GROWERTALKS

Columns

4/28/2015

Make It Grow!

Chris Fifo

It's hard for me to believe that my daughter Dalia (yes, I named her after a flower) is graduating from high school this year. In turn, that means my son Jaxen (he's thankful not to have a flower name) is poised to enter high school and I need to have my blood pressure medicine adjusted as he begins driving.

How quickly they've grown. I've thought about these days for a long time and have often wanted to slow them down and savor these years. This spring, I had quite the opposite experience in my plug range. I couldn't make my 288 perennials grow!

Not fast enough anyway. I felt myself getting behind schedule in early February and made some subtle adjustments to temperature and feed, as I normally do. But my normal adjustments didn't work and I slipped further behind schedule until I had the single largest number of backordered 288 trays in a single week of my career.

Is my green thumb turning brown? I've always been able to make my crops grow. My first concern was getting back on schedule, so it was time to make some drastic changes. Then I reviewed my records and compared them to previous years to figure out where I was off.

I started with DLI (daily light integral), since most environmental set points and crop treatments are based on light levels. I track DLI at crop level using Watchdog portable weather stations. Though December was one of the darkest in recent memory, January was actually quite sunny and we melt snow from the roofs by unplugging the double-poly inflation fans, so that wasn't an issue. Regardless, I programmed my lights to be on every day, including my experimental LED lighting area. The more light the better. Make it grow!

With sunshine being prevalent, my feed program had remained unchanged and regular (140 ppm 17-0-17, 8 ppm phosphorous from monopotassium phosphate [MKP], two times a week). Since I can't realistically feed more often during that time of year, one of my options is to change fertilizers. More phosphorous = more growth. I switched to 20-10-20 for general feeding. Make it grow!

My other option is to feed stronger, so I switched to the “purple” line on some crops. Same 17-0-17 feed, but 50% stronger. After three doses of the purple line, I had a few crops get fried! Soluble salts skyrocketed and I had media ECs above 3.5 (SME method)! Oops! Make it die!

The crops weren’t taking up the feed. This led me to my next level of investigation: temperature. “Normal” for me is around 68F day/72F night and a morning negative DIF of 64F. Averaged out it comes to 68 to 68.5F ADT. Checking my computer records, I found I was fairly close to normal based on my 24-hour average graphs. Regardless, I lessened my DIF and turned the day and night temp up 2 degrees. Make it grow!

But my computer graph wasn’t telling the true story—checking the calibration of my temperature sensors, I discovered altogether I was just over 1 degree high, leaving me 1 degree cooler than I should be. This is huge when it comes to a 24-hour average. I also realized my morning DIF was greater than I’d programmed. When my curtain opens in the morning, cold air pours in from above and it takes some time for my furnaces to catch up. To compensate, I open my curtain even slower, giving my furnaces more time to catch up. Make it grow!

Finally, I evaluated my growth regulator program. Many crops receive 1 to 2 ppm Sumagic or 5 ppm A-Rest by day 21 or B-Nine, as necessary. Though I still need this PGR to produce a compact and well-rooted perennial plug, I delayed application by a few days, which allowed just a little more top growth before I slowed it down. Make it grow!

By looking at the big picture of my environment and culture, I was able to make necessary changes to quickly get me back on schedule. Ultimately, after placing a few calls, I discovered there’d been a change in my plug media due to a peat shortage and the new source of fine peat moss was giving me slower growth. If only there were a way to apply this to my kids. Stop growing! **GT**

Chris Fifo is Technical Services Advisor for Swift Greenhouses, Inc. in Gilman, Iowa.