UNIVERSITY OF MARYLAND EXTENSION

# Greenhouse TPM/IPM Report

**Central Maryland Research and Education Center**
**Ellicott City, Maryland**

**May 26, 2022**

From: Stanton Gill, Extension Specialist – IPM for Greenhouse and Nurseries, Central Maryland Research and Education Center, University of Maryland Extension
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## Heat and Thrips

By: Stanton Gill

The excessive temperatures of May 20 – 22, when temperatures soared into the 90 °F range, made greenhouses unpleasant places to hang out, especially with the high humidity. One other bad thing happened. These warm breezes directed the jet streams up from the south and with it came two insects – potato leafhopper and flower and western flower thrips. Thrips are the bigger problem for greenhouse and cut flower operations. If you are a nursery grower, the potato leafhopper is the big problem.

**As temperatures heat up, monitor closely for thrips**

If you are growing marigolds and they are in flower, they will be a giant magnet for thrips to hang out. We have had growers use marigold plants for placing out the predatory mite, *Amblysieus cucumeris* or even *Orius* to build up their population of thrips predators.

Check thrips prone plants. Since many herbaceous annuals are in full flower right now, thrips are going to concentrate in the flowers of the plants. Do tap tests against white paper to check for thrips.

# Mid-Atlantic Green Roof Science & Technology Symposium

## Green Roof 'R'evolution in a Mature Industry

## July 14-15, 2022

**Edward St. John Learning and Teaching Center**
**University of Maryland, College Park, MD**

**Join UMD staff, students, and researchers to learn about the latest results on green roof scientific research and technological developments.**

**Hear from local, national, and international experts on new research avenues aligning with resilience, social equity, changing climate, biodiversity, & the integration of innovation into standards of practice.**

**Symposium Topics include:**

- **Evolution of a Maturing Industry**
- **Green Roof System Functions - Ecology & Biodiversification**
- **Monitoring for Performance**
- **Resilience and Responses to Climate Change**

**Thursday Evening Networking Social**

**Registration is Open!**
**https://umdgreenroof.eventbrite.com**

**For more information contact:**
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College of Agriculture & Natural Resources | University of Maryland Extension | Department of Plant Science & Landscape Architecture

*In cooperation with* GreenRoof Plants | design green

## Biological Control for Nurseries and Greenhouses Conference

By: Stanton Gill

On June 30, 2022, The University of Maryland Extension and MNLGA have organized a Biological Control Conference that will help you move forward with biological control in your operation. On July 1, we will have a morning session with a live demonstration of using a commercial steam device to control weeds in nurseries. This session on the second day will be hosted at Emory Knoll Farms, Street, Maryland.

We are bringing in speakers from Maryland, across the country, and from Canada to share information on practical biological control options. Registration is $90 for members and $140 for non-members. The agenda and registration link are available on-line.

## Looking for a Couple of Cut Flower Growers Growing Zinnias This Season

By: David Clement, Karen Rane, and Stanton Gill

We are interested in evaluating two new systemic fungicides from Syngenta Company for potential control of bacterial leafspot on zinnias. If you are growing cut stem zinnias this summer and are willing to work with us, please contact David Clement at Clement@umd.edu.

**July 7, 2022 Greenhouse Field Day – Tidal Creek Growers**
**By: Stanton Gill**

MNLGA is working closely with Tidal Creek Growers in developing an on-site Greenhouse Tour and Education Day for greenhouse growers at the Tidal Creek Greenhouse in Davidsonville, MD. The sessions will start with educational stations in the greenhouse. A tour of the greenhouse herbaceous annual and production facility will be conducted in the afternoon. More details on registration will be in upcoming IPM alerts.

## Long Range Weather From NOAA for 2022

By: Stanton Gill

NOAA put out their prediction for the summer of 2022. First off, we will see an average increase of temperature by 1 °F this summer. This does not sound like much, but this is significant. The other long-range prediction is for hotter and drier than normal for the western part of the United States. The East Coast will have a rainier that normal summer. Looks like the use of fungicides will be increasing in 2022 on the East Coast.

## The Moss and the Fiber

By: Andrew Ristvey

There is a lot of history in the development of soilless container substrates. The challenge was, and still is, to find soilless components that provide plant roots an optimal amount of water and oxygen, and do so in a confined space.

Egg-cans and soil. That's what was used to grow container plants 100 years ago, before the development of potting substrates. As we know now, soil in cans is not a good combination for healthy roots. The physics of soil in a container is unlike that in a field. The confined space, along with a soil's small particle size, prevents drainage and creates a saturated, anoxic environment. It was known, even back then, that the ideal containerized root medium should be well drained.

The use of organic components started in the United Kingdom in the 1930's at the John Innes Horticultural Institute with the John Innes Compost mix. The components were both organic material mixed with steamed soil, sand and materials like hoof and horn meal and superphosphate. In the 1940's, the University of California created mixes using various ratios of sphagnum peat moss and soil with specific textural characteristics,

making consistency a problem. In the 1960's Cornell developed the first true "soilless" peat-light substrate which was primarily sphagnum peat moss. The evolution continued with the addition of pine bark. To this day we continue to research new components to repurpose waste-stream materials and help offset the cost and unavailability of sphagnum peat. Many materials are becoming common place in the industry like rice and peanut hulls.

One of the newest materials being used is processed wood fiber. While this material has been studied for decades, it has only come into mainstream horticulture within the past few years and can be seen taking up the slack for sphagnum peat, which is becoming difficult to attain and afford.

A few wood fiber products are presently being added to horticultural substrates. This wood product is made from highly processed yellow pine (loblolly) wood. I have seen this material being mixed with peat at ratios of 30% or more.

**Wood fiber mixed with sphagnum peat (ratio unknown)**
**Photo: Andrew Ristvey**

What's different about this wood fiber product compared to peat moss? One of the first things I think about when working with a cellulose-based material is nitrogen drawdown. Bacteria will consume the cellulose and in doing so use nitrogen. This robs nitrogen from your plants. However, a recent container plant (Petunia) study (Harris et al., 2020) testing a 30% wood-fiber substrate in peat moss showed little need for extra nitrogen during the 7-week experiment, compared to a 100% peat control. The petunia plants in the study did accumulate less nitrogen in their tissues than the peat moss control but showed no growth loss. This indicated that some nitrogen drawdown had occurred, but the fertility regimen kept up with both plant needs and the drawdown. The researchers cautioned that with increasing ratios of wood fiber, more nitrogen may need to be applied. A Maryland grower working with a wood fiber/peat mix has confirmed that they did not need to apply extra nitrogen for their plants.

If a grower chooses to utilize this product and wants to create their own mixes, special equipment may be needed. One U.S. company manufactures and sells this wood fiber product along with the equipment designed to properly mix it and fill pots. The clumpy nature of the substrate makes it difficult to fill plug-trays and small pots. I have seen some very improperly filled pots, which have created issues for the grower's irrigation management. In particular, pots were filled too high and the wood fiber ran over into other pots. This overflow created a problem with the grower's irrigation management. An extra few passes of irrigation was performed and this added to the nutrient content of the substrate, increasing the electrical conductivity.

**Improperly filled containers can lead to problems with irrigation and fertilization.**
**Photo: Andrew Ristvey**

While this wood fiber component has similar water holding and water availability as peat, my advice to growers is to learn how to irrigate this material, as it has very different water infiltration characteristics (less hydrophobic). If you are blending your own peat and wood fiber mix, there is special equipment available to do so. This new substrate component could be an answer to the gaps created by the present peat shortage. It has been shown to be a good substitute component, and we should have reliable supplies into the future, but as with every new product, a learning curve exists.

For more information about wood fiber substrates, feel free to contact me at aristvey@umd.edu.

## Predaceous Mite

While scouting Salvia ‘May Night’ plants at a greenhouse, Heather Zindash, The Soulful Gardener, found an adult of *Phytoseilus persmilis*. There were also eggs by the adult, but it was not possible to be sure of the ID of the eggs.

**Scout for predators as well as pest insects and mites when monitoring greenhouse crops**
**Photo: Heather Zindash, The Soulful Gardener**