

GROWERTALKS

Paul's Pointers

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Can You Adapt?

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Most growers hate to admit how often things don't go according to plan. Unfortunately, a plan is just that—it's the framework or the initial pathway toward what you would like the outcome to be.

When it comes to growing, a good plan in place doesn't necessarily mean that the desired goals will be accomplished—at least not without a few adjustments along the way. There are so many variables in greenhouse and nursery production that influence how plants grow and alter the trajectory to producing high-quality plants for specific sales windows.

The No. 1 factor that likely comes to mind when it comes to why crops don't grow as intended is the weather. Warmer temperatures and high light intensities tend to make plants grow faster. Conversely, colder temperatures and cloudy conditions can greatly increase production times. There are other weather-related challenges affecting crops, such as excessive rainfall, hail, high winds, and frost or freeze injury when it comes to growing crops outdoors. The weather plays a huge role, but certainly isn't the only factor influencing plant growth, quality and timing.

Watering

Proper irrigation management plays a huge role in plant growth, quality attributes and the occurrence of plant diseases. Growers think they know how important watering is, but many of them underestimate its significance and think about water only as a means of keeping the crops alive. There's a fine line between watering too much or too little. Too much water can delay plant establishment, lead to excessive growth and create conditions favorable for diseases. Too little water also delays plant establishment, reduces plant size, and if the roots become injured from drought damage, can lead to the onset of root diseases.

I've found working with hundreds of growers over the years that they typically irrigate using 50% to 100% more water than is necessary to successfully produce their crops. This excess water isn't necessary and can negatively affect how the crops grow and what problems these growers will likely have to manage at some point.

It's not only important to understand how much water to deliver, but when irrigation is necessary. I prefer to finish irrigating as early in the day as possible. A reasonable goal is to finish watering by 3:00 p.m. on sunny days and by noon during cloudy days. Watering in this manner prevents the leaves from going into the night wet, which is ideal for foliar diseases to develop. When possible, I try to avoid watering on cloudy days altogether.

Proper watering is an art form that takes some skill to do it right. Anybody can water, but can they water properly?

Fertility

Similar to my comments above regarding irrigation, it's important to avoid under- or over-applying fertilizers as well. Most growers recognize the consequences of not providing enough nutrients and have likely experienced nutrient deficiencies at some point.

Many growers don't readily attribute increased establishment times, reduced plant size and longer production times with low fertility levels. However, these negative side effects do occur when crops are under-fed. It often feels good to feed the crops and know that it's being done regularly, but excess—or what I call “luxury fertility levels”—causes too much growth, leading to the need to use growth regulators and to provide the plants with additional space to help manage plant size. If gone unnoticed, excessive growth from high fertility levels will decrease plant quality, may require labor for trimming, increase disease development, and in the worst cases, may result in plants that cannot be sold and possibly even dumped.

I can't possibly cover fertility management in this article, but I encourage you to know what fertility levels the crops you're growing require and take steps to manage within the acceptable ranges to avoid both over- and under-applying fertilizers.

Humidity

Most growers are aware of what humidity is, but many don't fully understand or appreciate how humidity can affect cultural problems and its effects on plant development. Unless you're propagating plants, there are not many (if any) instances where high humidity is good from a production standpoint.

High humidity levels can directly lead to foliar diseases such as powdery mildew. Elevated humidity levels greatly increase the time it takes the foliage to dry after overhead irrigation is applied; this greatly increases the likelihood of diseases, such as Botrytis, downy mildew and other pathogens.

Have you ever realized the effect high humidity has on plant growth? Plants grown under elevated humidity levels experience similar growth responses as they do when they receive excess moisture and fertility levels—they grow lusher and taller.

High humidity levels can really contribute to overly large plants when combined with other factors, such as positive DIF (warmer days than nights), high fertility levels and above-average moisture levels. I've even witnessed a significant reduction with the efficacy of PGR applications when they're applied to crops grown at high humidity levels.

Navigating through these factors

I can think of a few instances this growing season, and even more cases in past years, where one or more of the above factors (weather, water, fertilizer, humidity and so on) didn't go as anticipated, altering the trajectory of our production plans. Good growers may have plans they intend to follow and do what they can to stick with the original plans; many growers are late to recognize problems as they arise and have difficulty getting back on track. Great growers, on the other hand, have the ability to constantly adjust to adversity and production challenges as they arise and continuously find ways of making lemonade out of lemons.

As they say in show business, “The show must go on.” When it comes to growing, every day, week, month and year is different and offers new challenges. Understanding how the seemingly basic simple growing principles can have a significantly profound effect on crops is an important skill to develop and keep at the forefront of how you approach growing crops. Plans will always change—are you willing to adapt and change with them? **GT**

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