

The Possibilities Of Penstemon

With new varieties behaving more like annuals than perennials and a much improved habit, this crop is ready to make a splash.

**By Suzanne Falkenstein
and Harvey Lang**

By consistently improving varieties, plant breeders have been able to refine and reinvent some species. These old standbys have been transformed from troublemakers to industry sweethearts, from plants no one wanted to grow to ones they can't keep in stock. To show the potential of these emerging crops, *GPN* is running a 6-part series detailing each crop's transformation and some tips for success.

January: Lobelia
February: Penstemon
March: Euphorbia
April: Salvia
May: Hellebores
June: Phlox hybrids

Penstemon offer a colorful show that should not be underrated. Typically thought of as perennials, they have received a lot of attention from breeders lately. Recent developments include larger and showier blooms, a longer flowering season and behavior that resembles annual color.

Most of the newer penstemon have bushy, upright growth habits with eye-catching spikes of color, bringing height (up to 2 ft.) to gardens and containers. Although penstemon flowers don't generally have a significant fragrance, the plants do attract hummingbirds and are deer resistant.

Commonly called the summer snapdragon, penstemon are being bred for exceptional heat tolerance, suiting them for hot, sunny locations. Gardeners can enjoy this unique flower all summer in landscape beds and large, upright containers. Newer annual-type penstemon, while not hardy, can tolerate temperatures close to freezing and get through early, cold spring nights.

One of the biggest improvements for penstemon is the capability to flower the first year. This means that many of the new penstemon not only look like annuals but behave like them as well. Many of these new varieties will fit neatly into production schedules designed for annuals, making them a must-try genus with lots of potential.

Varieties are now available in both seed and vegetative forms, and each form has advantages and disadvantages. Since seed has been around longer and is more familiar, we will focus on vegetative culture. There may still be unique requirements for some of the new seed types, so check with your supplier before starting production of a new crop.





Receiving/Rooting Cuttings

Open penstemon shipments immediately upon arrival to provide good air circulation. It is ideal to stick the cuttings upon arrival; however, if this is not possible and you need to store them overnight, keep the temperature at about 40-42° F and the boxes open. Cuttings that are left in closed boxes, especially under warm conditions, can develop yellow leaves and Botrytis shortly after sticking.

With good, warm bottom heating (70-72° F), roots will emerge in approximately two weeks. Penstemon, generally, do not need rooting hormones if warm rooting temperatures are provided. Preservation of cutting quality is dependent on how quickly cuttings are stuck into the propagation media and the proper mist cycles are started. Performing a little extra work in the beginning will prove well worth it when your crop grows uniformly with little surprises.

The main diseases to watch for in propagation are Botrytis leaf mold and Pythium fungal root rot (after roots form). To reduce Botrytis infections, watch your mist cycles and don't flood the cuttings. Pulling more shade (less than 2,500 foot-candles) and reducing the amount of mist on the cuttings helps reduce disease. Spraying appropriate fungicides a few days after sticking also helps control Botrytis. Adding a spray adjuvant to the fungicide spray can improve the effectiveness of the chemical and allow better water uptake into the foliage. After about four weeks, cuttings should be fully rooted and ready for transplant. They can be pinched now or after transplant.

Finishing The Crop

There are several types of potting media on the market that are appropriate for penstemon, but make sure you select a porous blend that drains well. Transplant liners directly into the finish container with the rooting cube placed slightly below the level of the

Top right: Penstemon 'Phoenix Magenta'. Top left: Penstemon 'Phoenix Appleblossom'. (Photos courtesy of Fischer USA) Bottom: Penstemon digitalis 'Mystica' (Photo courtesy of Ernst Benary of America)

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Penstemon smallii 'Violet Dusk' (Photo courtesy of PanAmerican Seed)

container. Planting too shallow (plug above soil line) will promote excessive drying and wilting despite a moist environment. Penstemon are upright plants, and planting too shallow can also cause some problems with plant stability. Dribbling the container media before transplanting makes the job go quicker and can help reduce damaging of the fragile roots during transplanting.

Although penstemon can be grown in a range of upright containers, they can get rather tall and are better managed in 5-inch or larger pots. If plants haven't been pinched in propagation, then most varieties should be given a light pinch about 7-10 days after transplanting to encourage branching and make a bushier, fuller plant.

Most penstemon are moderate feeders and generally require about 200 ppm nitrogen at every irrigation. Maintaining an electrical conductivity (EC) reading in the media of approximately 2.0 is usually sufficient for healthy growth. Maintain the pH at about 5.8-6.2. We have noticed that some penstemon are prone to high pH and iron deficiency. To correct the deficiency, keep media pH levels under control and drench periodically with iron sulfate or iron chelate at a rate of 4 oz. per 100 gal.

Penstemon require high light intensities and moderately warm temperatures (65-70° F daily average) for healthy growth and abundant flowering. Avoid overly wet and cold conditions immediately after transplant or you could lose some plants to fungal root rot.

Some of the newer annual types do not appear to be day-length sensitive, rather they are light accumulators. That is, the more light and higher the light intensity, the better the flowering and growth. This is not true of all penstemon, however, so pay careful attention to day-length requirements.

Many penstemon varieties are vigorous growers and will need chemical growth regulation throughout the production cycle. They appear to be responsive to a range of plant growth regulators. Sprays of Sumagic (Valent USA) at 5-10 ppm or B-9 (Chemtura Corp.) plus Cycocel (OHP, Inc.) combinations (2,500 ppm + 1,000 ppm, respectively) work well. Under the warm temperatures often experienced during late spring or early

Crops To Watch

Ball FloraPlant
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P. digitalis 'Mystica'

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Phoenix series

Hishtil Nurseries
www.hishtil.com
P. spectabilis
'Raven' and 'Snowstorm'

summer, several applications of PGRs may be needed.

With everything done right, most first-year-flowering penstemon produced as annuals in 5- to 6-inch pots will finish in about 11-12 weeks. Expect slightly longer times for 1-gal. and larger containers. After the plants get planted into the landscape, they should flourish and continue to flower throughout the season.

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