

Growing Guide for: Greenhouse Transplants
Crop: Pepper
Botanical Name: Capsicum annuum
Average Seed Count 3,000 sds/ounce 105 sds/gram
Seed Forms Raw Untreated, Raw Treated, Primed*
 *Subject to lead times & minimums

GREENHOUSE PLUG PRODUCTION

Approximately 5 weeks (288 cell tray)

25d vs.29-40 28-38

STAGE 1: GERMINATION & RADICLE EMERGENCE

6-8 Days

Use disease-free media & barely cover seeds with medium vermiculite; light is not necessary for germination.

pH: 5.5 – 5.8

EC: < 0.5 mS/cm

Humidity: 100% until radicle emergence, then 40-50%

Media Temperature: 70-80°F / 21-27°C

Moisture: level 5 (saturated) until radicle emergence, then water to level 4 (wet).

STAGE 2: STEM & COTYLEDON EMERGENCE

6-8 Days

Place trays in well-ventilated greenhouse.

pH: 5.5 – 5.8

EC: .75 – 1.0 mS/cm (at first true leaf stage)

Media Temperature: 70-75°F / 21-24°C

Moisture: Alternate between levels 4 and 3 (moist).

Light Levels: 1000-2500 fcs

Fertilizer: Begin feeding approximately every other watering with a well-balanced calcium/potassium nitrate-based formulation at 50-75 ppm N.

STAGE 3: BULKING STAGE

8-10 Days

pH: 5.5 – 5.8

EC: .75 - 1.0 mS/cm

Media Temperature: 70-75°F / 21-24°C

Moisture: Water up to level 4 and dry to level 3

Light Levels: 1500-2500 fcs.

Fertilizer: Drench approximately every third watering with a well-balanced calcium/potassium nitrate-based formulation at 100 ppm N.

STAGE 4: TRANSPLANT OR PLUG SHIPPING STAGE

8-12 Days

pH: 5.5 – 5.8

EC: .75 - 1.0 mS/cm

Media Temperature: 65-68°F / 18-19°C

Moisture: Water up to level 3 and dry to level 2 (medium)

Light Levels: 1500-2500 fcs.

Fertilizer: Drench with a well-balanced calcium/potassium nitrate-based formulation at 100 ppm N, if needed.

Note: Monitor closely for transplant or shipping readiness and, if needed, reduce media temperatures to 62-65°F / 17-18°C to hold plug trays for a few days.

GROWING ON (FINISHED PRODUCTION)

Approximately 4-18 weeks, depending on finished pot size and variety. (See 'Scheduling' chart below)

pH: 5.5 – 6.0

EC: 1.0 - 1.25 mS/cm

Media Temperature: 70-75°F / 21-24°C

Moisture: Water up to level 3 and dry to level 2

Light Levels: 2500-5000 fcs.

Fertilizer: Drench with a well-balanced calcium/potassium-nitrate based formulation at 100 ppm N, every second or third watering. Excess fertilizer rates or applications at this stage can both reduce and delay flowering and fruit set.

Note: Maintain a high relative air humidity. Allowing plants to dry out at this stage can cause immature fruits to shrivel.

SCHEDULING

Container Size	Total Crop Time	Finished Product
606 cell pack	6-8 weeks	Sold green
4 inch / 10 cm.	8-10 weeks	Sold green
6 inch / 15 cm	10-14 weeks	Sold with immature fruit (may require staking)
1 gallon / 4 liter	14-20 weeks	Sold with mature fruit (requires staking for shipping)

OTHER TIPS

- **Plant Height Controls:** The use of chemical plant growth regulators (PGR's) is not recommended on pepper plants. Excessive growth can be controlled, however, through environmental means:
 - Day/night temperature differential (DIF) – Beginning in Stage 3 of plug production, plants can be grown with a zero or negative DIF (day temperature = or < the night temperature) to control height.
 - Light intensity – Lower light intensity will cause plants to stretch, so maximizing light levels through proper management of greenhouse roofing and addition of supplemental lighting will provide height control.
 - Nitrogen manipulation – Reducing or withholding nitrogen availability during portions of the watering/fertilizing regime will slow plant growth if needed.
- **Common Greenhouse Diseases:** Bacterial Leaf Spot, Gray Mold, Powdery Mildew and Tomato Spotted Wilt Virus can be problems in greenhouses. Good sanitation (through disinfecting and sterilizing equipment and materials) and proper growing culture (like rogueing diseased plants and monitoring greenhouse humidity levels) will aid in keeping plants healthy.
- **Common Greenhouse Pests:** Aphids, Thrips, Whiteflies: Regular, often, and careful inspections for pests are essential in becoming aware of infestations early. Since chemical control choices are more limited for greenhouse use, integrated control measures should be implemented before pest populations become too large.

- **Container Sizes:** Sakata Home Grown offers both sweet and hot pepper varieties that are appropriate for sale in varied pot sizes. All varieties can be grown as young plants in cell packs and 4 - 6" pots for customers to transplant into their gardens. They can also be grown in quart or gallon pots (some with fruits beginning to form) for later garden planting.

Larger decorative 10-16" patio pots can be planted with single specimens of our more vigorous varieties and supported by a cage or stake. The varieties with a smaller stature can be planted with multiple plants per pot in larger containers, or used in mixed containers with other vegetables, herbs or flowering ornamentals.

For more information on specific varieties, visit our website at www.sakatavegetables.com.