A Publication of the UMass Extension Greenhouse Crops & Floriculture Program

Floral Notes Newsletter

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In This Issue

Paul Lopes Retires from UMass Extension after 38 years!

Paul started his career in 1974 after graduating from the University of Rhode Island. He was hired into a dual Extension and teaching position at Norfolk County Agricultural School in Walpole. After two years he transitioned to the full time County Agricultural Agent position for Norfolk County.

Paul met his wife Marilyn while working in Norfolk County. They married in 1979 and continued to work together until he moved to the Waltham Field Station to manage the Metro-Horticulture program for UMass Extension. Marilyn moved to an Extension position in Barnstable County in 1982 at which time they moved to Pocasset, where they now reside.

In 1988 Paul took over the regional specialist position for Floriculture in Southeastern Massachusetts with his office at the Cranberry Experiment Station in Wareham. During this time Paul attended evening and weekend classes and received an MBA from Anna Maria College.

During the early '90s thru 2011 Paul worked with Dr. Douglas Cox, Tina Smith and Bob Luczai in Extension and, later, with the Massachusetts Flower Growers' Association planning, organizing and implementing programs for greenhouse growers in Massachusetts. The program efforts during this period were in the forefront of biological control research and implementing IPM practices in the greenhouse production of ornamental plants.

In 2004 thru 2007 Paul led a water quality and energy conservation program with funding from the MFGA and the Massachusetts Department of Energy to assist Massachusetts growers. Most recently he worked closely with the growers and the greenhouse industry in Massachusetts on the issue of Chrysanthemum White Rust and proposed changes in the USDA/APHIS federal quarantine.

Over the course of Paul's career he traveled thousands of miles and helped countless numbers of growers and their families, and according to Paul, "there was never a boring moment."

2012 Northeast Regional Meeting
March 26

Location

Bramble Hill
593 South Pleasant Street
Amherst, MA 01002

Lodging

Amherst Motel
408 Route 9, Amherst
(413) 256-8122

University Lodge
345 North Pleasant St.
Amherst
(413) 256-8111

Comfort Inn
237 Route 9, Hadley
(413)584-9816

Howard Johnson
401 Route 9, Hadley
(413) 586-0115

For more information

Missy Bahret
Northeast Regional Director
(413) 253-9182
grow@oldfriendsfarm.com

ASCFG
(440) 774-2887
ascfg@oberlin.net

Thank you, sponsors!

GeoSeed
www.geoseed.com

Harris Seeds
www.harrisseeds.com

Johnny's Seeds
www.johnnyseeds.com

Start the 2012 growing season off right! Join other cut flower growers from the Northeast at this one-day meeting. We'll tour a lily operation, learn about tools, pest management, and body mechanics and injury prevention. There will be plenty of time for face-to-face discussion of production and marketing experiences.

More Tools and Fewer Pests

7:30 a.m.
Meet at Bramble Hill, Amherst Light breakfast fare and beverages

8:15-8:30 a.m.
Carpool to Montgomery Rose, North Hadley
Andy Pierce, Montgomery Rose

8:30-9:30 a.m.
Tour cut flower lily production

10:00-11:00 a.m.
Workshop on tractor tools, Jon Magee, Atlas Farm

11:00-11:45 a.m.
Dual Workshops
Sharpening Skills

Body Mechanics and Injury Prevention
Lydia Irons, Flexible Farmer

Noon-1:30 p.m.
Lunch and Hands-On Tool Time

1:45-3:00 p.m.
Tour Andrew's Greenhouse
Pest Management Over the Years, Andy Cowles, Andrew's Greenhouse
Feel free to shop, but try be back for the next workshop

3:30-4:30 p.m.
The Latest on Hoophouse Pest Management, Tina Smith, UMass Extension

4:40-5:15 p.m.
Discussion over snacks: How can the ASCFG best meet your needs; tutorials for updating your ASCFG Member Page and navigating the Bulletin Board; grower to grower time.

5:15 p.m.
Regional Meeting Ends. Feel free to take a walk of the property. There are plenty of restaurants in Amherst - about a mile from the meeting site - for post-meeting socializing with other attendees.

Massachusetts Department of Agricultural Resources Grants

The Massachusetts Department of Agricultural Resources (MDAR) has a number of business planning and environmental programs with grants available to help agricultural operations make farm improvements that enhance their economic viability and help prevent environmental resource impacts. Request for Responses with Application are dependent upon funding each year, typically available in April through June. Below are descriptions of the programs, with more information at the following website: **www.mass.gov/agr/programs**

Farm Viability Enhancement Program (FVEP)

The Farm Viability Enhancement Program (FVEP) is a business planning and technical assistance program that provides management advice and grants of $25,000 to $75,000 to implement farm growth and sustainability strategies. Farm operators receive grant awards for signing a 5 or 10 year Agricultural Covenant, to keep their property in agricultural use, and receive valuable consultations and visits from a team of experts to discuss needs on the farm, such as farm production and management, marketing, and business planning. Typical uses of funds include building or repairing farm structures, modernizing field equipment. For more information, contact Craig Richov at (617)626-1725 or Craig.Richov@state.ma.us

APR Improvement Program (AIP)

The APR Improvement Program (AIP) provides funding, technical assistance, and business planning to farms with land that has already been protected through MDAR's Agricultural Preservation Restriction (APR) Program. buildings - such as storage barns, livestock structures, farmstands or processing facilities. For more information, contact Melissa Adams at (413)268-8269 Melissa.AdamsAIP@gmail.com

Matching Enterprise Grants Program (MEGA)

The Matching Enterprise Grants for Agriculture (MEGA) Program helps with business expansion on new and beginning farms. MEGA provides technical assistance and business planning help, and then provide funds for farm improvement strategies. For more information, contact Kate Hayes at (413)559-0949 or mega.coordinator@gmail.com

Agricultural Environmental Enhancement Program

The purpose of AEEP is to support agricultural operations that are looking to install conservation practices that prevent direct impacts on water quality, ensure efficient use of water, as well as address impacts on air quality. Contact Laura Maul at (617)626-1739 Laura.Maul@state.ma.us

Agricultural Energy Grant Program

Ag Energy is a competitive grant program that funds agricultural energy projects in an effort to improve energy efficiency and to facilitate adoption of alternative clean energy technologies by Massachusetts farms in order that farms can become more sustainable and the Commonwealth can maximize the environmental and economic benefits from these technologies. Contact Gerry Palano (617)626-1706 Gerry.Palano@state.ma.us

Heating Your Greenhouse with Grain Corn Hybrid Yield Evaluation

Masoud Hashemi, Sarah Weis, J. Carlevele, Edward Bodzinski, and Andy Cavanagh
UMass Extension
Plant, Soil, and Insect Sciences
Amherst

Massachusetts has over 1,000 growers producing greenhouse crops in over 17 million square feet of protected growing space (2007 Census of Agriculture). This includes over 16.5 million sq ft. in bedding plants, flowers and floral greens, foliage plants and potted flowering plants and over 1.2 million sq ft in vegetable crops. Temperature needs of the crops vary, but often require a night temperature of at least 60° F. Most of Massachusetts' greenhouses are heated with either fuel oil or liquid propane. A 20,000 sq. ft. greenhouse, heated all winter with a night temperature of 60° F, uses an estimated 3200 gallons of fuel oil or the equivalent (Bartok, 2006). While there are no firm figures on the total fossil fuel used for greenhouse heat in the state, we know that we have the equivalent of at least 800 greenhouses that are 20,000 sq. ft. in size. If only one third of these greenhouses are heated all winter, and two thirds of these greenhouses begin heating in late winter (using one-third the heat energy), our total use of fossil fuels for greenhouse heat is equivalent to more than 1.5 million gallons of fuel oil.

This project focuses on shelled com, a renewable heat source that can be grown and used in Massachusetts more cheaply than fossil fuels, using available and proven technology. We chose com for this project because, unlike other potential biomass fuel sources, it is an annually renewable fuel source, bums cleanly, requires minimal processing, helps to preserve agricultural land and businesses, and can be produced in quantity locally. At current prices, com compares very favorably with the standard fossil fuels that are used for greenhouse heat. Changing to energy sources that can be produced locally, travel a short distance from producer to user, and that have a high ratio of energy output to fossil. Fuel input is the key to a viable future for farming in Massachusetts. To that end, we have partnered with a number of growers across the state that has begun using com furnaces and boilers for heating their greenhouses. We collect information on their experiences with this technology and share their experiences with a wider circle of interested growers through field days, on-farm meetings, newsletter articles, and the umassvegetable.org website.

The emphasis of this project is on making the best possible use of our land for food and fuel production and not to detract from our ability to grow food crops. We're envisioning a system where fuel crops become a valuable rotational crop in vegetable farms and an alternative revenue stream for dairy farmers in a time of shrinking demand for silage; not a system in which the production of fuel shifts acreage away from food production.

Com silage hybrids were evaluated for grain yield performance at the University of Massachusetts Crops Research and Education Center Farm, in South Deerfield, Massachusetts in 2010. Hybrids were placed in three groups based on relative maturity (RM) provided by the seed companies; Group **I,** shorter season maturity group (85-94 days), group II mid maturity group (95-100 days), and group III, full season group (101-115 days). Ears were handpicked on October 7, October 11, and October 14 for Group **I,** Group II, and Group III, respectively. In 2010 the corn crop experienced hot and dry conditions especially in August which coincides with grain filling stage. The late dry condition had less negative impact on shorter-season hybrids compared to full-season hybrids. As a result, the shorter-season maturity hybrids in general performed better compared to full-season maturity groups. The result of grain yield, grain moisture at harvest, and cob/ear ratio of all hybrids tested in 2010 are presented in the following table.

Table 1. Grain yield, grain moisture at harvest, and cob/ear ratio for three maturity group hybrids planted on May 6th, 2010 and harvested at about 20% grain moisture.

Brand	Hybrid	Maturity group	Grain yield (Bu/acre)	Grain moisture (%)	Cob/ear (%)
TASeeds	TA290-11 (CB/LL)	I	208	18	13
Dairyland	ST-9789 (RR)	I	208	19	9
Agrisure (NK)	N20R-GT	I	152	18	13
Mean			189	18.3	11.7
TASeeds	TA501-161	II	183	21	11
Dairyland	ST-3195Q (RR)	II	172	20	10
DEKALB	DKC 46-07	II	206	20	9
DEKALB	DKC46-6	II	193	21	10
DEKALB	DKC49-94	II	181	21	12
DEKALB	DKC45-52	II	181	19	11
DEKALB	DKC48-37	II	183	20	11
Mean			185.6	20.3	10.6
TASeeds	TA788-13 (YGVT3)	III	164	23	13
Dairyland	ST- 9703Q	III	182	20	11
DEKALB	DKC 52-59 (VT3)	III	162	18	13
DEKALB	DKC 54-16 (VT3)	III	192	19	10
DEKALB	DKC 57-50 (VT3)	III	174	24	13
DEKALB	DKC 59-64	III	185	21	11
DEKALB	DKC 61-69	III	199	21	11
DEKALB	DKC 63-42	III	187	23	11
DEKALB	DKC 63-84	III	183	21	11
DEKALB	DKC 50-35	III	195	17	10
Mean			182	20	11
Overall Mean			185	19	11
CV(%)			15.2	7.9	8.6

*Grain yield was adjusted to 15.5% moisture

UMass Extension Resources: Greenhouse Businesses & Garden Retailers

With the spring growing season upon us, growers are reminded that a diagnostic lab and soil test lab are available through UMass Extension to help prevent and solve problems. Test growing media early and often to maintain proper pH and fertility. Use a diagnostic lab for early, accurate diagnosis of plant diseases. Catching problems early will prevent the misuse of pesticides, save you money and reduce crop loss. Below is a list of University laboratories for growers in Massachusetts and additional resources for garden retailers.

Plant Diagnostic Lab

The University of Massachusetts Amherst provides reliable and prompt diagnosis of plant problems. The lab also assesses ticks for Lyme disease and other tick-borne diseases as a service to the public. Each diagnosis includes a written report. For instructions and greenhouse submission forms go to http://extension.umass.edu/floriculture/services/plant-problem-diagnostics or call Bess Dicklow at (413) 545-3209. Here is a summary of all of our diagnostic services:

Diagnostic Fees

Floriculture, fruit, vegetable, woody plant, or greenhouse crop diseases. $50
Turfgrass ID, landscape and turf weed ID. $25
Landscape and turf insect ID. $25
Tick assessment - Lyme disease. $40
Tick assessment - Anaplasmosis and Babesiosis. $100
Nematode assay all other crops except turf. $50
Turf disease analysis and turf nematode assay . $75

Plant Disease Submission forms: www.umass.edu/agland/diagnostics
Send plant samples with a check made payable to University of Massachusetts. Address packages to:

UMass Extension Plant Diagnostic Lab
101 University Dr., Suite A7
Amherst, MA 01002-4385

Guidelines for Taking Samples to Send to Diagnostic Lab

Submit as much of the plant as possible.
The accuracy of a disease diagnosis can only be as good as the sample provided. To provide a good sample, be sure that the sample contains the right part of the plant. Symptoms may appear in parts of the plant that are not infected with the pathogen. For this reason, if possible, submit as much of the plant as possible. Ideally, this would be an intact plant.

Send several plants with a range of symptoms.
Secondly, the samples must be fresh and in good condition. Dead plants tell no tales. Due to secondary infections in extremely decayed plants, it is difficult to determine which organism may have created the problem in the first place. If possible, send in several plants with a range of symptoms from moderate to severe.

Keep leaves dry and free of soil.
Wet samples with soil on the leaves promote the growth of secondary pathogens and create problems that did not exist when the sample was originally collected. Do not ever add water to your sample.

Hand deliver or ship overnight.
Rapid delivery may be critical for an accurate diagnosis. Samples that take a long time to get to the diagnostic lab have a greater chance of decaying or drying up making diagnosis difficult. You may want to hand deliver the sample to the lab. If you are too far away from the lab, then ship the sample overnight. The diagnostic laboratory is closed over the weekend and you may not want to ship the

sample on Friday or during a holiday. Call Bess at the UMass diagnostic lab prior to shipping to make arrangements for receiving the package.

How to select samples from plants with the following symptoms:

Leaf spots and Blights
Select leaves which show a range of symptom development. Place leaves between paper towels or sheets of paper to keep leaves dry. Place the package in a plastic bag, and then into the envelope for mailing. Never wrap leaves in wet paper towels.

Stem Cankers
If a canker occurs on a large plant, cut a section of the stem with the symptoms, wrap in newspaper and place in a plastic bag for mailing. If the plants are small (1 foot tall or less), shake the soil from the roots, wrap in newspaper and put into a plastic bag for mailing.

Wilt, Crown rot or Root rot
If the plants are 1 foot tall or less, include the entire plant. Include the root system with the plant, leaving the growing media on the roots. Place the root ball into a plastic bag and tie off at the crown to keep the media off the foliage. If the plants are large, send a portion of the plant that includes the infected tissue. For wilt diseases, include the lower stem tissue and roots.

Poor growth, Defoliation, Scorch
These symptoms are usually caused by nutritional or environmental factors. They may also be the result of root rot or vascular disease. Collect a specimen as for wilt (see above); be sure to also submit a soil sample to a soil test laboratory.

Soil and Tissue Testing

UMass Extension offers a variety of soil test options.

Greenhouse Soil Testing Submission forms and more info:
http://extension.umass.edu/floriculture/services/soil-testing
For forms for other crops and landscapes see: www.umass.edu/soiltest

Here is a summary of options for commercial greenhouse crops and flower growers:

Soilless Media Test
$15.00 Includes pH and lime requirement, levels of available plant nutrients, soluble salts, and micronutrients. Recommendations are written on the report by Dr. Doug Cox and mailed to you.

pH Test $5.00

Soluble Salts Test $5.00

pH and soluble salts tests are the same tests performed as part of the soilless media test.

Standard Soil Test for (Outdoor) Field Grown Crops
$10.00 Includes pH, levels of available plant nutrients and several micronutrients.
$15.00 Standard Soil Test and organic matter.

Water pH and EC $8.00

Soil Sampling for Greenhouse Crops

We have a new video available on soil sampling: http://www.youtube.com/UMassFloriculture

Send soil or tissue samples, with a check made payable to the University of Massachusetts, to:

Soil & Tissue Testing Lab

West Experiment Station
682 North Pleasant St.
University of Massachusetts
Amherst, MA 01003-9302

2011-2012 NEW ENGLAND GREENHOUSE FLORICULTURE GUIDE

A comprehensive guide for commercial production of greenhouse ornamentals with information on current pest management and growth regulators. Recommendations include IPM and biological control information for greenhouse crops. This manual is a compilation of input from the members of the New England State University Extension Systems of Massachusetts, Maine, New Hampshire, Vermont, Connecticut and Rhode Island and Raymond Cloyd, Kansas State University

$30 includes shipping - Ordering Information
Call the UMass Extension Bookstore at 413-545-2717 or print an order form to mail at: http://extension.umass.edu/floriculture/pest-management/new-england-pest-management-guide send to: UMass Extension Bookstore, 101 University Dr., Suite A4, Amherst, MA 01002-2385. Make checks payable to UMass.

Resources to help diagnose and manage plant problems.

Greenhouse Operators

New England Greenhouse Update

Pest message and photo library www.negreenhouseupdate.info (UMass and UConn partnership) Pest messages compiled since 2005 and pictures and descriptions of greenhouse plant problems that supplement the New England Pest Management Guide. Contact Tina Smith, tsmith@umext.umass.edu to receive pest messages via email.

For Garden Retailers (to keep up-to-date on issues that affect your customers)

Landscape Message www.UMassGreenInfo.org

The Landscape Message is compiled from information gathered by Extension scouts monitoring landscape sites statewide. It allows landscapers, arborists, turf managers, and nursery growers to be in touch with local pest activity 24 hours a day. There are 25 messages each year. To sign up for weekly email notification of updated messages, go to UMassGreenInfo.org and click on the SERVICES tab, or email eweeks@umext.umass.edu . This project is partially funded by New England Grows.

Contact UMass Floriculture Extension Staff

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