Partybells™ Penstemon
Culture Guide

*Penstemon hartwegii*

- Naturally dwarf habit required little to no PGRs
- Easier to grow for mass market, high density production
- Compact habit with short flower spike allows for cart racking and shipping efficiencies
- This regional perennial known for its incredible flower power that thrives in hot, dry conditions is best for California, southern and Sunbelt states
- Attracts loads of hummingbirds and butterflies with its bright colors and nectar-rich blooms!

**Container size:** Quarts, gallons, 2 gallons  
**Habit:** Upright mounding  
**Selling Season:** Late spring to summer  
**Vernalization:** Not required; first-year flowering

**Garden Specifications**

- **Garden height:** 14–18"  
- **Garden width:** 8–12"  
- **Light:** Full sun  
- **Natural blooming season:** Summer  
- **USDA Hardiness Zone:** 6–9  
- **AHS Heat Zone:** 9–1  
- **Product use:** Landscape beds, containers

**Germination**

- **Germination time:** 5–7 days  
- **Media temperature:** 68–73 °F (20–23 °C)  
- **Chamber:** Optional  
- **Light:** Not required for germination  
- **Seed cover:** Seeds may be covered with a thin layer of vermiculite.

**Young Plant Production**

**TEMPERATURE:**

- **Day:** 64–68 °F (18–20 °C)  
- **Night:** 64–68 °F (18–20 °C)

**LIGHTING:**

- **Recommended day length:** Long days  
- **Light intensity:** 2,000–3,000 foot candles (400–600 micro mols)

- **Day length response:** Facultative long day  
- **Daily light integral:** Greater than 10 mols/day  

- **Media pH:** 5.4–5.8  
- **Media EC:** 0.5–1.0 mS/cm (saturated media extract)  
- **Fertilizer:** 50–100 ppm nitrogen  
- **Pinching:** No  

- **Moisture level:** After radical emergence, alternate media between wet (level 4) and moist (level 3). Alternate between moisture levels wet (4) and medium (2). Allow media to dry back to level (2) before re-saturating to level (4).
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Plant growth regulators (PGRs): If needed, spray B-Nine® (daminozide) PGR at 1,500–3,750 ppm or Bonzi® (paclobutrazol) at 3–5 ppm.

Plug grow time: 5–6 weeks for a 288-cell tray
Tech tips: Grow plugs at cool temperatures once germinated for best quality.

Finishing

TEMPERATURE:
- Day: 64–68 °F (18–20 °C)
- Night: 64–68 °F (18–20 °C)
- Average daily temperature: 64–68 °F (18–20 °C)

LIGHTING:
- Recommended day length: Long days; provide either day length extension to 13 hours or 4-hour night interruption.
- Light intensity: Greater than 4,500 foot candles (900 micro mols)
- Day length response: Facultative long day
- Daily light integral: Greater than 15 mols/day

Media pH: 5.4–6.0
Media EC: 1.0–1.5 mS/cm (saturated media extract)
Fertilizer: 150–200 ppm nitrogen
Pinching: No

Moisture level: Use porous media with good drainage. Alternate moisture levels 4/1. Keeping the media constantly saturated will promote fungal root rot.

Plant growth regulators (PGRs): If needed, spray applications of Bonzi at 10–15 ppm or Sumagic® (uniconazol) at 5 ppm are effective. PGR applications are more effective if applied early in the crop cycle.

Pests: Aphids, thrips, fungus gnats, spider mites
Diseases: Botrytis, Pythium, Rhizoctonia, Thielaviopsis Root Rot, INSV (Impatiens Necrotic Spot Virus), Cercospora
Tech tip: Provide long days and 68 °F (20 °C) ADT for fastest flowering and finishing.

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### Scheduling

<table>
<thead>
<tr>
<th>Container size</th>
<th>Crop time after transplant (wks)</th>
<th>Plants per pot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 quart</td>
<td>11–12</td>
<td>1</td>
</tr>
<tr>
<td>1.25 to 2.5 quart</td>
<td>11–12</td>
<td>1–2</td>
</tr>
<tr>
<td>3.0 quart to 2.0 gallon</td>
<td>11–12</td>
<td>3–4</td>
</tr>
</tbody>
</table>

Estimated finish crop time is from transplant of a 288-cell tray and finished at an average daily temperature (ADT) of 65 °F (18 °C) and under a DLI of at least 12 mols/day.

**EXAMPLE CROP SCHEDULE FOR 1-QUART POTS**

**Day 1**: Sow one seed per cell into 288 or similar plug tray.

**Week 2**: Lower temperature to 64 °F (18 °C) ADT once cotyledons have expanded.

**Week 4**: PGR spray of B-Nine to tone plugs if needed.

**Week 6**: Transplant 1 plug per pot for quart pots and finish at 65 °F (18 °C) ADT.

**Week 12**: PGR spray of Bonzi or Sumagic if needed to tone.

**Week 17–19**: Finish

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**Partybells™ Red Penstemon**

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