PERENNIAL SOLUTIONS

Penstemon x mexicali Carillo Series

By Paul Pilon

New breeding gives growers a reliable series of easy-to-grow, first-year flowering penstemon available in two striking colors.

Photos: Ball Horticultural Co.

Penstemon, also known as beard tongue, puts on spectacular displays of color in the late spring to early summer. Originally landscapers were faced with two types of penstemon: those that grow best in cool, dry climates while others were adapted to hot arid regions. However, breeding efforts have combined the best penstemon traits into cultivars that tolerate a wider range of growing conditions.

Penstemon x mexicali Carillo is the result of breeding from Kieft-Pro-Seeds and offers growers a very reliable series of easy-to-grow, first-year flowering perennials. This series currently consists of two colors 'Carillo Rose' and 'Carillo Purple'. They produce attractive, dark-green leaves and are well branched and compact reaching 8 to 10 inches tall by 10 to 12 inches wide in the landscape. In the early summer, each of these cultivars produces cheerful displays of tubular, white-throated bell-shaped flowers of their respective colorations.

The Carillo series is suitable for production in USDA Hardiness Zones 5 to 9. It performs best when grown in sunny locations with well-drained soils.

In the landscape, these low-growing perennials are ideal for edgings along the front of borders or for using in mass plantings. Once established, they have good drought tolerance. Gardeners commonly use penstemon to lure butterflies and hummingbirds into their gardens. Beard tongue is also well suited for mixed containers or patio pots.

The Carillo series has numerous characteristics commonly sought by commercial growers including first-year flowering, few cultural problems, compact growing habit, showy flower displays and extended bloom times. With their great characteristics, ease of production and strong garden performance, *Penstemon x mexicali* 'Carillo Purple' and 'Carillo Rose' both received Fleuroselect Novelty awards.

Propagation

The Carillo series is propagated from seed. Sow three to four seeds per cell in 288 or larger sized plug trays. Do not cover the seed with germination mix or vermiculite after sowing as light is beneficial for germination. After sowing, moisten the trays and move them into a warm environment, where the temperatures can be maintained at 65 to 68° F for germination. Keep the media moist, but not wet, during germination (moisture easily observed on the surface). The germination percentage and rate can be improved when they are germinated inside a germination chamber where uniform moisture levels and temperatures can be maintained.

The seeds should be germinated in three to six days after sowing. Once germinated, continue providing temperatures of 65 to 68° F until the true leaves are present, then reduce them to 60 to 65° F. Following germination, reduce the moisture levels somewhat, keeping the media surface wet to the touch, but not saturated. As the plugs become more developed, allow the growing media to dry slightly between irrigations; avoid both excessive watering and drought. Fertilizers are usually applied once the true leaves are present, applying 100-ppm nitrogen with every irrigation, using nitrate-nitrogen sources with low phosphorus levels. When the plugs are grown at these temperatures, they are usually ready for transplanting in six to eight weeks.

Production

Carillo penstemon is suitable for production in small container sizes (1-quart to 1-gallon). Beard tongue performs best when it is grown in a slightly dry to moist, well-drained medium with a slightly acidic pH: 5.8 to 6.4. Most commercially available peat- or bark-based growing mixes work well, provided there is adequate drainage. When potting, the plugs

should be planted so the original soil line of the plug is even with the surface of the growing medium of the new container. Planting them too deeply will lead to crop variability and losses.

Penstemon does not tolerate overly wet growing conditions. When the root zones remain waterlogged, they tend to get root rot pathogens, which can quickly lead to crop losses. In containers, growers should also avoid keeping them overly dry (however, established plantings in the landscape are fairly tolerant of drought). When irrigation is necessary, water them thoroughly, then allow the soil to dry slightly between waterings.

They require moderate amounts of nutrients. Growers using water-soluble fertilizers either apply 150- to 200-ppm nitrogen as needed or feed with a constant liquid fertilization program using rates of 75- to 125-ppm nitrogen with every irrigation. Use sources containing nitrate-nitrogen, and avoid sources derived primarily from ammoniacal nitrogen. Controlled-release fertilizers applied as a topdress onto the media surface using the medium labeled rate, or incorporated into the growing medium prior to planting at a rate equivalent to 1.0 to 1.25 pounds of elemental nitrogen per yard of growing medium is also an effective method of delivering nutrition to penstemon.

With the compact growth habit of the Carillo series, it is usually not necessary to control plant height. Spray applications of daminozide (B-Nine or Dazide) at 2,500 ppm or the tank mix of 2,000 ppm daminozide and uniconazole (Concise or Sumagic) at 3 ppm can be used to effectively tone the plants as needed.

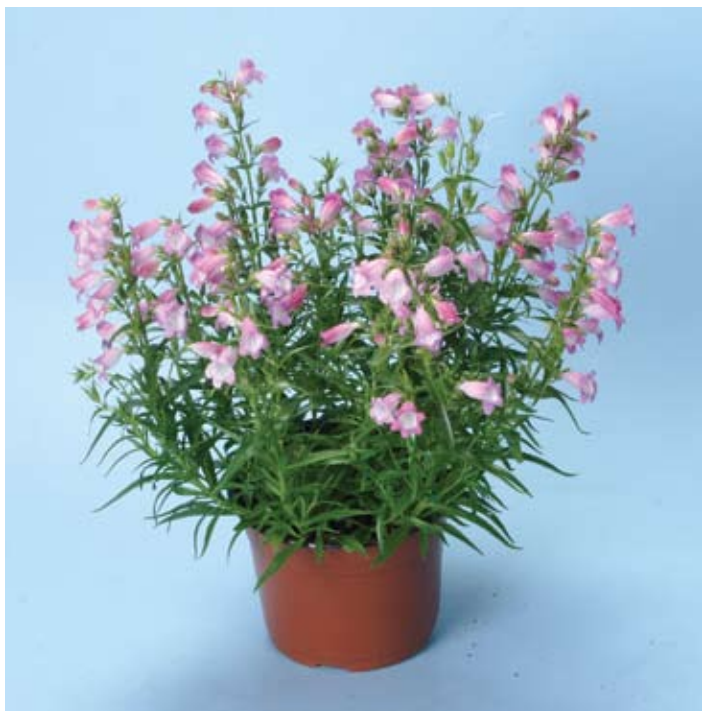
Insects and Diseases

Penstemon can generally be produced relatively free of insects and plant pathogens. Aphids, spider mites, thrips and whiteflies may appear on occasion, but usually do not cause significant injury to the crop. Several plant pathogens including crown and root rots, leaf spots, powdery mildew and rust have been observed attacking penstemon under certain circumstances. Of these pathogens, crown and root rots are the most prevalent and can often be avoided with good irrigation management (avoiding both overly wet and overly dry growing conditions). Growers should monitor penstemon regularly to detect the presence of insects and diseases early and to determine if and when control strategies are necessary.

Forcing

Being a first-year flowering perennial, the Carillo series is easy to schedule and force into bloom.

They do not require vernalization for flowering and can be pro-



duced into flower from seed the same growing season they are to be marketed. However, there are no negative effects of providing a cold treatment prior to forcing.

Pinching is not necessary, but can be used to produce plants with better branching and more flowers per plant. Growers should note that pinching is best when done early in the crop, such as one week after transplanting, and will result in three to five weeks of additional production time (add three to five additional weeks to the grow times listed below).

Penstemon x mexicali Carillo are day-neutral plants that will flower under any photoperiod and can be forced into bloom under natural day lengths. Although the length of the day does not influence the time to flower, I find that penstemon bloom faster and produce more flowers per plant when they are grown under high light intensities.

The time to bloom after transplanting is a function of temperature. Penstemon 'Carillo Purple' grown at 68° F 24-hour average will take 12 weeks to flower after transplanting, while plants grown at 63° F will flower in 14 weeks. 'Carillo Rose' takes slightly longer to produce into flower; in general allow approximately one additional week of production for this cultivar.

Availability

Penstemon x mexicali Carillo series is available to the industry as seed from Kieft-Pro-Seeds (www.kieftseeds.com) and plugs can be acquired from your Ball Horticultural sales representative (www.ballhort.com). g

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