

Features

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Getting the Most Out of Trials

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Without a doubt, one of my favorite times of the year in the horticulture industry is the plant variety trial season. There's something nostalgic about spending a hot summer day scrutinizing flowers and vegetables.

For a Midwesterner like me, these trials land in late July through August, but for Southerly readers, this starts as early as June. Swaths of companies and universities alike showcase breeders' latest varieties, while also serving as an unbiased venue to stack them side-by-side against competitors. Of course, this means having a variety that doesn't just look fabulous at retail, but

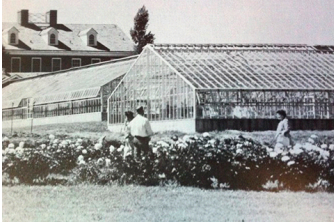
critically, performs well in the customer's garden, as their success is our repeat business. It benefits everyone in the industry to understand what's relevant for consumer success, based on real-world experience.

Row trials showcasing new varieties with Wave Petunias in the foreground at Raker-Roberta's trial gardens in Litchfield, Michigan, in 2024.

Why Do We Have Trials?

Originally with the horticulture boom in the late 19th century, mail order seed companies took it upon themselves to conduct variety trials to ensure they were offering the best varieties in their catalogs. Some of those companies, like Burpee Seeds, were so protective of their breeding evaluations they even had armed guards at their trial sites.

In 1932, the first independent trial organization in North America was established. All-America Selections (AAS, now part of the National Garden Bureau) evaluated varieties across different geographical regions to provide an unbiased, open approach. Land-grant universities also have a rich history of flower trials in the United States—in fact, Penn State University maintains their claim to fame of having one of the oldest operating flower trials in the country, started in 1932 as one of the original trial sites for AAS.



There must've been something in the air at the time because not only were the AAS and Penn State trials getting started, but the first flower trials at Ball Horticultural Company's West Chicago Gardens began in 1933. Other well-known trial universities started later: Colorado State in 1971 at their original Plant Environmental Research Center in Fort Collins, and University of Georgia in 1982 in Athens. AAS and these land-grant universities (along with others) helped to set the foundation for independent, public-facing trials as we know them today.

Penn State's trial gardens at their original trial site in State College, Pennsylvania, circa 1950.
Photos courtesy of Penn State University.

Modern day variety trials—side-by-side comparisons of primarily annuals (along with some perennials, vegetables and even woodies)—take place across an array of institutions in North America. Beyond universities, companies have begun opening the doors to their own personal trial grounds. Many organize annual events centered around visiting the trials, such as the Michigan Garden Tour or Southern Garden Tour (scan QR codes for links).



With so many trialing locations available, it's important to provide a disclaimer: Not all trial sites treat their plants the same. Some give minimal care while others may pamper their plants with extra fertilizer, irrigation and deadheading. Try to get the culture details, if possible, when visiting a site.

Impatiens Solarscape Pink Jewel looked great all the way through the end of summer at Penn State's trial in 2024.

Get Your Bearings

You're out on a hot summer day at your first trial stop, ready to take notes and pictures. What should you look for? First, jot down a few things before getting too distracted.

Location: If you haven't already, record where you are geographically—a Southeast read will be quite different from a Northwest read. Retailers will benefit when considering regionality, as they can tailor their variety assortment to what's best for their customer.

Timing: After where is when—this could be the date, but I personally like to use calendar week numbers (I.e. Week 30 for late July) for easier week counting when comparing plants within the same year or across years. While you're at it, determine when the trials were planted. This helps calibrate you to the consumer experience—what can they expect after so many weeks in the garden? For this reason, consider visiting not only multiple trial sites, but the same trial site more than once to see how plants made it through the season.

Weather: Lastly, I always like to keep in mind what the weather has been like over the trial period—a hot and dry season can lead to more stunted plants, while a wet season could mean larger, leggier plants and/or more disease incidence. Understanding the resilience of a variety to climate extremes will let us equip even the brownest-of-thumbs with tough plants.

FLOWERS

- Flower coverage over canopy
- Flower/inflorescence size
- Flower exposure in the canopy (covered by foliage or well-displayed)
- Cycling or the periodic absence of flowers (species dependent)
- Color
- Senescence (noticeability of dead flowers)

FOLIAGE

- Presence/absence of blemishes
- Yellowing/chlorosis of foliage
- Appearance under low vs. high light (important for variegated or patterned leaves)

HABIT

- Vigor (small, stretched/tall)
- Uniformity (amongst multiple plants)
- Branching (spindly or bushy)

Plant Layout

Let's walk the trials and understand what to look for. Are plants in the ground or containers? The soilless growing media in containers, plus regular irrigation and fertilizer, can lead to quicker plant establishment and may not be indicative of in-ground performance.

Consider how many plants are used per variety. Some trials may have as few as one plant—this is better than none, but multiple plants will be beneficial. Multiple plants provide an estimate of habit and timing uniformity. Also, when issues arise it's helpful to see if it's a shared symptom amongst all individuals, which could be indicative of a fragile or disease-susceptible variety.

For the landscape segment, in-ground multi-plantings give a good estimate of expected area coverage. Lastly, in the case of perennials, they're helpful for providing an estimate of percentage of plants that successfully overwinter. Try to at least capture a photo of all plants in one shot of a variety for your records. Finally, consider the siting—the level of sun exposure and soil type can dramatically vary the plant's appearance.

Plant Attributes

Which attributes to look for will be highly dependent on the species/class in question. Traits vary between species/class, so consider each in their own vacuum. In many cases, you can compare to industry standard varieties, which are sometimes included in the trial itself. In cases where a never-before-seen color or new class is in question, these may be more subjective to the observer and perceived market opportunity. Traits to look out for in annuals could include any of those in Table 1.

Final Thoughts

Considering the different situational aspects like location, layout and timing will allow you to calibrate expectations for the customer experience. Keep in mind that most new varieties that breeders include in summer trials are being promoted for the following spring season. Therefore, you'll have a much easier time sifting through the new catalogs after seeing the plants in-person the previous summer.

Lastly, if you can't make it out to all the trials, fret not. Many universities and companies will publish their trial results online. After your next trial season, if you're like me, you too will grow nostalgic over a hot summer day inspecting flowers. **GP**

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<https://all-americaselections.org/visit-an-aas-display-garden/>

All-America Selections display garden locations.

www.canr.msu.edu/planttour/

Michigan Garden Tour locations.

<https://www.southerngardentour.com/>

Southern Garden Tour locations.