

It Looks Like a False Alarm & an Unusual Challenge



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COMING UP THIS WEEK:

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What's Happening Here?

Sometimes the biggest mysteries are in plain sight. This week's challenge comes courtesy of my backyard. I must admit, I noticed it from afar, but didn't get close enough to see that this was an actual problem developing before my very eyes.





I believe it first appeared last fall on this purple plum tree (although it's not marketed as a perennial, it lives for multiple years, so I haven't broken our perennial code for this newsletter) and was more subtle than its appearance this spring. Here's a closer look:



I can't imagine there are very many possibilities—perhaps insect gull, bacteria, fungal pathogen or maybe a virus. Therefore, I'm guessing the majority of you have already locked in a disease as your final answer, but is it? Yes, it is. Do you know which one?

I'll reveal the answer in a few minutes. Good luck.



Fire Alarm or False Alarm?



I shared these images of Heuchera Fire Alarm that I saw while visiting a grower a couple of weeks ago. If you recall, there were two rows of trays all marked Fire Alarm, however, one row had the appearance of the image on the left while the other row appeared like the plant on the right. Both rows of plants were planted on the same day.

It was also interesting to observe how although there were plants with two different foliage colorations, plants with different colors weren't mixed within the trays; there were entire trays with one leaf coloration and other entire trays with the other.

Next, I asked if any subscribers had similar appearances within their blocks of Fire Alarm. It appears that no subscribers had similar observations. So where does that leave us? Are the plants all the same variety, and if so, why do they appear differently?

Before revealing the answer, I'll tell you something I learned. After reading the last newsletter, Terra Nova Nurseries reached out and we both did some homework. Terra Nova shared that this grower received three tissue culture shipments of this variety from the same laboratory with each delivery being two weeks apart (Week 37, 39 and 41).

There weren't any concerns with the Fire Alarm being different at the time they were received, during propagation or while producing the liners. Therefore, I believe the plants are all Fire Alarm.

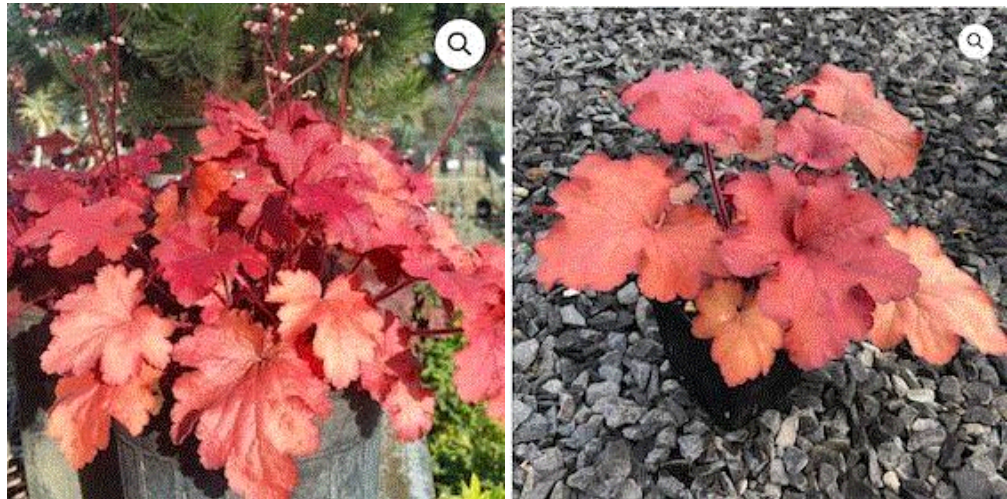
The plants the grower received vary by up to four weeks in age. This may not seem like a lot, but it's reasonable to believe that each group of plants were grown at slightly different fall temperatures and daylengths. Additionally, each group began their vernalization period at different times and had different lengths of the cold treatment before they were planted this spring.

My conclusion is both appearances of this plant are the same cultivar and these differences are mostly attributed to differing environmental factors the various groups were exposed to.



Fire Alarm Part 2

While looking into the coloration differences of Fire Alarm, I noticed several suppliers had images showing different appearances on their websites as well. Here's a couple of them (for anonymity purposes, I'll keep the photo credits to myself).



If you're not already familiar with Fire Alarm, here's an image off of [Terra Nova's website](#).



When comparing Terra Nova's image with those found on other websites, it's pretty apparent that the leaves of Fire Alarm often have different colorations. The newest leaves have the darkest red coloration, whereas the oldest, lower leaves often have a lighter red to orange coloration.

Like many things in life, I believe there are several variables that have affected the foliage coloration of the Fire Alarm I initially share with you. These include genetics, plant age and environmental factors such as temperature, to name a few.

I think the moral of the story is avoid jumping to conclusions when plants don't appear as you'd expect them to. Sometimes it's just as simple as plants being two different ages or where they've been grown. Take the time to ask yourself a few questions first, then if the answer doesn't easily present itself expand your circle and reach out to colleagues and suppliers to seek their experiences and expertise.



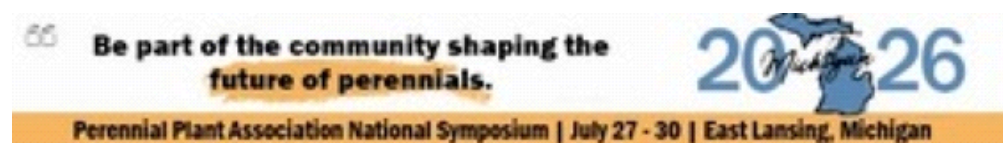
The Answer is ...



I shared these images of a purple plum tree from my backyard and asked if you knew what was causing the numerous black formations on this tree. As I alluded above, there probably aren't many possibilities—perhaps insect galls, bacteria, fungal pathogen or maybe a virus. Then I told you it was a disease and challenged you to identify which disease it was.

I can't think of too many diseases that cause black formations and I certainly wouldn't be able to come up with the scientific names. Black knot, sooty mold and smut diseases are the first ones that crossed my mind. Did you come up with any others?

After you considered the vast number of possibilities (that's sarcasm, of course), if your final answer was black knot, you correctly solved the challenge. If you went above and beyond and answered *Apiosporina morbosa* without looking it up, I'm very impressed and think you're a diagnostic super star.



Some Interesting Facts

While looking into this unfamiliar disease that was causing long, rough, swollen black galls (knots) on my ornamental plum tree, I learned a few interesting tidbits about this disease (*Apiosporina morbosa*, AKA black knot).

- Black knot infects *Prunus* species, such as plum and cherry.
- Spores are released in the spring and carried by wind and infect young shoots or wounded branches.
- The fungus grows within the branch for several months with no outward symptoms.
- As the fungus grows within the plant, it releases chemicals that make the tree grow extra plant cells resulting in galls.
- Galls are made up of both plant and fungal tissue.
- It can take up to one year after infection for galls to be visible.
- The galls turn black and hard two years following infection.

- The galls often completely encircle and girdle the branch causing the leaves beyond the gall to die.



If you see black knot on your trees, I recommend pruning them out to prevent the spread of spores in the spring. After I pruned away the numerous black knots in my tree a couple of weeks ago, I sprayed the tree with a fungicide. Several sources online list thiophanate methyl and chlorothalonil as being effective.

The recommendations are to remove the galls in the late winter and to apply fungicide sprays when the flower buds are just beginning to open. Sprays work best when the temperatures are warmer than 60F (15C) and applied prior to rain events. It's suggested to repeat until the shoots are mature or the weather is warm and dry (following fungicide label instructions, of course).

My email is paul@pace49.com if you have any comments, article suggestions or if you'd just like to say hello.

Best regards,



Paul Pilon

Editor-at-Large—*Perennial Pulse*

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