ZONE HARDINESS
4 – 9 (5 – 9: Happy Jack® Purple)

NUTRITION
pH: 5.8 – 6.2
EC: (2:1 extraction method) 0.6 – 0.9
Low fertilization is recommended. 100ppm – 150ppm N

TEMPERATURE for forcing from liners
Forcing/Growing on: 58 F Night — 66 F Day
Holding: 40 F Night — 50 F Day
If the plants are started too warm, top growth will outpace root development. Run cool to match development speeds. Once plants reach a saleable size, they can be moved to a frost protected open environment with good air movement.

WATERING
Moderate to Moist: Best if planted in well-drained soil. Water thoroughly without oversaturating, keep moist during root development, allow soil surface to dry before watering after the crop is rooted to the edge of the pot.

TIMING
28 Liner to True 1 Gallon: 8 – 10 weeks with one plug per container. A typical planting date for spring forcing would be Week 10 for finishing in Week 18 – 20. If a larger size is desired, we recommend planting these in the fall and doing additional bulking prior to dormancy. Planting a 28 count liner into a 2 – 3 gallon and bulking in the summer is also a great way to finish a larger high-quality spring crop.

Quick Turn™ Liner to True 1 Gallon: 6 – 8 weeks with one plug per container. A typical planting date for spring forcing would be Week 12 for finishing in Week 18 – 20.

Quick Turn Liner to 2 – 3 Gallon: Planting a Quick Turn liner into a 2 – 3 gallon container and bulking in the fall is also a great way to finish a larger high-quality spring crop.

VERNALIZATION
A cold treatment is required on Clematis.

PLANTING:
Clematis perform best when planted in a well-drained, porous growing medium.

When growing shrubs we recommend using an aged or composted pine bark-based media as opposed to an annual growing mix that traditionally tend to be heavier in peat. Bark adds weight and stability to the growing mix and tends not to compress and shrink over time thus adding the longevity that can be needed on long-term crops such as shrubs.

LIGHT/LIGHTING
During early spring forcing, plants should be given as much light as possible. Crops should be grown on a trellis and spaced such that they do not intertwine.

TRIMMING/PINCHING:
Depending on the variety, Clematis will bloom on new wood, old wood or both. A crop grown on a trellis or other support structure will need little additional pruning, but can be trimmed back to stay within bounds of a trellis system.

<table>
<thead>
<tr>
<th>Flowering Wood</th>
<th>Flower Timing</th>
<th>Prune</th>
<th>Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>Late Summer/ Early Fall</td>
<td>Prune lightly in spring leaving 3’</td>
<td>“Viva Polonia”, “Sweet Summer Love”</td>
</tr>
<tr>
<td>Old and New</td>
<td>Late Spring/Early Summer</td>
<td>Prune in early spring as new growth begins (18” – 24”) leaving at least 2 of the most healthy buds</td>
<td>Brother Stefan®, Happy Jack®, Madame Maria®, Pink Mink®</td>
</tr>
</tbody>
</table>

GROWTH REGULATORS
Trimming and pruning are used mostly on Clematis to control plant height. Cultural practices such as good air movement in an open environment can help control plant height and assist in finishing a high-quality crop.