

Floral Notes *Newsletter*

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In This Issue

| | |
|---|---|
| <i>Greenhouse Management and Production for 2017!</i> | 2 |
| <i>Highlights from Our Trial Garden Tour</i> | 3 |
| <i>Storing Pesticides in the Winter</i> | 6 |
| <i>2017 Easter Lily Crop</i> | 8 |



Greenhouse Management and Production for 2017!

January 11, 2017, 9:30-3:30
Publick House, Sturbridge, MA

9:00 – 9:30 Registration and coffee/tea

9:30 – 10:15 Light, Temperature, and Relative Humidity in Greenhouses *Dr. Ryan Dickson, University of New Hampshire*

Review how light, temperature, and relative humidity affect plant growth in greenhouses. Discuss tips and technologies used to measure and control these factors in greenhouses.

10:15 – 10:25 Break

10:30 – 11:15 Control Light, Temperature, and Relative Humidity for Top Plant Performance *Dr. Ryan Dickson, University of New Hampshire*

Fine-tune light, temperature, and relative humidity management strategies to get the most from your greenhouse environment. Topics will cover photoperiod, light quality, DIF, and vapor pressure deficit.

11:15 – 12:15 Irrigating Greenhouse Crops *Dr. Mandy Bayer, UMass Extension*

Explore the fascinating impacts of plant and environmental factors on container plant water needs. This talk will help us to understand how growing media, container size and other factors influence the water needs of plants. Then we will cover tips to properly water plants manually and automatically, including when to water and how to water.

12:15 – 1:15 Lunch on your own

Options: Pre-purchase your lunch at time of check in (paid directly to the Publick House) Lunch includes: Build your own sandwich buffet (roast beef, turkey, ham, vegetable), potato salad, chips, desert, drink or eat in the Publick House restaurant or fast food restaurants within a short drive.

1:15 – 2:15 Greenhouse Plant Nutrition: Fertilizing Container Crops with Water Soluble and Controlled Release Fertilizers *Dr. Rosa Raudales, University of Connecticut*

Rosa will take us to think beyond “General Purpose” to discover why every operation should design their own nutrition program. Rosa will provide the theory behind selecting fertilizers and also case studies. After this presentation you will know how to interpret water quality analysis, select fertilizers, and identify and manage nutritional disorders.

2:15 – 3:30 Alternatives to Neonicotinoids for Managing Pests in Greenhouses
Grower to Grower Panel 1 pesticide credit requested

For more information contact:

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Registration form can be found on page 8.

Highlights from Our Trial Garden Tour

On August 25, UMass Extension Greenhouse Floriculture Program and the Massachusetts Flower Growers Association co-sponsored a trial garden tour. We began at Cavicchio Greenhouses, Sudbury, MA where Kerri Stafford, Head Grower walked us through their new demonstration garden. Next we visited J.P. Bartlett's where Robin Messer showed their new introductions. We ended the day at Elm Bank Reservation, Wellseley with lunch under the beautiful shade trees and a tour of the Mass Hort Society trial gardens with David Fiske, Trial Garden Coordinator and Heather Gartner, Pleasant View Gardens.

It was interesting to see how specific plants performed during this particularly hot, dry summer.

Here are some highlights and comments about the plants on the tour:

Cavicchio Greenhouses – Here are a few favorites and comments from Kerri Stafford, Cavicchio Greenhouses for plants that were grown in the ground and potted up in containers. Comparison varieties of plants were grown next to the new cultivars being trialed. All trial garden plants were grown in the greenhouse using the same cultural methods as plants being grown for sale.

Plants in the Ground

Marigold 'Fireball' is from Pan American seed is a very unique marigold. As the flower matures, the flower color changes between an orange and red. It looks great in both the ground as well as potted. When it is in flower the colors are always changing like a fireball.

Salvia 'April Night' is from Danziger and is the second year in our trial garden. It is bred to flower sooner than 'May Night'. We have found that it is much more florific and has a much nicer shape and habit than 'May Night'. It is a great, easy option that can be produced as an 8 week crop from planting to sales in the greenhouse, with great garden performance for the consumer.

Pervoskia 'Blue Steel' is a seed perovskia from Pan American. It performs much better than a lot of the old vegetative varieties and has a slightly more compact habit.



Verbena Endurascape 'Pink Bicolor' is a new addition to the Endurascape series from Ball Flora Plant. The bicolor pink flowers are stunning. The Endurascapes were bred as a landscape verbena. They are a beautiful ground cover that stays in flower all season long. You never see dead flowers on it. Pink Bicolor helps round out the color selection in the Endurascape series.

Argyranthemum 'White Butterfly' is from Proven Winners. It is a nice addition to the Butterfly series.

Angelonia 'Archangel Cherry Red' is from Ball Flora Plant. It is one of the first "red" angelonias on the market. Large blooms cover the plant all season long.... A stunning addition to the Archangel series.

The Mega Copa Series is a new bacopa series out of Ball Flora Plant. The Mega Copas hold their flowers throughout the season and even in the hot humid days we had through August. The 'Blue' and 'White' are stunning.



Plants in Pots

Angelonia ‘Archangel Cherry Red’ - See above

Argyranthemum ‘White Butterfly’ - See above

Bacopa ‘Mega Copa White’ - See above

Lantana ‘Lucky Red’ is a new color addition to the Lucky series from Ball Flora Plant. It has a compact spreading habit and performs outstanding in the heat of summer.

Marigold ‘Fireball’ - See above



Verbena Endurascape ‘Pink Bicolor’ – See above

Celosia ‘Dracula’ is new from Pan American. It is a Cavicchio Trial Garden Favorite. It is a unique brain type celosia with a single giant comb per plant. A very fun addition to the celosia selection on the market.

Salvia ‘Magic Wand’ is a stand-alone salvia from Danziger. It is a large plant with beautiful purple flower stems. It is also a great in- ground plant that the pollinators love.

The **Topspin series** is a new Begonia series from Syngenta. The series is a green leaf series that contains a rose, pink, scarlet and white. It is an outstanding performer both in the sun and shade as well as in ground and potted.



‘Sunstanding’ Impatiens is a new hybrid impatiens series from Dummen. Much like the ‘Sunpatiens’, they have a great color assortment and are super garden performers both in sun and shade.

JP Bartlett’s - Comments about new geranium varieties from Robin Messer.

Introduced this past spring, **‘Forever Red’**, is a true, dark red geranium, with medium to high vigor; nice zoned dark green leaf; strong flower stems and excellent flower count.

‘Mayflower II’ flowers earlier than the original Mayflower with the same beautiful coral pink as ‘Mayflower’. It is much more florific, with medium vigor, medium green foliage and no zoning.

‘Aspen White’ is our newest white that stays clean white in heat, flowers early and is florific with medium vigor, medium green foliage and no zoning.

#04319 – Orange has bright orange colored flowers, early flowering, floriferous, high in vigor, zoned with medium green foliage.

#05011 – Rose Red is similar to ‘Patriot’ but with a distinct color of its own. This variety has medium vigor, dark green leaves and large prolific flowers.



#07355 - Bright Rose has lots of very large flowers, medium in vigor and nice zoning. It received the highest rating in our trial garden.

Massachusetts Horticultural Society - Here are a few favorite plants that were chosen by Trial Garden Tour attendees with comments from David Fiske, Trial Garden Manager.

Lantana 'Lucky Red' (Ball Flora Plant) grew very well in the greenhouse in 4" pots. Plants flowered early and stayed compact and well branched. Out in the garden it preformed great, flowering all season and growing 24" wide and tall and no pest or disease problems.



Angelonia Angel Face series (Proven Winners) all performed very well with taller, strong stems, larger flowers, well- branched, and insect or disease problems. It was great as a container plant and nice cut flower.

Coleus 'Inferno' (Ball Flora Plant) has great color brightness - a stand out color. It grew great in 4" pots, sizing up early, no breakage and nice strong branching habit.

Verbena EnduraScape series (Ball Flora Plant) all bloomed early in 4" pots in the greenhouse and did not stop all summer long. Foliage was clean with no insect or disease damage, and a good pollinator plant.

Vinca Viliant and Titan series (PanAmerican Seed from seed flowered in 9 weeks went all season no blight, disease or bug problems 24" really seemed to enjoy our 24 days of 90+ degree sunny hot dry weather. Very easy no care plant

Achillea millefolium 'New Vintage Rose' (Darwin Perennials) was a great early flowering perennial. It flowered all summer, was well-branched with many flower heads, compact growth habit, good, clean foliage and great color.

The new unnamed AAS entry zinnia Zahara type red stayed flowering in greenhouse to the end of garden season with no insects or disease problems, was compact 20" tall with large 3" flowers -great addition- hope it wins an award.

Thank You to our hosts/speakers Dave Fiske and staff at Elm Bank and Mass Hort Society; Laura Abrams and Robin Messer at JP Bartlett; Paul Cavicchio, Kerri Stafford and Cathy Davis at Cavicchio Greenhouses; and Heather Gartner, Pleasant View Gardens.

Compiled by Tina Smith, UMass Extension

Storing Pesticides in the Winter

It is best not to have left over pesticides at the end of the season. However, there are usually surplus pesticides left over at the end of the season. Sometimes growers also make preseason purchases of pesticides because it can be more economical. If possible, plan pesticide purchases so that they are used up by the end of the growing season. The longer a pesticide is stored the more likely it is to degrade to the point that it is unusable. Most manufacturers recommend storing pesticides for no longer than two years.

When storing pesticides one should consider safety, security, quality and the environmental impacts of pesticides. Before storing pesticides read the label for storage recommendations or restrictions. Proper storage can prevent accidents that could cause property damage or environmental pollution. Pesticides should always be kept in a secure storage that is accessible only to those trained to use them. According to the board of fire prevention, pesticides should not be stored in a basement. They should be stored in a first floor room with direct access to the outside. The secure storage of pesticides is important for safety reasons and to reduce potential for vandalism or theft and misuse.

When storing pesticides in the winter it is important to make sure that the storage temperatures do not go below freezing and storage space is completely dry. Freezing temperatures can cause separation of active ingredient and solvent to occur. Evidence of separation is the presence of sludge or sediments in the pesticides. Also when water is added to the pesticide a milky appearance does occur. If a pesticide freezes, it should be thawed by placing it in warm storage (50-80⁰ F) for several days. Before thawing the pesticide, the container should be checked to make sure it is not cracked from the expansion of the frozen liquid. After the liquid pesticide is thawed, the container should be shaken and inverted several times to get the contents into a uniform suspension or to ensure that the crystals are completely dissolved. If layering still persists or crystals are still present, the pesticide should not be used.

Wettable powders and granular pesticides should be stored in a dry place. Moisture may promote caking and may also lead to chemical changes that reduce their effectiveness. Excessive caking or lumping makes the pesticides not to dissolve or to suspend in water.

The amount of storage space should be kept to a minimum by purchasing chemicals in smaller quantities or as needed. However, the storage space should be large enough to accommodate new chemicals, opened containers and unused unwanted pesticides awaiting disposal. For small quantities a steel cabinet can be used. The cabinet should have a containment area in the bottom to catch any spills or leaks. For larger quantities portable structures are commercially available (securallproducts.com). These structures are water proof and have self-locking doors that can be locked, a floor containment and a ramp for access. They can be located either inside or outside and can be moved and relocated with a forklift.

In the absence of a portable structure a fire rated structure with a concrete epoxy coated floor with a 2-4-inch perimeter curb containment can be used. If possible the storage structure should be detached away from other buildings to protect employees from chemical fumes and dust. The storage structure should be protected from freezing temperatures, direct sunlight and extreme heat. If possible, provide electrical power to the storage area. This allows for interior lighting, a heater, a fan and exterior lighting for security. An electric heater with a thermostat can be used to maintain temperature above freezing, and a two speed fan ducted outside can be used for ventilation to remove excess heat, chemical vapors and moisture from the storage area. The storage area should be easily accessible in the event of an emergency situation.

Do not store pesticides with fertilizer, seeds and other supplies including personal protective equipment to avoid contamination. Mark each container with its date of purchase and date opened. Use oldest products

first. Store opened products in their original containers and keep the labels intact and visible. Opened wettable powders and granular bags should be put in resealable plastic bags or containers.

The storage area should be properly identified with a sign: “**Pesticide Storage Area**”.

References

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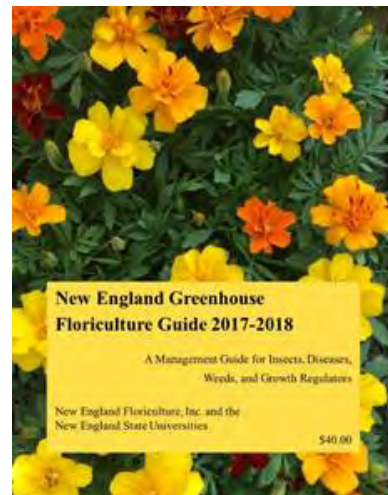
Hot Off the Press!

The 2017-18 edition of the New England Greenhouse Floriculture Guide (Insects, Diseases, Weeds and Growth Regulators) is now available for \$40 per copy from our UMass Extension Bookstore.

New England greenhouse growers have long relied on the *New England Greenhouse Floriculture Guide*, for its unbiased, detailed information about insect and mite management, disease prevention and management, weed control, and plant growth regulation.

In addition to updated recommendations, the new edition presents:

- An updated discussion of Best Management Practices to minimize the threat to bees and other pollinators.
- An update on OSHA’s Worker Protection Standard, reflecting the changes that will become effective in January 2017. This information is invaluable to all greenhouse owners and pesticide handlers.
- A greatly expanded section on biological controls, which provides details for beginners as well as for experienced pest managers looking for new research-based information.
- The pest and problem identification website, maintained by Guide contributors Leanne Pundt of University of Connecticut and Tina Smith of University of Massachusetts, is continually updated to include emerging pest problems.



You can access it online at: <http://negreenhouseupdate.info/photo-library>

The *Guide* is updated every two years by floriculture faculty and staff from the six New England State Universities, and is published by New England Floriculture, Inc.

2017 Easter Lily Crop

Easter falls on April 16 in 2017, a late Easter date. Just as in the late seasons of 2014 (April 20), the 2017 schedule provides plenty of time for proper bulb programming as well as some extra time that growers will need to factor into their spring production plans. Last year, Easter fell on a very early date (March 27th) and growers had to push hard all the way to the end to time the crop out properly. Pushing a crop hard to make an early Easter or pulling back hard to slow growth for a late Easter is not ideal and can diminish quality. Any added stress conditions tend to weaken plants, which creates an opening for root disease and insect problems to gain momentum. This year the danger is that lilies will come in too early unless the extra time is managed properly. Here are some scheduling tips and options to consider for the 2017 crop.

The ideal forcing schedule begins 23 weeks before Easter (Nov. 6th for Easter 2017) and includes six weeks for bulb cooling and 17 weeks for lily development in the pot. This season, bulbs shipped in mid-October may arrive 25 weeks before Easter (Oct. 23), adding as much as two extra weeks to the schedule. You have several options for using this time. You can bring the crop in early and hold the lilies in cold storage for up to two weeks. This may be a good option for at least a portion of the crop since it will free up greenhouse space during a critical spring production period and most growers ship a portion of the lily crop starting around week two (April 2nd in 2017). This option requires adequate cooler capacity and a heavy reliance on Fascination to prevent leaf yellowing. Also, cold storage for more than two weeks will reduce flower life and decrease plant quality. Since lily quality will diminish with prolonged storage times you'll need to consider other options for the majority of the crop. One option is to 'lose' the extra time by dropping the temperature to 32-34F mid-way through the bulb-cooling period. This will delay vernalization and allow you to start greenhouse forcing later without adding more than 1000 hours to the bulb chilling process. Alternatively you can 'make use' of the extra time during bud initiation during the greenhouse forcing stage to increase secondary bud count.

See the complete 2017 Easter Lily Schedule, with comments and photos by Dr. Richard McAvoy, UConn Extension at <http://ipm.uconn.edu/documents/view.php?id=1040>

Registration Form Greenhouse Management and Production for 2017

Registration Deadline – January 6, 2017

All Names _____

Firm _____

Address _____

Email address _____ Telephone _____

First Registration @ \$45.00 = \$ _____

_____ **No. Additional Registrations x \$40.00/person** = \$ _____

Total enclosed \$ _____

Registration includes morning coffee & handouts. Make check payable to: University of Massachusetts
Send to: Greenhouse Management Program, Rm. 103 French Hall, University of Massachusetts, Amherst
MA 01003