

# Cutting Time™ Program

## Sunrita® Gaillardia Production

*Callused Cutting (CC) Direct Stick –  
Quart Finish*

### PROPAGATION

#### PROPAGATION OF CC IN FINAL CONTAINER (Approximately days 1 – 7)

**Day 0:** Start in clean area free of algae, fungus gnats and shore flies. Water pots the day before sticking to maintain a moisture level of 4. Ensuring that only the top three-quarters of the media is wet will result in good aeration, minimal losses and quick rooting of the cutting.

**Day 1:** Direct stick CC. Apply enough mist regularly throughout the day to get leaf tissue hydrated. Ideal root media temperatures are between 70 – 72°F (21 – 22°C). After sticking, spray cuttings immediately with CapSil® spray adjuvant at 2 – 4 oz/100 gal to improve water absorption into the leaf tissue. Rooting hormone is not necessary with CCs.

**Day 2 – 6:** Use a light misting as needed, and evaluate every 45 – 60 minutes depending on conditions. Avoid severe wilting of the CC. Automatic mist systems are useful but are not needed if cuttings are checked regularly. Shade cloth can be used to achieve less than 2,000 foot candles (6 mols/day) to reduce mist frequencies. Covering cuttings with Reemay® fabric or plastic at night will help to reduce stress. Daconil Ultrex® or Heritage® fungicides can be sprayed for foliar disease prevention. Apply Citation® insect growth regulator or Exhibitline™ sf beneficial nematodes for control of fungus gnats. Reapply as needed.

**Day 6:** CCs should be rooting into growing media. Light misting can likely be eliminated. Test several plants with a “tug” to evaluate development. If rooting starts, remove any shade cloth that might be used and apply first fertilization at 150 ppm N using a Cal-Mag™ fertilizer formulation (15-5-15, 14-4-14, etc.).

### FINISHING

#### FINISHING (Approximately days 7 – 63)

**Day 7 – Sale:** Increase fertilization rate to 200 – 225 ppm N using a Cal-Mag formulation (15-5-15, 14-4-14, etc.). Continue fertilization, alternating with a clear-water leach every fifth irrigation. Maintain media pH at 6.0 – 6.3 and EC between 2.0 – 2.5 mS/cm using a saturated media extract (SME) method.

Provide long days greater than 13 hours to hasten flowering and reduce crop time. Light levels should be >15 mols/day (4000 foot candles) with air temperatures ideally between 70 – 75°F Day and 65 – 68°F Night (21 – 24°C Day and 18 – 20°C Night). Cooler temperatures between 65 – 70°F Day and 55 – 60°F Night (18 – 21°C Day and 12 – 15°C Night) can be used two weeks after planting.

Maintain irrigation moisture levels between wet (level 4) to dry (level 2). Scout weekly for aphids, mites, thrips, fungus gnats, shore flies and diseases such as INSV, TSWV, Septoria leaf spot, powdery mildew and fungal root and stem rots (Sclerotinia, Pythium, Rhizoctonia and Thielaviopsis). If necessary, spray with Endeavor® insecticide for control of aphids and whiteflies, or drench with Flagship® insecticide for broad-spectrum control of insect pests. Use Avid® miticide/insecticide in rotation with other registered products for spider mites, thrips and whitefly control. Apply Palladium® fungicide, Daconil Ultrex (not on blooms) or Heritage on a 7 – 14 day interval for control of foliar diseases.

**Day 14:** Apply a preventive drench of Subdue Maxx® fungicide at 1 fl oz/100 gal plus Medallion® WDG fungicide at 1 oz/100 gal.

**Day 17 – 20:** Give a soft pinch to remove any flower buds and to promote branching. If growth regulation is needed, spray Bonzi® plant growth regulator at 20 – 30 ppm or drench with Bonzi 3 – 4 weeks before shipping at 3 – 4 ppm depending on temperatures.

**Day 27 – 29:** Media analysis: send samples to analytical lab and adjust fertility regime based on results (fertilization can be increased to 250 – 275 ppm N if needed). Maintain media pH at 6.0 – 6.3 and EC between 2.0 – 2.5 mS/cm using a SME method. Plants will begin to demand regular and sufficient irrigation. The Sunrita® series produces large root systems and uses relatively large amounts of water. Growth control can be achieved with moderate water stress.



Sunrita® Scarlet Halo gaillardia callused cutting at stick (left) and three weeks after stick (right).



Sunrita® Burgundy gaillardia callused cutting direct stuck into final container. Photo taken 8 weeks after stick.

**Day 41 – 44:** Media analysis: send samples to analytical lab and adjust fertility regime based on results. Maintain media pH at 6.0 – 6.3 and EC between 2.0 – 2.5 mS/cm using a SME method.

**Day 56 – 63:** Ready for sale.

## LINER PROPAGATION OF CALLUSED CUTTINGS

### PROPAGATION OF CC IN LINERS (Approximately 1 – 21)

**Day 0:** Water liner media the day before sticking to ensure good moisture level (level 4).

**Day 1:** Stick CC into liners. Apply enough mist to get leaf tissue hydrated. The ideal rooting media temperatures are between 70 – 72°F (21 – 22°C). After sticking, spray cuttings immediately with Capsil at 2 – 4 oz/100 gal to improve water absorption into the leaves. Rooting hormone is not necessary with CCs.

**Day 2 – 6:** Light misting as needed, and evaluate every 45 – 60 minutes depending on conditions. Avoid severe wilting of the CC. Automatic mist systems are not needed. Shade cloth can be used to achieve < 6 mols/day (2,000 foot candles) to reduce mist frequencies. Daconil Ultrex or Heritage can be sprayed for foliar disease prevention. Control fungus gnats with Exhibitline sf or Citation. Reapply as needed.

**Day 7:** CCs should be rooting into growing media. Regular light misting can be eliminated. Remove any shade cloth that might be used and apply first fertilization at 150 ppm N using a Cal-Mag formulation (15-5-15, 14-4-14, etc.).

**Day 8 – 21:** Increase fertilization rate to 200 ppm N using a Cal-Mag formulation (15-5-15, 14-4-14, etc.).

Provide long days greater than 13 hours to hasten flowering and reduce crop time. Light levels should be >15 mols/day (4,000 – 7,000 foot candles) with temperatures ideally between 70 – 75°F Day and 65 – 68°F Night (21 – 24°C Day and 18 – 20°C Night). If plants are rooting out adequately, they may be given a soft pinch to remove flower buds and to promote branching.

Inspect plants weekly for aphids, mites, thrips and diseases such as INSV, TSWV, Septoria leaf spot and fungal root at stem rots (Sclerotinia, Pythium, Rhizoctonia and Thielaviopsis). If necessary, spray with Endeavor for aphid control. Use Avid in rotation with other registered products for control of spider mites, thrips and whiteflies. Apply Palladium fungicide, Daconil Ultrex (not on blooms) or Heritage on a 7 – 14 day interval for control of foliar diseases. Apply Heritage plus Micora® fungicide via drench rotated with Subdue Maxx plus Medallion WDG as necessary to prevent root diseases.

 **GoldFisch® Vegetative**

**syngenta** flowers

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