e-GRO Alert

Tom Ford
tgf2@psu.edu

Volume 7 Number 37 June 2018

Potting Media Dilemmas & Small-Scale Growers

When growers look back on a successful spring season they often can attribute their success to their employees, their pest management plan, and their plug supplier. Few if any ever credit their potting media supplier, yet the lynchpin for success in any good year can be tied to their potting media. I have worked with the greenhouse industry since the advent of soilless media and I have observed first hand when something goes awry at the manufacturer's level resulting in cropping problems.

In the 1980's before potting media suppliers delivered trailer loads of media with mixed lot numbers we could see an entire crop fail when something in the media was just not right. In some cases it could be linked to elevated soluble salts, elevated iron, excess wetting agent, etc. and in some cases we could never conclusively determine what the causal agent was.

In an effort to mitigate risk many potting media companies opted to provide growers with trailer loads of potting media comprised of mixed lot numbers. Under this operating premise if there were any quality control issues and one specific batch had an issue it would only impact a portion of the crop and not cause a complete crop failure. While this practice truly mitigated risk it kept growers up at night wondering why one section of their pepper and petunia transplants were not growing like the rest.

When a grower contacts an Extension Educator/Agent about a greenhouse cropping problem, we typically head out with an array of meters and equipment to check out the greenhouse and crop in question. While on site we'll check the pH and EC of the media. We'll compare it to the pH and EC of media

where crops are growing normally and to un-opened bales of media in inventory. We'll frequently evaluate the water quality, check the injector operation, and pull plant samples for submission to our various labs at our local Land Grant University. Each of the evaluative practices conducted by the educator are key to discerning the true cause for the observed cropping issues. No one should ever assign blame until a complete evaluation has been conducted and the results have been reviewed.

When we notice a pattern in a greenhouse we will often ask the grower if they know where one bale of potting media started and ended and if the pattern seem consistent with their potting media usage. If a discernible pattern is seen I will often ask the grower if they tracked their potting media lot numbers and if they could link them to specific greenhouse sections or crops. While this a highly recommended but perhaps impossible practice I have never encountered a grower that could link specific crops or greenhouse bench areas to specific media lots.

After ruling out environmental factors. Pathogens, and specific management issues we will typically recommend that the grower contact their media supplier to see if there were any reports of media issues for that growing season. The potting media companies will often send out their local representative to pull samples and to review the growing practices that have led up to the cropping problem. Most media companies use a variety of proprietary materials when manufacturing their media so when a media problem is suspected they are the only entity that can truly evaluate the media and its properties.

When a grower notices that specific cultivars planted in different media under the same fertility program are growing abnormally you may begin to suspect that there is a media issue.

If the media appears saturated, but is actually very dry below the surface there may be a media issue.

When you observe leaf distortion and stunting you are typically not observing a media issue, but a PGR mistake.

When you observe that the peppers on the left that were planted in the 2017 packaged media are lagging behind the pepper transplants planted 4 weeks later in the 2018 media suspect a media issue.

Observed differences in plant growth rates of the same cultivar in potting media from 2016 and 2017 led the grower to believe that there was a potting media issue. Later that spring it was confirmed that there was an issue with the 2017 media.

In 2017 a potting media company made me aware that they were observing issues with some of the growing media that was shipped into my area. While they proactively addressed the issue with the growers that they had on record purchasing the media, many smaller growers purchase their media indirectly though larger neighboring growers and unfortunately they did not get notified. As a result, media packaged for the 2017 growing season was utilized by smaller growers for the 2018 production year resulting in significant, but not necessarily irreversible cropping issues in their operations.

While not a solution to every growing media issue we typically recommend that growers leach heavily with clear water and then start their constant liquid feed program immediately following the leach. Growers that followed this procedure in 2017 and 2018 were able to leach out what was described as a wetting agent issue and salvage their crop. Growers suspecting media issues should work with their local Extension educators and Extension Floriculture specialists to troubleshoot the crop and to make sure that an accurate and thorough diagnosis is being made before taking action.

For additional information regarding commercial horticulture please contact me at tgf2@psu.edu .

e-GRO Alert

www.e-gro.org

CONTRIBUTORS

Dr. Nora Catlin
Floriculture Specialist
Cornell Cooperative Extension
Suffolk County
nora.catlin@cornell.edu

Dr. Chris Currey
Assistant Professor of Floriculture
Iowa State University
ccurrey@iastate.edu

Dr. Ryan Dickson
Extension Specialist for Greenhouse Management & Technologies
University of New Hampshire
ryan.dickson@unh.edu

Thomas Ford
Commercial Horticulture Educator
Penn State Extension
tgf2@psu.edu

Dan Gilrein
Entomology Specialist
Cornell Cooperative Extension
Suffolk County
dog1@cornell.edu

Dr. Joyce Latimer
Floriculture Extension & Research
Virginia Tech
jlatime@vt.edu

Heidi Lindberg
Floriculture Extension Educator
Michigan State University
wolleage@anr.msu.edu

Dr. Roberto Lopez
Floriculture Extension & Research
Michigan State University
rglopez@msu.edu

Dr. Neil Mattson
Greenhouse Research & Extension
Cornell University
neil.mattson@cornell.edu

Dr. W. Garrett Owen
Floriculture Outreach Specialist
Michigan State University
wgowen@msu.edu

Dr. Rosa E. Raudales
Greenhouse Extension Specialist
University of Connecticut
rosa.raudales@uconn.edu

Dr. Beth Scheckelhoff
Extension Educator - Greenhouse Systems
The Ohio State University
scheckelhoff.11@osu.edu

Lee Stivers
Extension Educator - Horticulture
Penn State Extension
Washington County
ljs32@psu.edu

Dr. Paul Thomas
Floriculture Extension & Research
University of Georgia
pathomas@uga.edu

Dr. Ariana Torres-Bravo
Horticulture/ Ag. Economics
Purdue University
torres2@purdue.edu

Dr. Brian Whipker
Floriculture Extension & Research
NC State University
bwhipker@ncsu.edu

Cooperating Universities

Cornell University
Iowa State University
University of New Hampshire Cooperative Extension
Penn State Cooperative Extension, College of Agricultural Sciences
Virginia Tech
Michigan State University
UConn
Purdue University
The University of Georgia
The Ohio State University
NC State University

In cooperation with our local and state greenhouse organizations

Maumee Valley Growers — Choose the Very Best.
Metro Detroit Flower Growers Association
NC Flower Power
Western Michigan Greenhouse Association
Connecticut Greenhouse Growers Association
Indiana Flower Growers Association
lifga
New Hampshire Plant Growers — Quality Garden Centers & Growers
Michigan Floriculture Growers Council
Virginia Flower Growers Association — Since 1954