and also includes Alternaria Rot (*Alternaria alternata*), Anthracnose (*Colletotrichum orbiculare*), Blue Mold (*Penicillium* species), Crater Rot (*Myrothecium roridum*), Pythium Cottony Leak (*Pythium* species), and Rhizopus Soft Rot (*Rhizopus stolonifera*).

Bacterial Fruit Rot (*Xanthomonas campestris pv. cucurbitae*)

Disease outbreaks of Bacterial leaf spot have been sporadic and occur mainly in warm, humid seasons. Symptoms appear similar to those caused by Angular Leaf Spot, (*Pseudomonas syringae pv. lachrymans*), although this bacterium fails to produce the milky exudates that characterize Angular Leaf Spot. Initial lesions on fruit are small, slightly sunken, circular spots with a tan center and dark brown border. The appearance of fruit symptoms varies with the age of the rind and amount of moisture present. The epidermis may split; the spots enlarge, and become sunken. The bacteria can penetrate into the flesh causing fruit rot and other secondary bacteria may invade. The pathogen is seedborne, but there is no evidence of survival in soil. The disease is common in the summer when temperatures are high and occurs frequently after heavy rainfall. Seed treatments with hot water (50° C for twenty minutes) or 10 % Chlorox reduces the number of bacteria, but does not completely eliminate them. Avoid overhead irrigation and working the fields when they are wet. Rotate out of cucurbits for two years. Repeated applications of copper as a protectant may be helpful; however, it is generally ineffective once an epidemic has begun.

Viruses

Viruses affecting cucurbits include cucumber mosaic (CMV), squash mosaic (SqMV), watermelon mosaic 1 (WMV-1), watermelon mosaic 2 (WMV-2), and zucchini yellow mosaic (ZYMV). All these viruses, except SqMV are transmitted by aphids in a non-persistent manner. SqMV is seedborne and is spread primarily by spotted and striped cucumber beetles. The virus within the seed can not be eliminated with hot water or chemical treatments. Control consists of pathogen-free seed and controlling cucumber beetles. Virus diseases cause reductions in plant growth and yield and mottling, distortion, and fruit abnormalities that make the pumpkins unmarketable. There are no chemical treatments and control of aphids will not reduce, but may actually increase, transmission of the other cucurbit viruses. Rogue infected plants and destroy them away from cucurbit fields. Eliminate weed hosts.

- source material from Babadoost, M. (University of Illinois), Pollock, C. (Ohio State Extension), and Zitter, T. A. (Cornell).
Prepared by M. Bess Dicklow, UMass Plant Diagnostic Lab, University of Massachusetts

OCTOBER-SOWN WINTER-GRAIN COVER CROPS

from *Cornell Veg Edge* Volume 4, Issue 10

Looking at the rain pelt open fields reminds many of the value of protecting fields from erosion over winter and perhaps scavenging some of the residual nitrogen. The most common thought is probably, “I wish I had done something before it got too cold.” So, what are the possibilities once we get into October?

Rye is the old standby, and many have become proficient at using it. While it is resilient in the fall, it can be hard to handle in the spring. It inhibits some of the crops that follow it (if not incorporated in the soil about 3 weeks prior to crop planting, and it can grow too tall to be incorporated. This tough grain will establish in the fall despite cold and wet conditions. While it isn't too hard to get good growth in the spring, the main goal is to protect the soil during the winter. That protection requires significant fall growth. But, the later the planting, the smaller the plant is in winter. It's possible to compensate by increasing the seeding rate from the 80 lb/ac used in mid-September, but the cost of high seeding rates are an incentive to get the seed in the ground sooner! After mid-month, spring cover is all you can hope to achieve. Drilling also gives a few more days of growth compared to broadcasting on the surface. It also lets the plants anchor better to reduce frost heaving.

Wheat is widely available and can be used in the first few days of the month. Again, for soil protection, the seeding rate will need to be higher than when wheat is raised for grain from a September sowing.

Spelt has a little more tolerance of cold and wet soil than regular wheat, so the stand tends to be better. It's not as tolerant as rye, but it is also easier on the following crop. Spelt heads a few days earlier than wheat, which can be helpful when controlling it in spring. It takes about 160 to 180 lb per acre. Spelt only weighs about 30 lb per bushel because of the hull, so that is a substantial volume of seed. When drilling spelt, make sure the drop tubes are smooth and straight so that they don't clog with the light seed.

October is your last chance for a cover crop, but the window is closing fast. These three grains give a range of tools that can still be slipped in. To review these choices in more detail, visit the New York Cover crop decision tool at tinyurl.com/NYccTool. It was developed just for New York vegetable growers with funding from the NYFVI.

- Thomas Björkman

VEGETABLE NOTES WOULD LIKE TO THANK THE FOLLOWING COMPANIES FOR THEIR SPONSORSHIP:



25 Elm St., South Deerfield, MA 01373. Phone 413-665-2115.

Field Works

61 Hicks Brigade Rd.

Westport, MA

508-636-9336

fieldworksct@yahoo.com

If you would like to become a Vegetable notes sponsor, please contact Jessica Dizek at jdizek@outreach.umass.edu or 413 545 1445

Vegetable Notes. Ruth Hazzard, editor and Amanda Brown and Andrew Cavanagh, assistant editors. *Vegetable Notes* is published weekly from May to September and at intervals during the off-season, and includes contributions from the faculty and staff of the UMass Extension Vegetable Program, other universities and USDA agencies, growers, and private IPM consultants. Authors of articles are noted; author and photographer is R. Hazzard if none is cited.

Where trade names or commercial products are used, no company or product endorsement is implied or intended. Always read the label before using any pesticide. The label is the legal document for product use. Disregard any information in this newsletter if it is in conflict with the label.