

TECHNICAL GUIDE

Gaillardia x grandiflora Arizona

Flowering

Flowering Type: FastraX perennial – first year flowering plants without vernalization. Facultative long day plant. Long days above 13 hours and high irradiance promote flowering.

Flowering Mechanism: Flowering is affected by day length. A day length > 13 hours results in flower initiation. High light intensity and warmer temperatures shorten the total crop time.

Plug Culture

Germination: Provide optimum conditions for seedling development beginning on the day of sowing until radicle emergence. Expect radicle emergence in 7–10 days.

Cover: Cover the seeds lightly.

Sowing Method: 1 seed per plug.

Media: pH 5.8–6.2; EC 0.7–1.0.

Temperature: Maintain 20–22 °C (68–72 °F) until radicle emergence. Afterwards, maintain 18–20 °C (64–68 °F) day and night. When roots reach the bottom of the cell, reduce to 16–18 °C (60–64 °F).

Moisture: Keep the substrate saturated (5) to wet (4) for the first 10–14 days. After radicle emergence, alternate between wet (4) and medium (2). Allow the media to dry back before watering.

Humidity: 95–100% until radicle emergence, then reduce to 40–60%. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

Light: Long days and high light levels promote early flowering. After radicle emergence, provide 1,000–2,500 ft. candles (10,000–25,000 lx), increasing to 3,000–5,000 ft. candles (30,000–50,000 lx) during the final stage of plug production.

Fertilizer: Maintain EC < 1.0. Fertilized water should not exceed an EC of 0.5. Begin fertilizing early to improve seedling quality. Start after radicle emergence at 50–100 ppm nitrogen and gradually increase to 100–175 ppm.

Plug Bulking and Flower Initiation: Maintain optimal vegetative conditions from cotyledon expansion to flower initiation.

Growth Regulators: If necessary, B-Nine (daminozide) sprays at 2,500 ppm are effective for toning and growth control during the plug stage. Pinching is not required.

Growing On

Media: pH 5.8–6.2; EC 1.5–2.0.

Light: After transplanting, provide 2–3 weeks of short days to encourage compact, well-branched plants. Afterwards, high light levels and long days > 13 hours produce high-quality, uniform plants and promote flower initiation. Light levels of 3,000–4,500 ft. candles (30,000–45,000 lx) are recommended.

Temperature: After transplanting, maintain night temperatures > 12 °C (54 °F) to initiate flower bud development. Night temperatures up to 16 °C (60 °F) encourage basal branching and compact growth, although crop time may increase slightly. Maintain 16–20 °C (60–68 °F) during the day. For overwinter production, ensure frost-free cultivation indoors or use fleece protection outdoors.

Moisture: Alternate between moist (3) and medium (2). Allow the media to reach medium (2) before re-saturating. Gaillardia is sensitive to wet soil and should be kept relatively dry. Avoid waterlogging and overhead irrigation.

Humidity: 40–60% humidity is ideal. Provide good ventilation and horizontal airflow to reduce humidity and dry back the media, improving root oxygenation.

Fertilizer: High fertilization levels are required. Feed weekly with 175–200 ppm nitrogen using a complete balanced fertilizer.

Growth Regulators: With proper temperature and moisture management, growth regulators are generally not required. If necessary, apply B-Nine (daminozide) as a spray at 2,500–5,000 ppm to control growth.

Fungicides: Apply fungicides during extended periods of low light, cool temperatures, and high humidity.

Common Diseases: Powdery mildew, Botrytis, white smut.

Pests: Primarily aphids, thrips, and mites.

Plug & Finished Crop Time

Plug Crop Time

288 tray: 5-6 weeks

128 tray: 6-7 weeks

Finished Crop Time (from 288 tray)

12-15 cm (5-6") pots (1*): 9-10 weeks

17-19 cm (7-8") pots (3*): 11-13 weeks

*plugs per pot

Moisture Codes

Saturated (5) Water is easily observed when finger is pressed on cell. Water moves freely from the top of the plug to the bottom.

Wet (4) Media looks black and is not glistening. The media feels wet to the touch but there is very little water movement.

Moist (3) Water is not easily visible. When finger is pressed on the cell there is very little movement from top to bottom.

Medium (2) Media is not black, but now looks medium brown. There is no water movement when pressed with finger.

Dry (1) Media has changed color to a very light brown and is dry to the touch.

All information in our technical guide is based on our own trials and would therefore be as guideline only. Detailed cultivation aspects vary depending on climate, location, time of year and environmental conditions. Benary expressly disclaims any responsibility for the content of such data/information and makes no representation or warranty for the cultivation of any products listed. It is recommended that growers conduct a trial of products under their own conditions.