

“PUSHING” CROPS TO FINISH ON TIME

As you approach peak ship weeks for spring crops, keep the following strategies in mind to ensure your plants are at peak quality when they hit retail benches. You may need to adjust in order to move crops along quickly—here are some ways to do it successfully.

Finished crops should be about 2 to 3 times the height of the finished container. While it's not realistic to graphically track the progress of crops on your bench in spring, this range is a pretty good estimation of what's considered a commercially acceptable crop at finish.

When your crops are *really* far behind this benchmark and there's only four to five weeks until they hit retail, it's easy for panic to set in.

This is when many growers swing the pendulum too far in the other direction and end up with poorly proportioned plants that lodge and fall apart at retail. Keep the following in mind if you need to catch your plants up as much as possible without overprioritizing finished plant size over quality.

Flower power matters. While a full pot may seem like the best thing, remember that color will get you better sell-through than a 100% full pot. Don't push crops so hard with warm temps and fertilizer that they are mostly vegetative when they hit the retail bench.

Act early. If you think a crop has fallen behind, take steps to get them going now rather than waiting another week or two to see how they're doing. Gentler pushes with fertilizer, increased temperature or GA-based PGRs earlier in the crop cycle will have a better impact on a finished plant's aesthetics.

If your crops are slow to develop, this may be an indication that something's wrong below the soil line—poor root-zone health may be the cause.

- If roots are healthy but poorly developed, establish more-thorough wet-to-dry cycles to encourage roots to push out. It's much easier to push growth with warmer temps and fertilizer on a well-rooted plant.
- If roots show symptoms of disease pressure, work with a diagnostician to identify the pathogen. Then apply an appropriate fungicide to protect plants and encourage new roots to push out. Once roots recover, you can start to push the crop a bit more.

Next, focus on color development. Flower induction is encouraged by different mechanisms across crops, so there's no one-size-fits-all approach to this. Check crop culture sheets from your suppliers for

notes on how to best encourage flower induction and initiation in the crops you produce. Other resources like this Purdue University Extension publication: [Flower Induction of Annuals](#) can help you make decisions on how to encourage color the fastest if there are no signs of buds on your crop yet. In general:

- Maximize light levels as much as possible. Higher light energy accumulation by plants almost always increases the flower count on a finished crop.
- Provide the appropriate daylength. For example, crops like snapdragon will pivot toward flowering quicker under long-day conditions.
- Adjust temperature to control the rate of flower development. If plants are sized-up decently but buds are lagging, increase your greenhouse night temp and keep your day temp the same. This will encourage buds to open faster but not cause vegetative plant parts to jump. Alternatively, if plants are still small *and* buds are lagging, increase your average daily temperature (ADT) but keep your DIF (day temp – night temp) as low as possible. This will keep both vegetative growth and bud development on pace with one another.

Finish with toned vegetative growth. If time to fill your crop(s) out a bit more is running out, make temperature and fertilizer management decisions that encourage toned vegetative growth.

- If you have five to six weeks until crops need to be ready, you have a week or so to push growth with an ammonia- or urea-based fertilizer. These forms of nitrogen can soften up axillary buds and encourage side shoots to push out more rapidly. At the same time, increase your DIF slightly (by a value of ~2 above your current DIF) to help encourage shoot elongation. However, if you overdo it and push too hard with “soft” fertilizers too close to finish, all the buds you encouraged to develop previously might get buried in the canopy.
- If you have three to four weeks left and crops need additional size, increase fertilizer applications for the next couple of weeks, but try to use primarily nitrate-based feeds. This will continue to provide plants with ample nutrients to support vegetative growth, but not encourage soft, lush growth the way ammonia- and urea-based fertilizers do. (**NOTE: Low-pH-loving crops like calibrachoa and petunias are the exception.**) For crops like these, switch from fertilizers like 20-10-20 to formulations with lower phosphorous, like 21-5-20. This will ensure that soil pH stays within an appropriate range and plants still have plenty of mineral nutrients to work with. You could also alternate 21-5-20 with a nitrate-based fertilizer like 15-5-15 to keep soil pH in-line and continue to push toned growth.
- In the last one to two weeks, reduce fertilizer rates to around 150 ppm N and flush the media with clear water at least once before crops hit retail. This will further help tone plants, flush excess fertilizer salts out of the media, and ensure they are not brittle while being handled by customers.

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