Finishing Pansies; Phyto Info; URC Challenges

Cultural and Technical Information for Greenhouse Professionals

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TECH ON DEMAND

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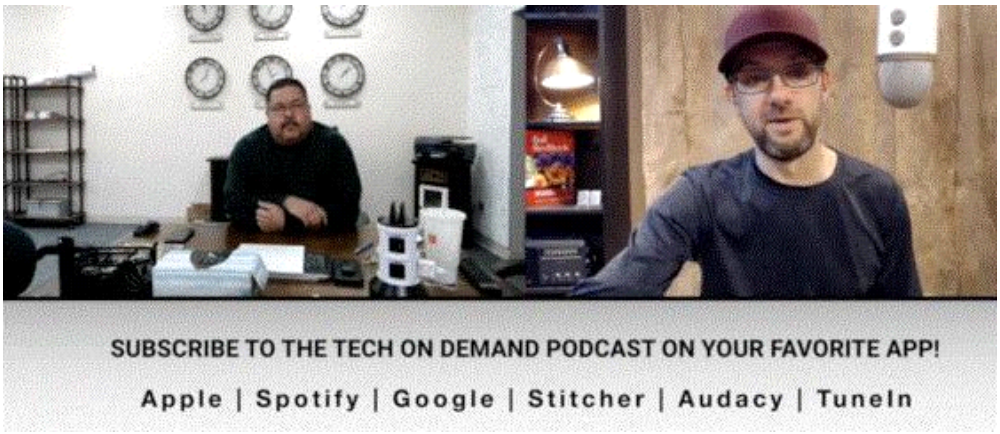
COMING UP THIS WEEK:

Talking 2022
Nick's Tip: URC Challenges
Finishing Spring Pansies
Gerbera PGR Problems
Plant Phytotoxicity
Trending Now: Postiva
Finish Line ...

Talking 2022 with Danziger's Mike Fernandez

Last week, I mentioned my most recent *Tech On Demand* podcast (Episode 34) brought to you by *GrowerTalks*, which covers three important topics, including New Guineas and URC sticking. It's gotten hundreds of downloads, so perhaps you've already listened. If not, I want to make sure everyone has a chance to hear the beginning of the episode where Danziger's Mike Fernandez and I discuss what's going on in the industry right now, heading into Spring.



From the bad (supply chain issues) to the good (overall great quality young plants), Mike shares some of what he's seeing and hearing around the industry. It's a short (about three minutes) excerpt from our conversation that is worth a watch. I figured since we recorded video with the audio, I'd pull out **THIS CLIP**.

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Nick's Tip of the Week: URC Challenges (Part 1)

Each week, I'll work with my buddy Nick Flax, a technical services expert at Ball, to share a concern that's come up during one of his numerous calls with growers across North America. This week, he's offering tips on starting strong with URCs.

PROBLEM: The last two weeks I've written my weekly tips on seed germination issues. Not surprisingly, in the same couple weeks, growers have reported a variety of challenges with unrooted cuttings (URCs), too.

A lot of environmental and cultural factors can influence success or failure when rooting cuttings. Much like in plug production, moisture and temperature management are among the most critical factors to be mindful of in cutting propagation. However, there are some unique things cutting propagators should pay close attention that are not really a concern for plug growers. If rooting URCs is a persistent challenge for you, keep the following in mind next time you're headed to the sticking line. Over the next couple of weeks, I'll cover multiple factors, but let's start this week with good moisture management practices.

NICK'S TIP: Let's begin even before you get started sticking. Then we'll move on to the time of

stick and after sticking so you have the full story by the end of this tip.

Prior to Sticking

If incoming cuttings have desiccated (dried out) somewhat in transit, do what you can to rehydrate them *before* sticking and putting them in your propagation area. Under most circumstances, it's best to stick cuttings ASAP … unless they're dehydrated. If you receive wilted cuttings, place them in a cool, humid environment for at least 24 hours before sticking.

- Equip a cooler with an ultra-fine mist system or fogger and dial the temperature to a few degrees above your cuttings' lowest safe storage temp—40 to 45F is generally a good range, but not all cuttings can tolerate temps this low (such as sweet potato vine).
- The "bag dip" method can also be an effective to rehydrate many genera. Dip opened cutting bags in clear water, drain off the excess, and place in the cooler. Keep in mind that free moisture on unrooted cuttings in a cool environment can lead to disease. If you use this method to rehydrate, apply a fungicide promptly after stick and avoid using this method on genera that are prone to bacterial diseases.

While there are pathogen risks associated with both methods for rehydrating cuttings, the risk of sticking wilted, water-stressed material is much higher. However, sticking dehydrated cuttings is one of the most common reasons why I see URCs fail on the greenhouse bench. Ideally, you'll never receive dehydrated cuttings, but URCs are live goods and stuff happens. Rehydrate whichever way is most feasible for you and do what you can to manage the risk of disease, as this is a far better option than sticking dry, doomed cuttings.

At Stick

- On the sticking line, ensure that your liner media is properly moistened (i.e., not bone-dry but not overly wet) before filling trays. Sticking URCs into too-dry media can start to desiccate cuttings right away and make it difficult to get liners uniformly watered in at the end of the line because hydrophobic, dry pockets of media can form.
- Immediately after sticking, liners should be watered in through a water tunnel, just as you would with freshly sown plugs. Aim to get liner media moisture (mostly) to its ideal level before leaving the sticking line and minimize the need to add much water once they hit the bench.
- Angle your water tunnel emitters so streams are oriented in a "V" pattern rather than a straight-down "|||" pattern. Angled water streams will help push growing media up to the URC stem and ensure better stem-to-soil contact. This will increase rooting speed and reduce the risk of shrink due to stem rot disease, as there will be fewer "caverns" of humidity along the side of the stem.

After Stick

Get freshly stuck liner trays out into the propagation area ASAP. You can do everything right up to this point and still set your URCs up for failure by leaving them on racks too long in an environment optimized for human comfort (pretty much the exact opposite of what URCs need).

- Pay close attention to trays on the top shelf of your racks. While trays on lower shelves will have a humidity buffer due to moist trays above and below them, those on top will bear the brunt of the dry air and air movement in your headhouse.
- If you need to delay moving newly stuck liner trays into the greenhouse, set up a mist or fog staging area to keep URCs from desiccating while they wait.

Start to humidify your propagation area before trays reach the bench. Waiting to turn your mist or fog on until after URCs are set down can cause cuttings to lose moisture rapidly, since they will start to equilibrate with the ambient relative humidity (RH) very soon after entering a new environment.

- If you overcompensate and try to get the RH "caught-up" once trays are set down, you will likely add a considerable amount of moisture to the liner media. Overly wet media will undoubtedly lead to stem rot and other disease issues.

Only add enough moisture to the propagation environment and media to keep cuttings from

wilting. Contrary to the dogma many of us were taught when we first started rooting cuttings, most plants do not actually benefit from free moisture on their leaves through Stage II (stick to callusing).

- Apply mist in the smallest possible water droplet size or use a “dry” or high-pressure fog system to humidify the environment.
- If using larger-droplet size misters, calibrate mist intervals and duration to hydrate, not saturate.
- If you have in-floor heating under benches, you can run drip lines under the bench to help humidify the greenhouse without adding water to trays.

Apply foliar rooting hormone (if needed) and/or a fungicide or bactericide to protect against pathogen pressure within 48 hours after setting down fresh URCs. Be sure to factor the additional volume of hormone/fungicide solution into your media moisture equation, especially if the crop you are rooting does not like having saturated liner media.

- Botrytis is one of the main culprits for breakdown in most propagation scenarios. Be sure to rotate appropriately between FRAC groups to avoid resistance buildup to the chemistries you use.
- For crops with known bacterial disease issues in propagation (such as Hiemalis begonias or poinsettias), be sure to apply an appropriate bactericide shortly after stick. Applying ASAP once cuttings are settled and fully hydrated is advisable—ideally within the first 24 hours.

Finishing Spring Pansies

The Tech On Demand team recently put together a 3-part video series covering pansy production from start to finish. Well, now’s the time to finish them up and ship them in many North American regions, so I wanted to share the third part in the series that’s all about the end of the game. Check out **PANSY FINISHING (PART 3 OF 3)**.

In this video, Dr. Will Healy starts with a discussion of Pansy Mottle Syndrome (what to watch for and how to mitigate the risk) before tackling common grow-out issues. He talks about ways to speed up a crop, as well as strategies to slow your pansies down.

The finishing stage is not a time to deal with disease, so Will talks about prevention and control

tactics. Finally, he offers suggestions for post-harvest prep, with the goal of shipping the best crop possible to your retail and landscape customers.

You'll want to watch all the way to the end of this video and then share it with your production team.

TECH TIP: Gerbera PGR Problems

What's up with these gerbera? The culprit here is the PGR applications, but don't let this scare you off from using PGR on gerbera, when necessary, in the future.

The key to checking growth on gerbera using PGRs without affecting flowering is timing. Depending on the vigor of the series you are growing, daminozide applications between 1,500 and 5,000 ppm can be appropriate. However, you should avoid spraying daminozide once flower buds reach about ¼ to ½ inch in diameter. Spraying with PGRs after this point will likely result in short peduncles and small flowers, like we're seeing here.

Also, gerbera daisies are generally not a crop that you should withhold fertilizer on for very long, but this crop managed to get by without major nutrient deficiency issues popping up. If you accidentally over-PGR your crop, feeding a bit heavier and warming the crop up a bit (albeit not ideal for gerbera on tight benches) is the only good way to break them out of it, so hungrier plants are less likely to start growing again very rapidly.

Phyto Info

This time of year, the phones and inboxes of tech experts across the industry tend to light up 24/7. One of the common calls is about symptoms like browning and yellowing of foliage, stunted plants and even collapse. Then, our industry's CSIs go to work to determine the issue.

One of the more common diagnoses is phytotoxicity, so I thought it would be a good time to share this information from Michigan State University Extension. The experts at MSU cover what phytotoxicity is and how to prevent it in **PLANT PHYTOTOXICITY IN THE GREENHOUSE**.

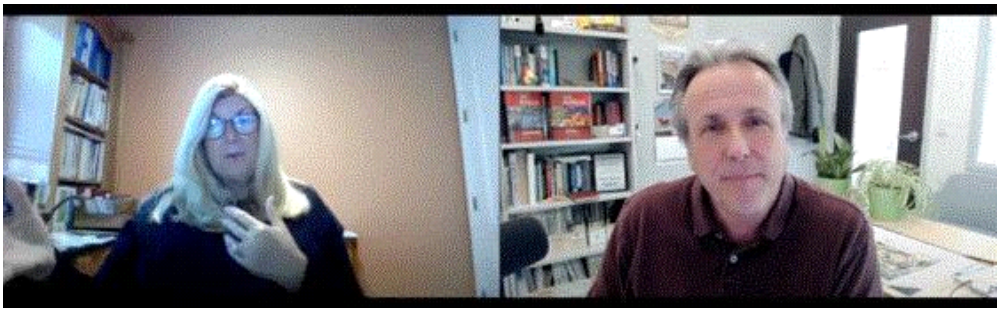
Click the link above for the full report to post and share with your production team. (**Photo credit for the geranium showing phyto symptoms goes to Dr. Erik Runkle at MSU.)**

Here's how the article begins:

Phytotoxicity is simply plant damage—a toxic effect—from something the plant was exposed to. Leaf or flower injury can be caused by a chemical foliar spray or soil drench. Phytotoxicity symptoms may show up as leaf speckling, leaf margin necrosis (browning) or chlorosis (yellowing), brown or yellow leaf spots or patches, leaf cupping or twisting, plant stunting or plant death.

TRENDING NOW: New Fungicide, Postiva

There's been a lot of talk about Syngenta's broad-spectrum fungicide, Postiva, that's formulated with two new active ingredients in a unique combination. Chris Beytes caught up with Nancy Rechcigl from Syngenta to discuss it in **THIS VIDEO**.



In a recent *GrowerTalks article* about reducing disease risk, Nancy stated, “Postiva is a very convenient addition to any grower’s program. It can be applied as a foliar spray or soil drench through various types of spray equipment commonly used for making ground and aerial treatments, including chemigation or through auto cold fogging systems. Plus, once applied, Postiva quickly moves from the leaf surface into the waxy layer, which creates a reliable, rainfast barrier of protection.”

Sounds like this is a product that you’ll want to trial and consider adding to your arsenal.

Finish Line …

Spring fever!

We all talk about it, and in our industry it’s most often associated with excitement to get into the garden center and fill carts with fresh flowers in an effort to break out of the winter doldrums.

For fun, I Googled it. Let’s just say it’s a deep rabbit hole. I learned that “spring disease” has its origins as a medical condition in the 1700s and 1800s, often associated with "…
fatigue, malaise, easy bruising, bone pain, hemorrhaging of the scalp and gums and poor wound healing due to poor food supply and malnourishment in the winter."

Pleasant, huh?

Current science also considers spring fever a real thing because as we move toward spring, our bodies experience positive, measurable biological responses, including more energy. The bottom line is that we want to get outside and exert all that extra energy we didn’t have in the winter. As we all know, this pent-up energy might be bad for teachers trying to control kids in a classroom, but it’s awesome for our industry. I always encourage folks in horticulture to play up spring fever and find ways to include it in their marketing campaigns.

To that end, I’ll close the newsletter this week with a short list of spring fever “symptoms” found on the Accuweather website:

1. Fresh fruits and vegetables are looking more and more like what you want to sink your teeth into and the thought of eating anything heavier may sicken you. Part of this is because many fruits and veggies weren’t in season during winter and part of it links back to our ancestors, whose eating habits coincided with their harvests because they could only eat what was in season.
2. You’re probably sleeping less. From the increased length of days to the decrease in melatonin production levels, you just can find yourself able to rest. Still, you may be feeling lazy, just the kind of lay-in-the-sun-with-a-good-book kind of lazy.
3. The restlessness as well as the need to trim down our body fat tie into this sudden, sometimes surprising, desire to walk, jog or run outside. Children burst from the school at recess, employees use their break time to ride their bike or go for a quick turn about outside, and it all comes back to SPRING!

4. Do you just want to clean, reorganize, and refresh all of a sudden? Spring cleaning is embedded in our cultures, from ancient traditions in China to religious ties to Christianity and Judaism, so if you're wanting to clean, your internal clock is aligned with billions of other people in the world.
5. You are happier. While spring brings allergies and other seasonal ailments, for the majority of people, the change in seasons makes them happier.

Talk to you next week!

Please feel free to send your comments, constructive criticism and topic ideas to me at bcalkins@ballhort.com.

Bill Calkins
Editor - Tech On Demand

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