



Plume™

GAILLARDIA PULCHELLA

Minimum Germination Rate: 70%

Seed Product Form: Raw

FLOWERING

Specific Flowering Mechanism: The first 7 – 6 weeks supply short days (10 – 12 hours) to develop a full plant then supply 14+ hours to initiate flowering.

Flowering Type: Facultative long-day plant – 14 hours or more needed to have a uniform flowering crop.

PLUG CULTURE

The timing approximations are based on optimal culture recommendations below:

Germination 1 (approximately day 14 – 21): From the time a seed is sown until radicle emergence takes place; usually with the root penetrating the media and some cotyledon development. Humidity in the air is 95 – 98% (humidification); media moisture wet (4 – 4.5). Expect radicle emergence in 4 – 5 days.

Cover: Do not cover seeds, as light will assist in germination.

Media: Use a well-drained growing media. Avoid media compaction to allow for root penetration.

- pH: 6 – 6.2.
- EC: 0.5 – 0.75

Light: Light will assist in germination.

Moisture: Wet (4+), keep soil uniformly moist during stage 1.

Humidity: 100% until radicles emerge, then begin lowering.

Temperature: 68° – 74°F (20° – 23°C) until day 14 – 21.

Fertilizers: Maintain electrical conductivity (EC) of 0.5 – 0.75.

Germination 2 (approximately day 14 – 21): From the time cotyledon is observed until it is fully expanded. The roots have expanded throughout the media. Dehumidify from 98% to 50 % in the air. Media moisture during the wet cycle is usually 4 – 5, and 3 – 4 during the dry cycle; this wet-dry cycle should take place within 12 – 24 hours.

- Media:**
- pH: 6 – 6.2
 - EC: 0.5 – 0.75

Light: 2,000 – 3,000 foot candles (20,000 – 30,000 lux); 6 - 10 mols of light.

Moisture: Dry back media to wet (4) and alternation to moist (3) within 18 hours at radicle emergence.

Dehumidify: Lower relative humidity to 40%. Provide horizontal airflow to aid in drying down the media through evapotranspiration, allowing better penetration of oxygen to the roots.

Temperature: Once cotyledons are observed, reduce temperature to 68° – 72°F (20° – 22°C).

Fertilizers: 14-4-14 or 17-5-17 at 50 – 75 ppm nitrogen as needed for an EC in the soil of 0.5 – 0.75.

Fungicides: None required

Plug Bulking/Flower Initiation: The time it takes for the shoots to proportionately fill the plug cell and for roots to develop throughout the media. Induction and initiation may occur. If buds are present, they should be few in number and small in size.

- Media:**
- pH: 6 – 6.2
 - EC: 0.7 – 1.2

Light: 2,500 – 3,000 foot candles.

Temperature: 65° – 68°F (15 – 20°C)

Moisture: Alternate between moisture level wet (4) to medium (2). Allow the soil to approach medium (2), before re-saturating to wet (4). If media is allowed to dry back further than (2), root damage may occur.

Fertilizers: 14-4-14 or 17-5-17 at 100 – 175 ppm nitrogen, as needed for an EC in the soil of 0.7 – 1.2.

Growth Regulators: None required.

Fungicides: None needed.

Initiated Bulking: 7 – 8 weeks after sowing seedlings are receptive to initiation and flower bud development.

Light: Provide 4,750 – 7,500 foot candles (47,500 – 75,000 lux) or 17 – 28 mols of light.

Temperature: 60°F (15°C)

Fertilizer: 14-4-14 or 17-5-17 at 125 – 150 ppm nitrogen, as needed for an EC in the soil of 1.25 – 1.75.

Fungicides: None needed.

GROWING ON

The timing approximations are based on optimal culture recommendations below:

Transplant to Finish (approximately day 36 – 84): Optimize plant shoot and root growth, which is usually a 1:1 ratio. Flower buds are usually present and developing.

- Media:**
- pH: 6 – 6.2
 - EC: 1.5 – 2

Light: Provide 5,000 – 7,500 foot candles (50,000 – 75,000) or 18 – 28 mols.

Temperature: 55 – 60°F (13.5° – 15°C)

Moisture: Alternate between moisture levels wet (4) and medium (2). Allow media to approach level (2) before re-saturating to wet (4).

Humidity: 40%

Fertilizers: 14-4-14 or 17-5-17 at 175 – 225 ppm, as needed for an EC in the soil of 1.5 – 2.

Growth Regulators: B-Nine (daminozide) at 2,500 – 5,000 ppm. If plants grown cool PGRs should not be required.

Fungicides: None should be required.

TECHNIQUES TO ENHANCE POST HARVEST QUALITY

When to Treat: 1 – 2 weeks prior to finish or shipping.

Growth Regulators: B-Nine (daminozide) at 2,500 – 3,000 ppm.

Fertilizer: Potassium nitrate drench at 150 ppm nitrogen.

Common Diseases: INSV, White Smut, Powdery Mildew. Monitor moisture and humidity levels.

Common Pests: Fungus Gnats and Thrips. Use pesticides according to label directions.

PRODUCT USE	GARDEN SPECIFICATIONS
Pots, containers, mass plantings	Light: Full sun USDA Hardiness Zone: 8 AHS Heat Zone: 10

	Garden Height	Garden Width
Plume	12 – 14" (30 – 35 cm)	12 – 14" (30 – 35 cm)

GAILLARDIA SCHEDULING IN WEEKS

	Plume
Total crop time	12 – 15
'128' plug crop time	8 – 9
'200' plug crop time	7 – 8
'288' plug crop time	5 – 7
Transplant to finish crop time	
4" crop	7 – 8, depending on number of plugs transplanted
6" crop	8 – 9, depending on number of plugs transplanted
8" crop	9 – 10, depending on number of plugs transplanted

The shortest crops times may be achieved when following recommended optimal culture. Deviation in environmental conditions will result in longer crop times.

Note: These suggestions are only guidelines and may have to be altered to meet individual grower's needs. Check all chemical labels to verify registration for use in your region.