



UMASS
EXTENSION



Vegetable Notes

For Vegetable Farmers in Massachusetts

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OVERWINTER PRODUCTION OF COLD-HARDY LEAFY GREENS UNDER ROW COVERS

Over the past few years there has been an increased interest in winter crop production in the Northeast. Growers are taking advantage of the increased public excitement about “local”, “fresh” and “sustainable” food -- and the ‘localvore’ movement -- by producing and marketing cold-hardy crops during the times of the year that most people would consider the off season. Growers often use a combination of row covers and high tunnels, harvest through the fall and then pick up again in late winter (February-April) as the days lengthen and light grows stronger. Some manage to keep harvesting during the ‘dead zone’ of the first month after winter solstice. Key aspects of this system are good crop survival during the coldest, darkest period of the winter and subsequent regrowth. There are many excellent crops and varieties that can be used in this system, including several Brassica species, spinach, and mache or corn salad.

The UMass Vegetable Program has been looking at overwintering systems that use simple, inexpensive techniques that can sustain plant growth

during the winter months allowing for an early spring harvest. So far, our focus has been to evaluate and continue selection of several Brassica greens that came out of on-farm breeding efforts, and to grow under heavy row covers. We have selected for cold hardiness, quality of spring greens, and delayed bolting in overwintered crops. We are also comparing the attractiveness and susceptibility to feeding by flea beetles in overwintered and spring-planted crops of the same variety. We plan to continue building upon existing collaborations with farmer-breeders and diversified vegetable farmers to identify the benefits and drawbacks of producing crops during the off season. We also want to work with farmers to evaluate these varieties under their growing conditions and encourage them to save their own seed.



Row covers in March 2008, after emerging from under snow cover.

cold-hardy greens: a mixed green and red mustard (a *Brassica juncea*) and an arugula (*Eruca vesicaria* cv. *Sativa*) whose seed we obtained from Brett Grohsgal of Evenstar Farm in Maryland; a mustard-tatsoi-mizuna cross (‘MTM’) (*Brassica rapa*) produced by Bryan O’Hare of Tobacco Road Farm in Connecticut; and a Siberian kale (*B. napus*) provided to us by Dan Pratt of Astarte Farm in Hadley MA. These seeds came to our attention through the work of Elisheva Kaufman

Since the fall of 2005 the UMass Vegetable Program has been evaluating seed of four species of

and the Restore Our Seeds project, and through our High Quality Brassica Project that was funded by Northeast SARE. We appreciate the willingness of farmers to share their seed, and would like to pass on the seed we have produced.

Bryan O'Hare, who grows overwintered greens under low, plastic tunnels, had noticed that the spring growth on overwintered plants had less flea beetle damage than the spring growth of the same varieties that were seeded in the spring. Since we have been exploring ways for growers to avoid the intensive flea beetle pressure on spring greens, this looked like it could be a promising strategy.

The following is a recap of our methods and findings from the fall of 2007 through the spring of 2008. Experiments were conducted in the certified organic fields at the UMass Crops Research Farm in South Deerfield. The Brassicas were set out as transplants; planting dates were October 16, 2007 (fall) and April 23, 2008 (spring). Heavy weight row cover (Typar, 1.25 oz/sq yd) was applied over hoops on November 9 and removed on April 17 so that survival rate could be assessed and spring planting could occur. Treatments (planting date, species) were randomized and replicated. Plant over-winter survival was 92% in kale, 72% in the mustard, and 26% in the arugula (the MTM was not planted in fall in this experiment). Data taken in the spring showed that the overwintered plants had significantly lower flea beetle damage on all varieties, compared to spring-planted. Yellow sticky cards were placed both the spring and fall planted crops to monitor flea beetle activity in early May. The average number of flea beetles on yellow sticky cards deployed in each plot (mean beetles /card/24 hr) was 23.8 (spring) vs. 3.0 (fall) showing a much higher level of flea beetle activity in the spring planted crop. Flea beetle feeding damage on new growth averaged 2.52 holes per cm² of leaf area (spring) and 0.36 holes per cm² of leaf area (fall), showing greater feeding preference for spring planted greens. Seed was selected from plants showing desirable traits, saved and will be used for future studies investigating similar topics.



Late winter regrowth of the mixed mustard, in an unheated hoophouse.

Overall in this “pilot study”, we found over two winters that in cold-hardy Brassica greens from four species (*Brassica rapa*, *B. napus*, *B. juncea*, and *Eruca vesicaria* cv. *Sativa*), spring regrowth on overwintered greens showed significant resistance to flea beetle feeding, with about one-seventh of the feeding damage compared to spring-planted greens. Two of the four species tested, the mustard (*B. juncea*) and the Siberian kale (*B. napus*), showed excellent regrowth in spring with delayed bolting. Overwintered plants were able to be harvested in early spring with very minimal inputs over the fall and winter. We hope to continue to look at the harvest potential at different times of the season and under different production systems such as high tunnels. The one-row Typar cover, supported by a heavyweight wire hoop, has potential as a low-cost system that could produce a very early crop of greens.

The *Brassica rapa*, ‘MTM cross’ bolted quickly, but may be well suited to a fall or winter harvest. This seed lot produces leaves of various attractive shapes and textures, and is likely a mix of many genotypes. We have also observed that the spring-planted Siberian kale does not flower in the same season, so it could be seeded in spring and harvested over a long period. When seeded for fall, it grows more quickly than a *Brassica oleracea* kale such as cv. ‘Winterbor’, but has similarly large, curled leaves and eating quality.

Several pounds of certified organic seed was collected and saved from these plants, and some was planted again for overwintering this winter. We have small amounts of seed available (1/2 oz packets) for growers who would like to try it for winter seeding, or for next fall. Please contact Amanda Brown at aduphily@ent.umass.edu or 413-545-3696 if you would be interested. We will ask that you record your observations, and save some seed for your own use.

--Amanda Brown, Andrew Cavanagh, and Ruth Hazzard

NEW ENGLAND VEGETABLE AND BERRY GROWERS' ASSOCIATION AND NEW ENGLAND COOPERATIVE EXTENSION MEETING

Friday, January 9, 2009

Days Inn, 450 Memorial Drive, Chicopee, MA (next to Mass Pike Exit 5)

PROGRAM

9:30 AM Registration. \$10.00. There is no registration fee for members of NEV&BGA

10:00 Downy Mildew; Where it Comes From and How it Moves; Control Methods. Bess Dicklow, University of Massachusetts

10:30 Economics of Vegetable Production; Where Can We Cut Costs; Which Crops Pay and Which Don't. Michael Sciabarrasi, University of New Hampshire

11:15 Climate Change; How Might it Affect Vegetable and Berry Production in New England. Vern Grubinger, University of Vermont

NOON: Lunch. Chef DuJour is coming to Chicopee to provide us with one of his great meals. Lunch is \$16.00. To order lunch contact the Secretary by December 28, 2007. Call (413)665-3501 or email howell@umext.umass.edu. If you order lunch and cannot attend, please call to cancel. We will have to bill you for unpaid meals.

1:00 PM Business meeting

1:10 Alternative Disease Control Materials; Update on Research and Tips for Using Materials Such as Actinovate for Disease Control. Bess Dicklow, University of Massachusetts

1:45 Cover Crops; Types of Cover Crops and Using Them for Nutrients and Pest Management. Frank Mangan, University of Massachusetts

2:30 Deep Zone Tillage; What it is and What are the Benefits. Jude Boucher, University of Connecticut

Note: There will be 1 hour of credit toward pesticide recertification.

Co-sponsored by the New England Vegetable and Berry Growers Association and New England Vegetable Extension Programs.

Registration is at 9:30 a.m., each meeting starts at 10:00 a.m. and ends at 4:00 p.m. Contact hours for pesticide applicator recertification will be offered at both meetings. To register, contact John Howell, (413)665-3501, howell@umext.umass.edu.

AGRICULTURAL BUSINESS DEVELOPMENT PROGRAMS IN MASSACHUSETTS

- Do you need help sorting those piles of receipts and to-do-lists into meaningful information to make informed plans for the future?
- Are your current enterprises on the farm not yielding a sustainable income, and do you need to know what to do next?
- Is your family preparing for a changing of the guard from one generation to a new one?
- Can you qualify for the loans you need?
- Are you thinking you may be farming material, but do you wish you had a feasibility review for your ideas before you invest your money and valuable time?

Then come and gather with your peers for a few evenings in a friendly setting with professional guidance to develop some measurable plans for your farm enterprise! These courses are taught by folks who have seen what works and what doesn't on many farms. The peer group in each session is also a valuable resource – farmers and/or hopeful farmers learn best from each other when given the excuse.

No pizza shop plug-in business plans here. No online template you fill in mindlessly and regret later. This is YOUR idea explored with others who speak the same language, and who will continue to support your efforts beyond the end of the classes.

HOW DOES THIS WORK?

MDAR will offer three learning formats in 2009. Courses are sited around the state wherever enough participants let us know they want a course. We love to work with local/regional ag organizations - at no cost to them other than some help with recruiting and site logistics.

1) For Experienced Farmers – Sign up for the national farm entrepreneur course, NxLevel©’s “Tilling the Soil of Opportunity”, with our experienced Instructor and team of topic experts. This 10 session (one per week) course has been successfully completed by over 250 MA ag businesses in the last eight years. They found it very helpful when they were working through the sessions, and continue to tell us so years later. Limited to already-working farms with access to land, this course runs early January-early April, 2009 in Western/Central MA and possibly also in the SE region. Participant fee is state supported at \$200 per business. More than one key decision maker may attend from the same enterprise if that helps the farm get on the same page. Signup is November - December.

2) For New Farmers – Take “Exploring Your Small Farm Dream” (Explorer) for those contemplating or just beginning a new farm enterprise. MDAR partners with the New England Small Farm Institute (NESFI) to offer this very popular 4 session “litmus test” to see if you should start your farm now, wait a bit, keep your day job, or move on to a different idea. We expect to offer a session this year in late winter 2009 in Southeastern MA and another location to be announced. Fee is \$125 per business. Signup is November through February.

3) For those “in between” - we offer a new guided workbook format called “The Small Farm Planner“. If you took Explorer and need some more input before you jump in – or if you have recently moved from “hobby” to “intend to make a profit” over the past year but you haven’t quite nailed down all the specifics that give you full confidence – “Planner” is for you. We will meet for a kick-off session and hand out the self-guided workbook. Additional meetings to share progress and thoughts can be scheduled as needed, with a “wrap-up” session about four months later. In the interim, the facilitator will be available by email for ongoing support. This is a pilot year for us with Planner, and we don’t know exactly how it will evolve. So we will offer it for the cost of the materials plus a modest fee - \$100 total. Since minimal travel is needed for this guided-workbook format, we will offer the pilot only in Western MA. This course will begin in Fall 2009, allowing time for those interested to enroll in and complete Explorer, (see above) which is a pre-requisite. If you are farther along and don’t need Explorer as a course, you can meet the pre-requisite by obtaining the Explorer workbook from NESFI or DAR, and complete it on your own before Planner begins.

Why not sign up for something “free”, or that only takes an hour or two in a seminar?

Our courses are not one-shot wonders or cursory overviews with fill-in-the-blanks “business plans”. They don’t provide one-size answers from a book. The software doesn’t think for you. Our Instructors and Facilitators put lots of extra time into each individual enterprise to help you clarify your goals and how you might reach them. You will get proportional return on your personal investment. We find that farm businesses that make a moderate investment of time and money in a significant course go on to demonstrate the commitment needed to get results.

Note: These courses are supported by the Massachusetts Department of Agricultural Resources and first priority for enrollment is given to residents and/or farm operations located in the Commonwealth. All courses are located in state and are not available on line.

Please call or email (preferred) to make your interest known and to get questions answered.

We will send you an application and additional information as soon as you request it!

Contact Rick Chandler, MDAR, 25 West Experiment Station, UMass, Amherst, MA 01003

Phone: 413-577-0459 Fax: 413-577-3820 email: rchandler@umext.umass.edu

ANSWERING QUESTIONS ON THE VEGETABLE FARM: CONDUCTING RESEARCH, MAINTAINING RECORDS, EVALUATING PRODUCTION PRACTICES

January 5 & 6, 2009

Hulbert Outdoor Center, Fairlee, Vermont

NOFA Vermont, the University of Vermont Extension, and the Vermont Vegetable and Berry Growers Association will host a two day farmer-to-farmer conference for vegetable farmers. Answering Questions on the Farm: Conducting Research, Maintaining Records, Evaluating Practices, will be held January 5 & 6 at the Hulbert Outdoor Center in Fairlee, Vermont. The conference is designed to help vegetable farmers improve their operations by answering questions such as: How do you know you are making money? Which record keeping systems might work best to get and keep you organized? How much does it cost you to grow a crop and what should you charge? How do you determine when to plant and if you need any soil amendments? What farm-related questions would you like answered? Farmers are invited to join us for two days of presentations and group discussions by many highly experienced and successful vegetable farmers that will share answers these questions and more.

This workshop is designed for intermediate to advanced level farmers with farms of any size farm, and for all types of farming systems (conventional, organic, sustainable, etc.). Speakers will include Paul & Sandy Arnold of Pleasant Valley Farm in Argyle, NY; David Colson of New Leaf Farm in Durham, ME; and Dan Kaplan of Brookfield Farm in Amherst, MA.

Registration fees are \$120 and include all materials, meals, and lodging. Participants are asked to pre-register by December 23. For more information, including a registration brochure, visit www.nofavt.org or call 802-434-4122.

The conference is sponsored by the John Merck Fund, NE-SARE, NOFA Vermont, the University of Vermont Extension, and the Vermont Vegetable and Berry Growers Association.

TRI-STATE GREENHOUSE WORKSHOPS

January 7, 8, 9 in ME, NH, VT

This one-day annual workshop is held on 3 consecutive dates in January. This year the focus is on biological controls of greenhouse pests, and distinguishing diseases from nutritional disorders. Speakers include Dr. Brian Krug, UNH and Bruce Watt from Univ. of ME. They will show growers how to distinguish plant diseases from nutrient deficiencies. Steve Wraight from Cornell Univ. and USDA will discuss ways to optimize use of insect-killing fungi, and Alan Eaton, UNH; Cheryl Frank and Margaret Skinner, UVM; and Kathy Murray of the ME Dept. of Ag will talk about novel methods of using parasites and predators to manage greenhouse pests. You can sign up for whichever date suits you. Wednesday, Jan. 7 is at Longfellow's Greenhouse, Manchester, ME; Thursday, Jan. 8 is at the UNH greenhouses, Durham, NH; and Friday, Jan. 10 is at UVM in Burlington, VT.

Registration is only \$30, which includes handouts, the Greenhouse Manager's Guide to IPM and lunch. Parking permits are required for the UNH and UVM sites, costing \$6.00. These workshops are "hands-on" so space is limited, and pre-registration is required. Five pesticide credits will be awarded. To register or ask questions, contact Cheryl Frank,

UVM Entomology Research Lab, 661 Spear St., Burlington, VT 05405-0105

TEL: 802-656-5434 cheryl.frank@uvm.edu.

2ND NOFA/MASS ANNUAL WINTER CONFERENCE - ORGANIC AGRICULTURE: THE ROOTS OF A SUSTAINABLE COMMUNITY

Saturday, January 17th, 2009 - 9.00am-5.30pm

Worcester Vocational Technical High School, Skyline Drive, Worcester, MA

Keynote Speech by Eliot Coleman: "Small Growers are the Soul of Organics"

Intensive all-day workshop on four season growing to be presented by Eliot Coleman

The NOFA/Mass Community Farm Initiative is holding a track of workshops at the Winter Conference addressing three key components of forming a successful Community Farm. More information on this program can be found at <http://www.nofamass.org/conferences/w2009/farmtrack.php>

Featuring over 35 other great workshops on crops, gardening, livestock, farm management, organic land care and sustainable lifestyles. Workshops vary from beginner to advanced levels.

Download a Registration Form at http://www.nofamass.org/conferences/w2009/pdfs/winter_conference_registration_form_09.pdf

Download a complete Conference Program at http://www.nofamass.org/conferences/w2009/pdfs/program09_WC.pdf

Volunteer for three hours to receive a \$25 registration refund!

Exhibit your product or service in our centrally located exhibit area!

Savor the delicious potluck lunch and take a chance in the Teacup Raffle!

Find or share a ride to the conference by registering at www.ridebuzz.org/nofamass

For more information contact Conference Coordinator, Jassy Bratko jassy.bratko@nofamass.org or 978-928-5646

CONNECTICUT VEGETABLE & SMALL FRUIT GROWERS' CONFERENCE

Thursday, January 22, 2009

Tolland County Agricultural Center, 24 Hyde Avenue (Route 30), Vernon, CT

Sponsored by: University of Connecticut Cooperative Extension System & Plant Science Dept. & the CT Agricultural Experiment Station

8:00-9:00 Registration \$25 at the door - Trade Show/Coffee & Donuts - included as a 4-H Club benefit

PROGRAM:

Morning Moderator - Jude Boucher, University of Connecticut

- 9:00 Welcome - UConn College of Ag & Natural Resources Dean, Gregory Weidemann,
- 9:05 Do's & Don'ts of Deep Zone-Tillage in Vegetables - Nelson Cecarelli, Northford, CT
- 9:30 A Different Kind of Community Supported Agriculture (CSA) Program: One with a Twist that Fits Most Farms - Karen Scott, Scott's Yankee Farmer, E. Lyme, CT
- 10:00 Building Customer Loyalty through an E-Newsletter - Russ Holmberg, Holmberg Orchards, Gales Ferry, CT
- 10:15 Make \$10/lb on Greenhouse-Grown Mesclun Salad Mix - Don Tuller, TullMeadow Farm, W. Simsbury, CT
- 10:30-11:00 Break (Trade Show/Coffee & Donuts)
- 11:00 Predicting Soil Phosphorus & Organic Matter Changes from Applications of Manures and Composts - Tom Morris, UConn
- 11:30 Identifying and Managing Nematode Diseases of Vegetables and Small Fruit Crops – James LaMondia, CT Ag Experiment Station
- 12:00 - 1:00 Lunch Break/Trade Show (Lunch included in registration fee as a 4-H Club benefit)

Afternoon moderator - Lorraine Los, University of Connecticut,

- 1:00 Does Pruning Peppers and Eggplant Pay?/Complete Post-Emergence Herbicide Programs for Sweet Corn/
Update on Bt Sweet Corn CEW Threshold Trials - Jude Boucher, UConn
- 1:30 Update on Chrysanthemum White Rust: What You Need to Know - Sharon Douglas, CT Ag Experiment
Station
- 2:00 Hey Birds, Meet My Falcon! - Erik Swanson, Falcon Environmental Services, Lodi, NJ
- 3:00 Re-certification Credits: 3.0 hours

Directions: Take Exit 67 off I-84. Take Route 31 north to junction of Route 30 at first traffic light. Turn right on to Route 30. Tolland County Ag Center is on right just after Rockville Savings Bank.

The University of Connecticut is an equal opportunity program provider and employer. Please call three weeks prior to this event if special accommodations are needed.

HARVEST NEW ENGLAND CONFERENCE & TRADE SHOW

February 24 - 26

Sturbridge Host Hotel, Sturbridge, MA.

“This conference is an excellent opportunity for agricultural producers to learn from some of the finest experts in the field about a diverse range of marketing topics,” said Robert Pellegrino, President of Harvest New England and Director of Marketing for the CT Department of Agriculture. “Our last conference attracted over 700 producers from all over New England, who provided extremely positive feedback about the event. We have taken their comments and incorporated them into our planning to make this conference even better.”

Two pre-conference workshops – to cover farmers’ markets and agritourism - will be held on Tuesday, February 24. The main event kicks off Wednesday morning, February 25, with “The Best of New England” session, featuring a panel of the industry’s stars from each of the six states. Mel Allen, Editor of Yankee Magazine, will charm attendees on Thursday morning with stories amassed over the years through his work at the popular publication.

Twenty breakout sessions, an optional half day of farm tours, and a trade show that is expected to draw over 100 vendors, will round out the event. Topics to be covered include working with local officials, website development, community-supported agriculture, virtual marketing, cooperatives, energy conservation, and much, much more.

Harvest New England was created in 1992 by the Departments of Agriculture in the states of Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont, and Maine. The organization’s original objective was to encourage the sale of New England produce to and through large supermarkets.

Over the past 16 years, Harvest New England has grown and diversified to meet the changing needs of New England producers and consumers. Although fresh local produce remains a primary focus, Harvest New England also promotes products such as meat; poultry; seafood; dairy; eggs; honey and maple syrup; specialty foods; greenhouse and nursery plants; Christmas trees and greens; and farm-produced fiber and fiber products.

For more information about Harvest New England and the 2009 Agricultural Marketing Conference and Trade Show, please visit www.harvestnewengland.org.

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



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

FieldWorks

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.

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