

Key components of a successful perennial program

by Allen R. Pyle

There are as many different ways to grow perennials as there are perennial growers. However, addressing and understanding some key components of a perennial program can help any grower be more successful when growing perennials, regardless of their production system and level of expertise.

Organize, plan, and schedule

Early planning is critical for a successful perennial program. Proper organization and planning will help growers schedule production and determine when to order plugs and other propagules. When it comes to production planning, the earlier the better. Remember there can be long lead times for propagules and that some may have seasonal availability. Seasonality and limited availability is common with cooled or vernalized plugs, vegetative material, newly released cultivars, and recent award winners. Planning at least 3-6 months ahead of when propagules need to be ordered is ideal.

Use both previous experience and the available information on scheduling and finishing perennials as guidelines for planning a production schedule. No two “cookbooks” are identical, and comparing schedules from different sources can help point out the most important factors involved in finishing a given perennial. When estimating a production schedule, consider the type of propagules used, container size, growing temperatures, cooling method (if any), photoperiod, sales window, and cultivar.

Even with the best outside information, however, keeping good records of your own production is a critical step for continued success with perennials. Maintaining detailed production records allows growers to develop unique production schedules tailored specifically to their needs. Taking the time to create and refine customized schedules can be invaluable in future seasons.

Set program goals

Marketing is obviously a complex issue, but the better the match between the goals of a perennial program and the desired market, the greater the potential for success. Rather than trying to be all things to all markets, focus your efforts, especially when getting started with perennial production. Refine and expand your program over time to make it more successful.

Some key areas to address in developing goals for a perennial program are:

- Define your target market(s)
- Define your production goals (off season blooming, green finish sales, etc.)
- Choose container size(s)
- Decide what sales window(s) to target
- Define perennial characteristics which can be marketed or promoted (e.g. butterfly plants, shade garden, native plants, etc.)
- Determine point of purchase information requirements (plant tags, signs, etc.), if applicable
- Set the target pricing

Choose the right perennials

Growers must understand the perennials they grow, and select species and cultivars that meet the needs of their programs. The best choices for a grower producing blooming perennials for a fall gallon perennial program may be significantly different than those for a grower developing a non-blooming 3 inch program for spring sales.

Consider the climate of the target sales region(s), plant hardiness, plant height, season of bloom, photoperiod requirements, cultural needs (including temperature preferences), availability of scheduling information, length of bloom time, and expected customer demand when choosing which perennial species and cultivars to grow. Pay attention to ongoing national and regional perennial marketing efforts, since these promotions can significantly increase demand for a specific perennial. Growers planning to force perennials into bloom must understand the mechanisms that trigger flowering in the specific varieties being grown (see below), and must remember that different cultivars often have very different forcing requirements.

Although there is always demand for new material, it is usually better to evaluate new species and cultivars on a small scale before committing a large proportion of production to an untested item. In addition, growers need to be careful about defining their entire perennial program by what will fit on a shipping cart in bloom. Gardeners want more than just this material in their gardens.

Choose the right propagules

There is no single propagule which meets the needs of all growers or all perennial programs, in all containers, and across all sales windows. The best choice for a given grower depends on the finish container, the production schedule, the level of perennial growing expertise, and the budget.

Small plugs (250 cells per tray or more) are typically the most economical propagules. They are ideal for small finish containers like packs and 4 inch pots. However, growers with a tight budget can use small plugs to fill quart to gallon size containers (multiple plugs per container may be needed), as long as there is sufficient time in the production schedule and the grower is experienced with small plugs.

Medium sized perennial plugs and liners (128 to 72 cells per tray) are flexible, being suitable for finishing in containers from 4 inch to gallon size. They are especially good for inexperienced growers, and can be more forgiving of suboptimal growing conditions than small plugs.

Large plugs and liners (55 to 32 cells per tray) and bare root material are good for large finish containers (gallon and larger), overcoming juvenility, and for growers looking for a fast finish and quick turns. Inexperienced growers may find these large propagules nearly “foolproof” for large containers and ideal for getting their feet wet with perennials.

Cooled plugs and liners, typically available in 128 to 32 cell trays, can be a good option for growers looking to flower perennials. Be aware, however, that vernalization (see below) may not be guaranteed. In general, the larger the propagule before cooling, the more likely it will successfully vernalize. Cooled perennials are ideal for growers who finish perennials under cool (50 to 60° F or less) growing conditions.

Often, as growers’ experience and confidence with perennials increases, they modify their production schedule to use smaller (and more economical) propagules, without affecting finish quality.

Understand the keys to flowering

Although there is currently a great deal of interest in forcing perennials to flower out of season, growers do not have to sell perennials in bloom to be successful. To successfully flower perennials, growers must understand the factors which trigger flowering in the species and cultivars they grow. See the December 1997 and January 1998 issues of *GM Pro* for articles detailing the specifics of scheduling perennials and forcing them into bloom.

Vernalization: Many perennials will not flower unless they go through a cooling period. Plants which flower after receiving a cold period are considered vernalized. Unfortunately, simply cooling a perennial is not always sufficient for successful vernalization. A perennial must be cooled for the proper length of time (typically at least 8 to 10 weeks) at the proper temperature (generally 38 to 41° F or less) to vernalize.

Juvenility: Another critical factor with vernalization is juvenility. Plants must be mature (past their juvenile phase) to respond to a cold treatment. The length of the juvenility period is not fully

understood for most perennials. Juvenility is not just a simple factor of plant age, because plant growth rate varies depending on the container size and growing conditions. In general, the larger a perennial is before cooling, the less likely it is to be juvenile, and the more likely it will be to flower.

Photoperiod: The number of hours of light in a day has an important effect on flowering in numerous perennials. Though some perennials are day neutral and flower under either long or short days, many perennials require long days (typically 14 or more hours of light per day) to flower.

Long day perennials can be forced to bloom when days are naturally short (less than 14 hours long) with artificial lighting. A 4 hour night break lighting schedule (providing light from 10 pm to 2 am) is effective for triggering flowering in a wide range of long day perennials. Any light source, from incandescent to high intensity discharge (HID) lamps, can be used, as long as at least 10 footcandles of light is provided.

Choose the right sales window

Perennial species and cultivars vary in their preferred environment and growing temperature, and some are easier to grow than others outside their preferred conditions. Some perennials prefer cool temperatures and do not grow well in the heat of summer. Others are heat loving, and grow slowly at temperatures under 60 to 70° F.

Generally, perennials which flower in spring are best grown under cool temperatures and typically do not need long days to flower. Good crops for early spring sales windows, when cool temperatures can be maintained, include: *Bellis perennis*, *Delphinium grandiflorum*, *Myosotis sylvatica*, *Papaver alpinum*, *Papaver nudicaule*, and *Primula x polyanthus*. These items perform poorly at 70° F or above, but will generally set bud when grown at 45 to 50° F. Heat loving crops, which typically need long days to flower and generally grow slowly at cool temperatures (below 60° F) include: *Echinacea purpurea*, *Hibiscus x hybrida*, *Rudbeckia fulgida* ‘Goldsturm’, *Rudbeckia triloba*, *Verbascum* species, and warm season grasses like *Miscanthus* and *Erianthus*. Providing long days may help stimulate growth when growing these species at cool temperatures.

Allen R. Pyle (pyleman@perennialguru.com) is Research Team Leader for C. Raker & Sons, Inc. (www.raker.com) Allen holds a bachelor’s degree in Horticulture and a master’s degree in Entomology, both from Michigan State University. He is also certified in Permaculture Design.