



Production Times

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Upcoming Extension Workshops & Industry Events

April 20 - 21 - Central Florida Landscape and Garden Fair / Lake County Discovery Gardens
Details: [Click here](#)

April 24 - Expanding Your Plant Palette / 8:30a-3:30p / Lake County Extension / FNGLA CEUs Available!
Registration: [Click Here](#)

May 7 - Review & Exams Ornamental/Turf and Private Ag Pesticide Applicator Licenses / 8:00a-4:00p
/ Orange County Extension Education Center / CEUs Available!
Registration: [Click Here](#)

May 9 - Review & Exams Limited Pesticide Applicators Licenses / 8:00a-4:00p / Volusia County
Extension / CEUs Available!
Registration: 386-822-5778

May 17 - Green Industries Best Management Practices (GI-BMP) Certification Program / 8:00a-
4:00p / Seminole County Extension
Registration: [Click Here](#)

May 22 - CEU Day & Worker Protection Train the Trainer / 8:00a-4:00p / Mid-Florida Research &
Education Center, Apopka / CEUs Available!
Registration: [Click Here](#)

May 22 - Green Industry Best Management Practices (GI-BMP) Certification Program / 8:00a-4:00p /
Lake County Extension Office / CEUs Available!
Registration: [Click Here](#)

June 4 - Green Industries Best Management Practices (GI-BMP) Certification Program / 7:45a-4:00p / Orange County Extension Education Center / CEUs Available!
Registration: [Click Here](#)

June 20 - Review & Exams Ornamental/Turf and Private Ag Pesticide Applicator Licenses / 8:00a-4:00p / Volusia County Extension / CEUs Available!
Registration: 386-822-5778

June 26 - Biologicals & Biorationals Update / 8:00a-12:30p / Mid-Florida Research & Education Center / 4 CEUs Available!
Registration: [Click Here](#)

July 10 - IFAS CEU Day / Video conference at Lake County Extension Office
Details will be available soon at <http://lake.ifas.ufl.edu/calendar.shtml>.

For more information and links to other programs go to any of the following links:

<http://lake.ifas.ufl.edu/calendar.shtml>

<http://orange.ifas.ufl.edu/cfnurseries/>

<http://www.seminolecountyfl.gov/extension/services/commercial/commercial.aspx>

<http://calendar.ifas.ufl.edu/calendar/index.htm>

What Do Plant Buyers Want?

Summarized by Juanita Popenoe

Researchers from a range of universities, including our own Hayk Khachatryan, recently published a paper in HortScience on their survey of consumer preferences for local and sustainable plant production characteristics. They wanted to find out how interested consumers were in purchasing locally grown and ecologically friendly transplants. They surveyed 2511 consumers, 68% from the U.S. and 32% from Canada. They gave them a choice of three plants – tomato, basil, and chrysanthemum to cover edible and ornamental plants; three prices - \$1.99, \$2.49, and \$2.99 per 4 inch container; told them they were produced one of four ways (without additional explanation) – conventional, water-saving, energy-saving or sustainable; in one of four container types – conventional, compostable, plantable, and recyclable; and finally said that the plant was produced locally, regionally or internationally (without further explanation because people think locally could mean many things). People were asked to indicate their willingness to purchase the product shown in a photo with the different possible combinations of plant, price, production method, pot type and origin.



had a high negative effect.

Consumers were more concerned with the plant type - 30% of the intention to purchase, followed by origin of production (21%), price (16%), production practice (16%), and container type (17%). Tomato was preferred, the mum was second and basil last. Generally lower prices were preferred to higher. Energy-saving production practices were preferred over other types and water-saving production practices were the least preferred. The photos of the plants were not significantly different, so it was not because the plants were small from lack of water! Generally compostable containers were preferred over plantable containers, and both conventional and recyclable containers were not preferred. Local production was favored over regional, and international

They further segmented the survey respondents into flowering shrub buyers, plant fanatics, vegetable

and perennial passionate, great indoors, annual gardeners, flowering abundance, foodies, herbivores or non-plant buyers based on the other information they collected about the respondents buying habits. They wanted to see if each of these groups responded in the same way or differently to the whole group. The great indoors group, of more interest to many of our producers, were grouped because 60% had purchased indoor flowering potted plants among other characteristics. They differed from the general group by being less extreme on region of production, and container type and production practice were less important overall. The flowering shrub buyers, another important group for our producers, were grouped because at least 48% had purchased an herbaceous plant and all had purchased flowering shrubs. This group had a higher percentage of Caucasians and residents of the southeast U.S. compared to the overall group. Their differences from the overall were they expressed a stronger negative effect of international origin. There are a lot more nuggets of information to assist in marketing plants. If you want to see the whole article, contact Juanita. For more information about sustainable nursery practices go to <http://snpp.caes.uga.edu/snpp/> where UF and UGA researchers are putting together resources for our growers.

Management of Thrips in the Greenhouse

by Matt Lollar

There are roughly 5,000 described species of thrips worldwide fortunately, most live in leaf litter or on dead wood. Thrips are very small, ranging from 1/32 to 1/8 inch in length, and can be yellow, brown, or black in color. (Note: Thrips may go by many names – Bill, George, Sue – but even if there is just one he is still considered a thrips.)

Life Cycle

Adult male thrips develop from unfertilized eggs and have half the number of chromosomes (haploid) as adult female thrips (diploid) making them haplodiploid organisms. (I always knew women were smarter.) A thrips' life cycle includes an egg stage, two larval instars, two pupal stages, and an adult stage. Several species of thrips are common in greenhouses including flower, gladiolous, chilli, and greenhouse thrips.



Techniques for Monitoring Thrips Populations

A few flowers should periodically be sampled by placing them in small containers with 70% alcohol (flowers can also be shaken on white paper). The container can then be shaken to eject the thrips which can then be examined under a microscope with at least 40X magnification to determine the species (your county agent can help with this process). Several small, medium, and large fruits should be examined directly per acre. It is important to examine small, developing fruits frequently because eggs are generally laid during the flower stage, and larvae on small fruits is the first indication of a problem.

White sticky traps are preferred (over yellow and blue traps) for thrips collection because yellow traps attract a large percentage of beneficial insects and it is difficult to see thrips against a blue background. Traps should be placed 1-2 feet below the tops of plants and should be monitored and changed weekly.

Management

A well thought out integrated pest management program is the most effective way to manage thrips. This includes the incorporation of cultural practices, biological controls, and reduced-risk insecticides. With the risk of potential problems associated with the use of chemicals in a greenhouse environment, growers should count on exclusion as their first line of defense. Insect exclusion can be achieved through, but not limited to four basic strategies: 1) Sanitation, 2) Air-lock entrance, 3) Insect Screening, and/or 4) Reflective Mulch.

Sanitation – The area around a greenhouse should be maintained relatively free of weeds and plant material that could harbor thrips. This can be achieved with nursery cloth or a ground cover in at least a 10 foot wide barrier around the structure.

Air-lock entrance – Thrips often prefer to use the front entrance of a greenhouse. An air-lock entrance is critical in greenhouses with fan and pad type ventilation systems. An air-lock can be achieved through simply installing a room enclosing the entry doorway of the greenhouse.

Insect screening – Insect screening allows for adequate ventilation while still maintaining exclusion properties. Screens can be used in both passively ventilated and fan and pad greenhouses by either installing a screen box around the outside fan system or by simply installing material to roof vents. It is important to keep in mind that any size screen mesh will reduce the air flow in the greenhouse. Improper sizing has the potential to burn fan motors or reduce cooling. It is important to follow recommendations from the manufacturer in regards to screen size and surface area covered.

Reflective mulch – Research has shown that reflective mulch in at least a 20 foot wide, continuous barrier from the ventilation air intake end wall. Mulch along the sidewalls may also help repel insect pests. It is recommended that reflective mulch be used in conjunction with screening for an optimal effect.

Chemical and Biological Control – There are a limited number of registered insecticides for thrips control in greenhouses. Some azadirachtin and spinosad containing products are labeled, but are susceptible to resistance. However, various biological controls are available. *Amblyseius cucumeris* and *Amblyseius swirskii* are very effective at controlling thrips larvae, but not adults. It is important to note that *A. cucumeris* should be released over a period of weeks to be effective. When the crop begins to flower, minute pirate bugs (*Orius spp.*) can be released to control adult thrips. Insect-parasitic nematodes in the genus *Thripinema* have been found to parasitize some thrips species. It is important to note that biological controls cannot be used in conjunction with most insecticides.

A series of short videos on these topics can be found at:

http://vfd.ifas.ufl.edu/suwanneevalley/greenhouse_pest_exclusion/index.shtml

Thrips cause significant damage to foliage, blossoms, and fruit and through disease vectoring. It is important to develop an effective IPM strategy that involves exclusion as a first line of defense. Very few management options are available once thrips enter the greenhouse.

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