

Penstemon Missionbells

(*Penstemon hybrida*)

Propagation

Choose a well-drained medium with an EC of 0.8 to 1.00 mmhos and a pH of 5.8 to 6.2.

Stick cuttings the day of arrival if possible. Otherwise, store at 45°F for not more than 18 hours before sticking.

Soil temperature should be maintained at 70 to 72°F (21 to 24°C) until roots are visible.

A rooting hormone basal dip of 500 ppm can be applied to promote early, uniform rooting.

Mist at moderate to high levels for the first 24 hours to rehydrate cuttings. Use a low mist setting after this period.

Begin fertilization with 50 to 75 ppm N 10 days after stick.

During root development maintain moderate moisture levels in the soil. Avoid saturation of media. Penstemon will root slowly if rooting media is kept too wet.

Pinching once in the propagation tray at 28 to 32 days after sticking will promote a well-branched finished plant.

Rooted cuttings should be ready for transplanting 35 to 42 days after sticking.

Growing On to Finish

Media

- Use media with good aeration and drainage.
- Prefers a medium that is high in organic matter.
- A pH of 5.8 to 6.2 is optimum.

Temperature

- Nights: 55 to 60°F (13 to 15°C)
- Days: 60 to 70°F (15 to 19°C)
- Temperatures below those recommended will slow plant growth significantly.
- An average daily temperature of 65°F (17°C) is optimal, but plants will tolerate a wide range of warm temperatures.
- Penstemon do not require vernalization for flowering.

Light

- Will perform best under moderate to high light levels of 5,000 to 8,000 f.c. (50,000 to 80,000

Lux).

- Penstemon are considered a long-day plant. Natural flowering occurs when day length exceeds 14 hours.
- Finish Penstemon outside under full sun conditions for best quality.

Watering

- Media should be allowed to dry slightly between watering and never saturated. However, plants should not be allowed to wilt at any time.
- Leach regularly to avoid the buildup of high soluble salt levels.

Fertilizer

Use a balanced fertilizer at a rate of 150 to 175ppm. Periodic use of a calcium-based fertilizer should help optimize the nutrient levels.

Pinching

Plants should be pinched once in the propagation tray and again within two weeks after transplanting to create very full plants.

Controlling Growth

Under most conditions, will not require growth regulator treatments. Plants will respond to B-nine at 2,500 ppm if growing conditions cause stretch. Bonzi sprays of 5 ppm have also shown to be effective.

Common Problems

Insects: Aphids, Spider Mites

Diseases: MissionBells Penstemon are naturally Powdery Mildew-resistant. Pythium can be a problem if overwatered.

Problems: Plant collapse

Causes: Plants grown in saturated media for extended periods of time (Pythium); Rooted cuttings transplanted too deeply

Problems: Excessive vegetative growth and lack of flowers

Causes: Excessive ammonium-based fertilizer; Over-fertilization under low light conditions; Low light and over-watering; saturated media

Problems: Yellowing of young foliage

Causes: Saturated media

Problems: Foliage necrosis

Causes: High soluble salts in media; Excessive water stress; Pesticide application

Crop Schedule & Uses

(Crop Schedule in Weeks. Spring planting is recommended)

1 PPP* 1-qt. (10-cm) pots

Unrooted cutting Not Recommended

Rooted cutting Not Recommended

1 PPP* 1-gal. (15-cm) pots

Unrooted cutting 15 - 17 weeks

Rooted cutting 10 - 12 weeks

3 PPP* 2 to 3-gal. (25 to 30-cm) pots

Unrooted cutting 17 - 19 weeks

Rooted cutting 12 - 14 weeks

*PPP: Plants per pot

