With the introduction of the Astary series from Ernst Benary of America, the commercial production of astilbe became more practical for growers. The series consists of the first astilbe cultivars that do not require vernalization for flowering. The flowering is also more predictable, allowing growers to bench run this crop compared to many astilbe cultivars that bloom over an extended time period. There currently are four Astary colors available: 'Astary Pink', 'Astary Rose', 'Astary White' and 'Astary Mix'.

The Astary series forms compact mounds of attractive, fern-like foliage that reaches only 8-10 inches high at maturity. With its height attributes and predictable flowering, the Astary series is suitable for production as a spring-flowering perennial, containerized plant, mixed container component and even as an indoor flowering house plant. In the landscape, plants are widely grown in shade and woodland garden settings where they are utilized as border plants or in small groups and mass plantings. In the early summer, erect to arching plume-like flower panicles rise above the foliage on slender, upright stems. Like most astilbe cultivars, the Astary series can be produced in average, medium wet, well-drained soils in locations with partial shade across USDA Hardiness Zones 4-8 and AHS Heat Zones 8-2.

**Propagation**

The Astary series is propagated from seed in small plug tray sizes ranging from 288- to 128-cell trays. Sow 3-5 seeds per cell, and do not cover the seed with germination mix or vermiculite after sowing since light is required for germination. The seed flats should be moistened and moved to a warm environment where the temperatures can be maintained at 70-75° F for germination. Many growers use germination chambers during this stage to provide uniform moisture levels and temperatures. Emergence occurs over a period of time ranging from 10 to 18 days after sowing. Following germination, reduce the moisture levels somewhat, allowing the growing medium to dry out slightly before watering to help promote rooting. Fertilizers are usually applied once the true leaves are present, applying 100- to 150-ppm nitrogen every third irrigation or 75 ppm with every irrigation using a balanced, water-soluble source. Transplant small plugs into larger sizes, such as 50- or 72-cell trays, for bulking 4-5 weeks after germination. It will generally take 9-11 weeks from germination to produce plugs of transplantable size (for containers) when they are grown at 65-70° F. For production during winter months, provide supplemental lighting and long-day photoperiods to promote growth and maintain crop quality.

**Production**

The Astary series is most commonly produced in 1-gal. or smaller containers. Many commercially available bark- and peat-based growing mixes that have good drainage and a fair amount of water-holding ability work well for astilbe production.

When planting plugs, take care not to bury the growing tip of the plant or flower initiation is likely to be delayed. Planting the crown too deeply also leads to crop variability and losses. Astilbe should be kept evenly moist throughout production. Producing them too dry is likely to cause leaf margins to scorch from water stress and may render them unsalable. When irrigating, water root zone thoroughly and allow substrate to dry slightly between waterings.
"Since our first installation, we have never considered another option. DEGLAS acrylic is our glazing choice." 400,000 square feet of Raker’s 450,000 square foot operation are covered with DEGLAS and built by Rough Brothers.

C. Raker & Sons, Inc., located in Michigan, specializes in the production of high quality plugs and liners, through seed and vegetative propagation. Their first installation of DEGLAS acrylic was in 1985.

"DEGLAS High Impact Acrylic offers us consistent high light quality" explains Tim Raker. “It has also proven itself in terms of weatherability and impact resistance in our extreme winter months. Our acrylic greenhouses are very energy efficient when compared to other glazing products.”

With DEGLAS’ patented NO-DRIP® condensation control technology, tender seedling crops are safe, and the Raker’s operation is protected from loss.

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During production, the media pH should be maintained between 5.8 and 6.5. The series consists of moderate feeders requiring a controlled-release fertilizer incorporated at a rate equivalent to 1 lb. nitrogen per cubic yard of growing medium or 75-125 ppm nitrate delivered under a constant liquid fertilizer program.

They are sensitive to high salts and may become scorched and have damaged roots if the soluble salt levels are allowed to build up. Monitor the soluble salt levels routinely and leach them out with clear water if the EC rises above 2.0 using a 2:1 extraction method. With its compact growing habit, the Astary series does not usually require height control if grown with adequate spacing between plants. When grown under high plant densities, plant height can be controlled by applying B-Nine (daminozide) at 2,500 ppm or Sumagic (uniconazole) at 5 ppm to the foliage as the plant canopy begins to enclose or once the inflorescences begin to elongate. A single application will often provide adequate control without altering the overall appearance of the plant.

Insects And Diseases
Astilbe are not susceptible to many insects or plant pathogens. Aphids, spider mites and whiteflies are most prevalent. None of these pests require preventative control strategies. There are only a couple of diseases associated with astilbe production. Crown rot caused by Fusarium or Phytophthora is likely to occur when crops are overwatered or if the growing medium has insufficient drainage. Growers should have routine scouting programs to detect the presence of insects and/or diseases early and determine if and when control strategies are necessary.

Forcing
One of the greatest benefits of the Astary series is the ability for growers to produce flowering plants predictably year round. Unlike other astilbe cultivars, the Astary series does not require vernalization for flowering and will easily flower without receiving a cold treatment. Vernalization can be provided safely if desired, but it does not affect the flowering process. Some growers prefer to plant astilbe in the mid to late summer to promote bulking and increase the flower number during spring forcing following an overwintering period (the flower number increases due to the size of the plant and is not increased as the result of receiving a cold treatment).

For the most optimum production, it is best to produce them under warm temperature regimes with an average temperature of 68-72°F. Temperatures below 65°F will increase the production time necessary to reach flowering.
Although they are considered to be day-neutral plants, flowering will occur slightly faster under long-day photoperiods. They can be successfully forced into bloom using natural photoperiods or by creating long-day photoperiods. While forcing during naturally short days, it is beneficial to provide long days using night interruption lighting.

To determine the time necessary to reach flowering, growers can simply count the weeks since germination. In most instances, the Astilbe Astary series will flower in 20-23 weeks without vernalization. For example, when transplanting a plug 12 weeks after germination into a 5-inch container, it will take 8-11 weeks to produce a flowering plant. Growers should allow slightly longer to produce flowering plants during the winter months. Plants that have been overwintered will flower in approximately 10-12 weeks after the start of forcing.

Availability

The astilbe Astary series is available to the industry as seed, plug or finished container. The seed is supplied by Benary, www.benary.com, and is available through many seed distributors. Plugs can be acquired from many perennial plug producers or plant brokers. Finished containers may be purchased from many reputable companies across the country.

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