



Highlights from CAST, and Your Favorite Feature



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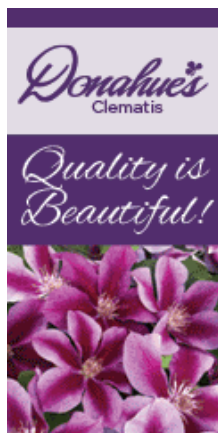
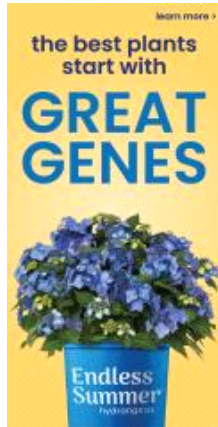
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COMING UP THIS WEEK:

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Perennial PULSE

News and commentary on the global perennial plant market



A Favorite Feature

I find it amazing how many subscribers tell me how much they enjoy the diagnostic challenges I frequently feature in the newsletter. Thank you to those of you who have reached out to share your thoughts. I frequently hear subscribers mention they were successful with the most recent challenge, as well as a few who admit to being close but not successfully diagnosing the featured issue. Thank you for your honesty!



Although being right is awesome, correctly solving these challenges is not as important as learning about an unfamiliar issue or being reminded of a similar situation you may have faced in the past. This is a fun way to test your knowledge while hopefully picking up a tidbit or two you can use in your own growing facilities.

From time to time, I share problems other growers have faced and occasionally even present a challenge and ask subscribers if they have seen the issue to help another subscriber identify and

manage their current situation. This is all done anonymously, of course. Having said that, if you'd ever like to pass along a challenge I can place in a future newsletter, please send it my way (paul@opelgrowers.com).

Thank you for your positive feedback over the years.



What's Happening Here?

Even though we just did a challenge in the last issue, I couldn't mention it without providing a new one here. Take a look at this veronica.



This may seem like a simple challenge for some, while others will likely have a more difficult time with it. Let's see what I can say without giving it away. I've come across this issue numerous times over the years. There are some veronica cultivars that experience it more than others. It often appears very rapidly and is preventable. Are these clues helpful? Do you think this veronica is facing a fertility issue, an insect, foliar nematodes, a plant pathogen or bacterial issue? Or do you think the symptoms are caused by a pollutant or injury following a chemical application? All I can say is one of these clues is the correct answer.

It's time for me to ask, "What's happening here?" Enjoy the next couple of articles and I'll reveal the answer before signing off. Good luck!

A Few Highlights from CAST

Unfortunately, I was unable to attend the California Spring Trials, aka CAST, this year; however, my colleagues from Ball Publishing were there and captured lots of great perennials from the CAST venues. I'll share just a few of them below and will provide lots of perennial introductions featured at CAST in future newsletters.

If your company featured any hot new perennials the Perennial Pulse subscribers would enjoy seeing, please pass them along to me at paul@opelgrowers.com.

Salvia Noble Knight



Dümmen Orange stepped up to the round table with its recent introduction, *Salvia Noble Knight*. This new version of a perennial classic provides lots of notable characteristics, including a full, compact growing habit, large purple to blue blooms, tons of flower power and a long blooming period (upwards of six weeks). Hardy to Zone 3.

Leucanthemum Kilimanjaro



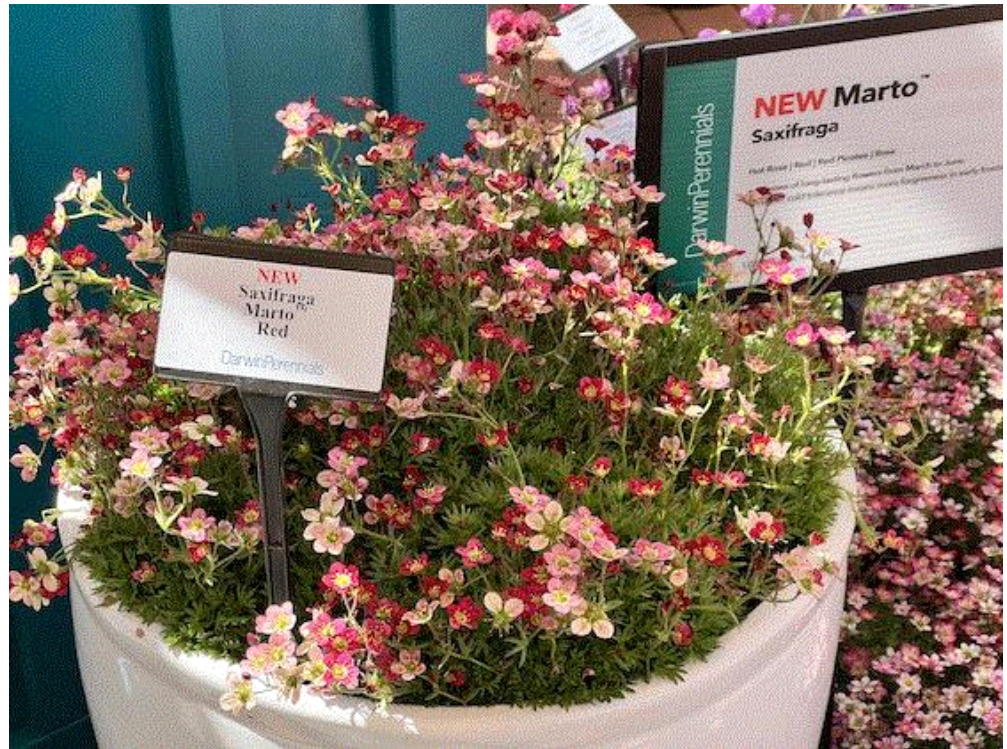
Kilimanjaro is mostly associated with the highest single free-standing mountain above sea level in the world, but now in our industry Kilimanjaro is the world's largest flowering shasta daisy. Kilimanjaro, from Green Fuse Botanicals, has a vigorous growing habit, allowing it to easily fill out large containers. Its mammoth flowers are eye-catching, and daylength neutrality allows Kilimanjaro to be offered any time of the year. Hardy to Zone 5.

Dianthus Electric Dreams



Your landscape and senses will light up with PlantHaven's Dianthus Electric Dreams. As its name suggests, it has electric pink flowers that luminates the plant with a non-stop vivid color display from spring to fall. Electric Dreams may have a compact habit, but it offers tons of electrifying flower power. Bred by the famous Whetman Pinks of the UK. Hardy to Zone 5.

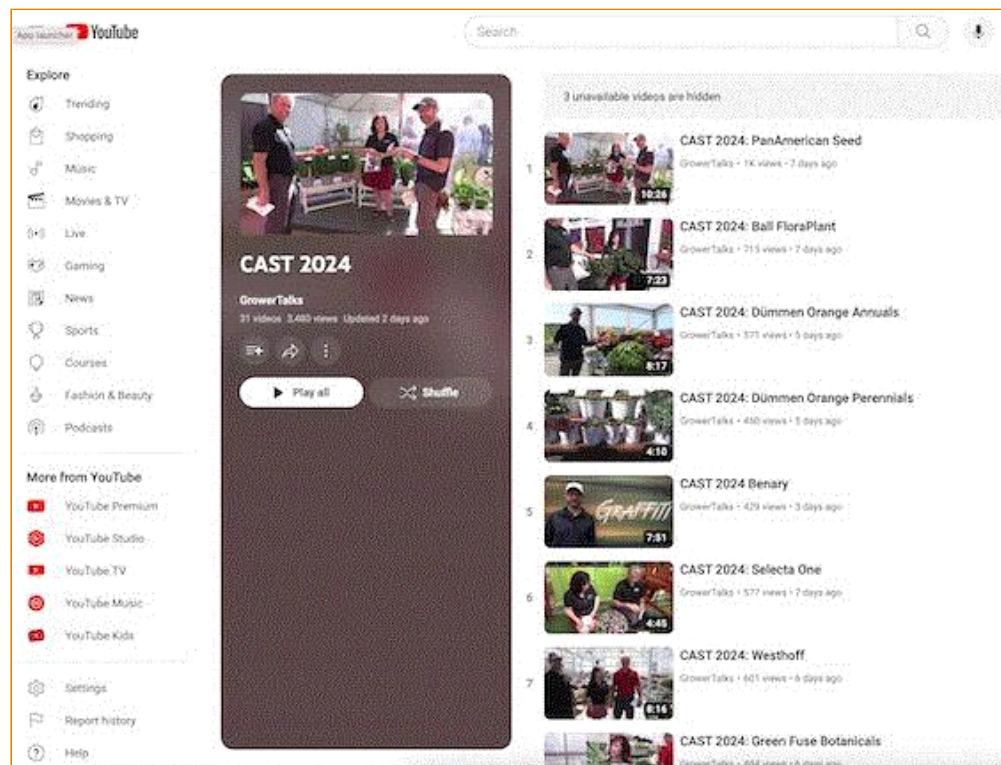
Saxifraga Marto



Saxifraga Marto cultivars are some of the newest additions to Darwin Perennials perennial line. To my knowledge this is the first time they've offered saxifraga. There are currently four cultivars: Hot Rose, Rose, Red and Red Picotee. The Marto series produces masses of colorful flowers and has a long bloom time in the spring. Hardy to Zone 4.

The Complete Overview

If you can't wait to see more upcoming new perennials and annuals featured at CAST last week, be sure to check out Ball Publishing's coverage on their YouTube channel.



[Click here to access all of the CAST videos.](#)

The Answer Is...



I shared this image at the top of the newsletter and asked if you could correctly diagnose the cause of the abnormal appearance on this veronica. Since you can't pick up the above image and turn it upside down to get a closer look, please allow me to do that for you.



Whenever I come across foliar symptoms, I like to look at the undersides of the leaves to potentially find additional clues to help me verify or rule out certain diagnoses. Do you see any clues on the underside of this leaf ?

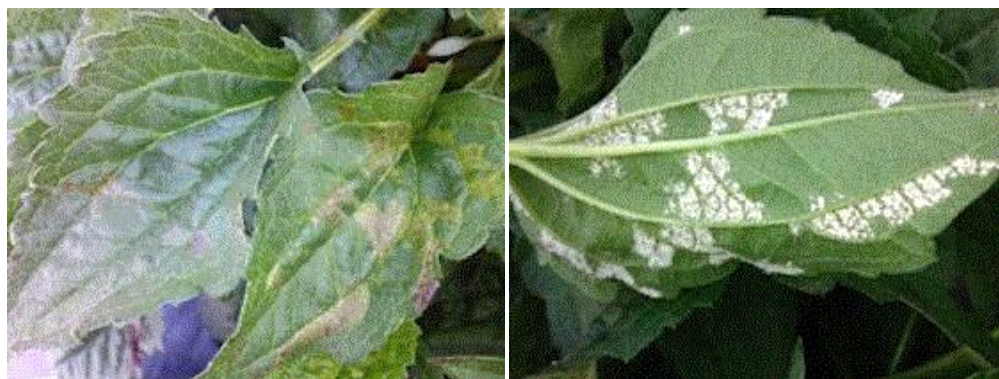
Well-seasoned growers probably already locked in their answers, but I suspect the novice growers in the audience may not have. The correct answer is the symptoms are caused by the foliar plant pathogen downy mildew.

The underside of the leaf does not appear like it often does with downy mildew. If you recall, there is usually sporangia present on the undersides of the leaves directly below the discolored patches on the upper leaf surfaces when downy mildew occurs. I'll show this in the next article.

There is no sporulation on the underside of this veronica leaf. This is normal; the fuzzy sporangia may not be present in all cases. When the sporangia are absent, it does make proper diagnosis a little more complicated, as other problems such as foliar nematodes or bacterial diseases can develop similar symptoms to these (angular patches bound between the veins).

A Deeper Dive

Actually, it's more of a shallow dip.



Here is the typical appearance of downy mildew on rudbeckia.

In general, early symptoms of downy mildew appear as yellow, tan or purplish leaf splotches on the upper leaf surfaces (left). These spots are usually angular and are bound between the veins of the leaf. In most cases where downy mildew is present, there will be brown to white "fuzzy" sporangia on the undersides of the leaf, directly opposite or under the discolored patches found on the upper leaf surfaces (right).

Downy mildew infections most commonly begin with moist conditions and high humidity. A thin film of water on the leaves for more than six hours is sufficient for germination of the pathogen and for the disease to enter the plant. This often occurs with either a morning dew event or with improperly timed irrigation during the early hours of the morning (pre-dawn).

To reduce the likelihood of downy mildew infestations, maintain plants with dry leaves going into the night, increase the air circulation around the crop, and irrigate between mid-morning and early afternoon to allow the leaves to dry as quickly as possible.

Downy mildew can be avoided on susceptible perennials with preventative applications of fungicides. Some of my favorite and most effective fungicides for controlling downy mildew are Micora, Segovis, Segway O and Stature. There are other fungicides that work well preventatively, but this is my go-to or sniper list I use to prevent downy mildew diseases from occurring.

Thanks for reading this edition of *Perennial Pulse*. My email is paul@opelgrowers.com if you have any comments, article suggestions or if you'd just like to say hello.

Best regards,

Paul

Paul Pilon
Editor-at-Large—*Perennial Pulse*

Director of Growing—Opel Growers

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