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## 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



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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.

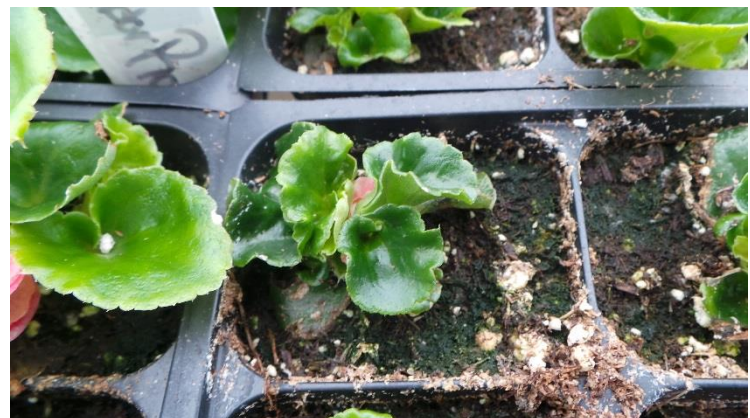
After ruling out environmental factors. Pathogens, and specific management issues we will typically recommend that the grower contact their media supplier to see if there were any reports of media issues for that growing season. The potting media companies will often send out their local representative 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 through 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](mailto:tgf2@psu.edu) .

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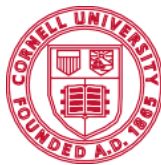
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**In cooperation with our local and state greenhouse organizations**



Metro Detroit Flower Growers Association

