GrowerFacts

Celosia Sunday

(*Celosia plumosa*)

Germination

Approximate seed count (filmcoated): 39,700 S./oz. (1,400 S./g)

Media
Use a well-drained, disease-free media with a pH of 5.8 to 6.5 and an EC of 0.75 mmhos/cm.

Sowing
Sow 1 seed (or 1 pellet) per cell in a 288 or larger plug tray. Cover seed lightly with vermiculite. Treat preventively against fungi.

Stage 1 – Germination takes 3 to 4 days

Soil temperature: 68 to 72°F (20 to 22°C)

Light: Required for germination.

Moisture: Keep soil moist (level 4) in Stage 1.

Humidity: Maintain 97 to 98% relative humidity (RH) until radicles emerge.

Plug Production

Stage 2
Soil temperature: 68 to 72°F (20 to 22°C)

Light: Can be up to 2,500 f.c. (26,900 Lux).

Moisture: Maintain soil media moist (level 4). Don't let the media dry out.

Fertilizer: Apply fertilizer at rate 1 (less than 100 ppm N less than 0.7 mmhos/cm EC).

Stage 3
Soil temperature: 68 to 72°F (20 to 22°C)

Light: Can be up to 2,500 f.c. (26,900 Lux).

Moisture: Soil moisture can be reduced slightly (level 3 to 4), but do not allow media to dry out as it will result in premature flowering.

Fertilizer: Apply fertilizer at rate 2 (100 to 175 ppm N 0.7 to 1.2 mmhos/cm EC).

Growth Regulators: None needed. Do not use PGRs in this stage as cut flower Celosia will not reach sufficient length otherwise.

Stage 4

Soil temperature: 68 to 72°F (20 to 22°C)

Light: Can be up to 5,000 f.c. (54,000 Lux).

Moisture: Same as Stage 3.

Fertilizer: Same as Stage 3.

General remark for plug stage:
Celosia makes a taproot and is sensitive for root damage, which will result in early bud formation, deformed flowers and less uniformity. Therefore, planting should be done before the plugs get rootbound. Depending on season and plug size, this will generally take between 12 to 20 days after sowing. In this stage, mostly the first pair of true leaves unfolds.

Growing On to Finish

Planting Density
6 to 8 plants/sq. ft. (64 to 80 plants/sq. m). Use netting for support.

Media
Use a well-drained, disease-free media with a pH of 5.8 to 6.5 and an EC of 0.75 mmhos/cm.

Temperature

From planting until start of flower development (6 to 8 weeks):

Nights: 63 to 65?F (17 to 18?C)

Days: 65 to 75?F (18 to 24?C)

From start of flower development onwards:
Nights: 59°F (15°C)

Days: 60 to 61°F (16°C)

Light
Maintain light levels as high as possible. Shading is only required when light intensity is very high. Low light intensity, short days and low temperatures may cause growth disturbances (for example, flat stems and plumes shattering). Therefore, it is recommended not to sow later than end of June in Northwest Europe.

Photoperiod
Celosia is a quantitative short-day plant. Flowers will initiate under short days. The optimum daylength for Celosia Sunday to reach the appropriate stem length lies between 12 to 13 hours. Under short-day conditions, provide daylength extension up to 13 hours to allow plants to elongate and to prevent early flowering. When daylength is over 13 hours, short-day treatments can be applied. Provide a dark period for a minimum of 12 hours for 5 to 6 weeks. Do not start short days until one week after planting. Prevent high relative humidity when using short-day treatments.

Irrigation
From transplanting to flower initiation, it is important to maintain constantly moist media, especially for the first 2 weeks. We recommend to irrigate the first 10 to 14 days after transplanting each morning approximately half an hour, as this is an important step in establishment and growing-on of the crop. If Celosia suffers from water stress during this stage, root development gets blocked and plants start flowering without reaching sufficient length. Overhead irrigation can be used, preferably in the morning.

After flower initiation, refrain from overhead irrigation in order to prevent disease incidence and to keep soil drier; only irrigate when extremely sunny or when foliage wilts. Over-irrigating may cause flowers to become top-heavy and fall over.

Fertilizer
Celosia Sunday is a moderate feeder (level 2). Maintain 100 to 175 ppm N; 0.7 to 1.2 mmhos/cm EC with completely balanced fertilizer. Celosia is susceptible to salt and high EC.

Growth Regulators
PGRs are generally not recommended as this is for cut flower production. If needed to control the excessive stem length, PGRs can be used. Celosia is responsive to B-Nine/Alar (daminozide) 2,000 ppm (2.5 g/l 85% formulation or 3.0 g/l of 64% formulation) when excessive stem length is expected, starting at 12 to 20-cm (30 to 50-cm) height; depending on the weather, a weekly spray is advised. At final desired length, a spray with B-Nine/Alar (daminozide) 3,250 ppm (3.8g/l 85% formulation or 5.0 g/l of 64% formulation) could be given to stop the plant growing further.

Pinching
Do not pinch.

Crop Scheduling

Sow to transplant (288 cell plug): 2 to 3 weeks

Transplant to flower: 12 to 16 weeks (under proper daylength and temperature range)

Total crop time: 14 to 18 weeks (under proper daylength and temperature range)

The Sunday series flowers approximately 2 weeks later than the Bombay types.

Production: Sunday can be produced year-round under the appropriate light levels, temperature and daylengths.

Common Problems
Insects: Aphids, Thrips, Spider mites, Leafminer

Diseases: Powdery Mildew, Botrytis
It is recommended to treat preventively against Botrytis 1 week after transplanting.

Note: Sunday Celosia are bred for greenhouse production and should only be used for outdoor production under proper circumstances. Prior to harvesting, stems need to harden another 3 weeks from the moment the flower seems mature.

Celosia Sunday has a long vase life, with a minimum of 2 weeks under proper conditions.

Note: Growers should use the information presented here as a starting point. Crop times will vary depending on the climate, location, time of year, and greenhouse environmental conditions. Chemical and PGR recommendations are only guidelines. It is the responsibility of the applicator to read and follow all the current label directions for the specific chemical being

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