

Helianthus

Sunfinity® Double

Culture Guide

Helianthus annuus

Product form: Vegetative

Containers: 2.5–3 quart, 1.5 gallon and larger patio containers

Habit: Upright

Garden Specifications

Garden Height: 28–36" (71–91 cm) tall

Garden Width: 24–28" (61–71 cm) wide

Exposure: Full Sun

USDA zone: 4–11

AHS zone: 12–1

Sunfinity®
Double Yellow

Propagation of Unrooted Cuttings

Root emergence: 6–8 days

Rooting hormone: Recommended. An overhead heavy spray to the cuttings (penetrating the rooting media) using water-soluble K-IBA at 250–300 ppm 24–48 hours after sticking can hasten rooting.

Bottom heat temp: 70–74 °F (21–23 °C) for the first two weeks. After roots are well developed, temperatures can be lowered to hold and tone the cuttings.

Misting: Mist schedules vary depending on light and temperature conditions. Apply just enough moisture to rehydrate the cuttings and keep them from wilting. Cuttings should be hydrated and in a non-wilted stage within 24 hours after sticking. Cuttings that continue to wilt heavily after 24 hours will callus unevenly and will be delayed in rooting. CapSil® (spray adjuvant) can be sprayed on the cuttings at a rate of 2–4 oz/100 gal within 1–2 days after sticking to help in rehydration of the cuttings. Misting should be significantly reduced after 3–4 days and after cuttings become fully hydrated. Applying too much mist early on can lead to significant Botrytis infections on vegetative sunflowers.

Recommended tray size: 105-cell tray (30 mm) or larger.

Propagation timing: 3–3.5 weeks for a 105-cell tray; add more rooting time for significantly larger tray sizes.

Temperature

Day: 72–74 °F (22–23 °C)

Night: 70–72 °F (21–22 °C)

Lighting

Day extension lighting: Necessary to 14 hours.

Light intensity: Provide 200–250 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ for the first two weeks after sticking or until root development occurs. Light levels can be increased up to 600 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ as rooting increases and the cutting matures.

Day length response: Facultative long day

Daily light integral (DLI): 4–6 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ for the first two weeks after sticking or until root development occurs. DLI can be increased to greater than 12 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ after root formation.

Media pH: 5.8–6.2

Media EC: SME EC: 1.5–2.1 mS/cm, PourThru EC: 2.3–3.2 mS/cm

Fertilizer: Begin fertilization at 100 ppm nitrogen when roots become visible. Rates can be increased up to 200 ppm nitrogen after roots become well developed. Use primarily Cal-Mag® (calcium nitrate + magnesium nitrate) fertilizers in propagation to prevent unwanted stretch.

Pinching: Not recommended

Plant growth regulators (PGRs): Sunfinity® Double sunflower has good vigor and generally will need chemical growth regulation in propagation. To control growth after rooting, sprays of B-Nine® WSG (2,500-3,500 ppm) are usually sufficient. For all sprays listed above, the mist should be off for a minimum of one hour for the PGR to absorb into the leaf tissue. Bonzi® (paclobutrazol) media spranches at 0.5–1.0 ppm at 2.5 to 3 weeks after sticking can be applied to maintain control of internode growth.

Finishing

Temperature

Day: 70–72 °F (21–22 °C)

Night: 66–68 °F (19–20 °C)

Average daily temperature: 69 °F (20 °C)

Lighting

Day extension lighting: Beneficial to 14 hours

Light intensity: 800–1,200 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$

Day length response: Facultative long day

Daily light integral (DLI): 14–16 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$

Transplanting: Transplant directly into the finished container. Place the rooting media slightly below the level of media in the container. Make sure that the root ball is covered and that the liner is situated in the center of the pot.

Media pH: 5.8–6.2

Media EC: SME EC: 1.5–2.1 mS/cm, PourThru EC: 2.3–3.2 mS/cm

Fertilizer: 200–250 ppm N

Pinching: Optional

Plant growth regulators (PGRs): Sunfinity® Double sunflower has good vigor and generally will need chemical growth regulation. Sprays of B-Nine® WSG (2,500–5,000 ppm) or Sumagic® (20–30 ppm) can be used to control growth. Bonzi® (paclobutrazol) drench at 1–2 ppm at 3–4 weeks after transplanting; if needed Bonzi drench at 1–2 ppm to hold size at finish.

Tech Tip: For earliest flowering, provide long days, high light levels, and warm temperatures. Preventive fungicide applications for powdery mildew are recommended, especially in high humidity environments. Palladium®, Micora® and Segovis® fungicides have all been effective at suppressing pathogens. Insecticides, such as Avid®, Mainspring® and Flagship®, are effective.

Moisture level: Media should be allowed to dry between irrigations. Alternate between moisture level 2 and 3.

2 - MEDIUM: Soil is light brown in color, no water can be extracted from soil, and soil will crumble apart.

3 - MOIST: Soil is brown in color, strongly squeezing the soil will extract a few drops of water, and trays are light with no visible bend.

Common pests: Aphids, spider mites, thrips, whiteflies, caterpillars

Common diseases: *Botrytis*, *Pythium*, *Rhizoctonia*, *Thielaviopsis*, powdery mildew, downy mildew, rust

Scheduling

SIZE	CROP TIME	PLANTS PER POT
1.25 to 2.5 quart (5.5 to 6.5 inch, trade gallon)	7–8 weeks	1 ppp
3.0 quart to 2.0 gallon (7.5 to 10 inch)	7–8 weeks	1–2 ppp
2.5 to 6.0 gallon planter (12 to 14 inch)	9–10 weeks	2–4 ppp

Estimated finish crop time is from transplant of a 105-cell tray and finished at an average daily temperature (ADT) of 69 °F (20 °C).

Example crop schedule for a 2.5 quart

WEEKS FROM TRANSPLANT	DESCRIPTION
1 week	Provide average daily temperatures of 69 °F (20 °C) and DLI levels above 15 $\text{mol}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$. An optional pinch could occur when they are rooted into the pot.
2 weeks	Apply preventative fungicides and insecticides.
3 weeks	Sprays of B-Nine® WSG (2,500–5,000 ppm) or Sumagic® (20–30 ppm) can be used to control growth.
6 weeks	Evaluate plants and apply a Bonzi® drench at 1 to 2 ppm to maintain compact, controlled growth. Drop temperature if needed to help control growth.
8 weeks	Finish



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