

**Cultural Information for:** Celosia Chief Annual

**Common Name:** Celosia

**Botanical Name:** Celosia plumosa

**Seed Count:** 36,000/ounce 1,200/gram

**Optimum Germination Temperature:** 70-75°F / 21-24°C

**Optimum Growing Temperature:** 65-75°F / 18-24°C

**Optimum pH:** 5.8 – 6.2

**EC – Plug:** 0.4 – 0.8 mmhos/cm (1:2) / 0.9 – 2.0 (SME) / 1.1 - 2.6 (Pour Thru)

**EC – Finishing:** 0.9 – 1.3 mmhos/cm (1:2) / 2.1 – 3.5 (SME) / 2.7 - 4.6 (Pour Thru)

**Direct Seeding:** Celosia Chief may be sown directly to outdoor beds. Select a sunny location and prepare rows 3 feet / 90 cm. apart and sow seed in double rows on each furrow. Do not allow the soil to dry out anytime during the germination period. A plastic or paper mulch may be used to maintain moisture until germination is complete. After germination thin out to stand 4 inches / 10 cm. apart.

**Plug Stage – 4 weeks (288 / 12 x 24 tray)**

**Stage 1 (days 1-10) -** Sow seeds in a well-drained soil mix and cover lightly with vermiculite. Provide a soil temperature of 70-75°F/21-24°C. Germination takes place in 7 to 10 days. Since the root system is very delicate, avoid sowing in open flats and instead sow directly into plug cells.

**Stage 2 (days 10-19) -** After seedlings emerge, place plug flats in a well-ventilated area and reduce the temperature to 65-70°F/18-21°C during the day and 61-65°F/16-18°C at night. Fertilize plugs lightly with 50-100 ppm N. Over watering will promote disease; especially damping off and botrytis.

**Stage 3 (days 20-27) -** Maintain good air circulation. Celosia is sensitive to day length and any type of stress, (moisture, high temperature root banding), will cause premature budding and stunted growth later in production. Celosia will bloom more quickly under short day conditions. To avoid pre-mature flowering produce plugs under increasing day-length with a minimum of 13 hours.

**Stage 4 (day 28) –** Seedlings are ready for transplanting at the 2-3 leaf stage. Holding the plugs too long in the plug tray will stunt future development of the plant and cause premature budding.

**Transplanting**

**Transplanting:** Celosia has a soft stem and delicate root system. To prevent damage, use a plug popper to dislodge plugs and only handle seedlings by one leaf. Also avoid deep transplanting to prevent rhizoctonia.

**Bed Preparation:** Select a sunny, well-drained site with a soil high in organic matter and low in salts. Celosia grows best in lean soil and excess nitrogen will cause overgrowth.

**Temperature:** For greenhouse production maintain the plants at a temperature of 65-75°F/18-24°C. Avoid temperatures below 61°F/16°C.

**Spacing:** Space plants 4 inches / 10 cm. apart.

**Pinching:** Do not pinch the plants.

**Fertilization:** Celosia must be kept growing vigorously before flower formation slows their growth. Apply 100 ppm N, as needed, to maintain strong growth. *It is important to supply sufficient amounts of potassium in the fertilizer.* A lack of potassium results in smaller and abnormal shaped flowers. Boron deficiency causes deformed foliage and a witch’s broom effect.

**Support:** Plants require staking to avoid lodging.

**Diseases:** Celosia is susceptible to botrytis, downy mildew, pythium and rhizoctonia.

**Insects:** Aphids, cut worms, nematodes, and thrips.

**Culture Watch Point:** Celosia is sensitive to vaporized gases of certain herbicides like methylurea, methoxy, dichlorophenyl and dichlorobenzonitrile. Do not drench plants with the chemical Mefenoxam (SubdueMaxx) which causes phytotoxicity.

**Scheduling:** 12 (direct sowing) to 13 weeks (transplanting).

Sowing	Harvesting*
February to June	June to September

\*natural day length (Northern Hemisphere)

**Harvesting:** Cut when plumes are fully developed. Premature harvesting results in poor quality cut flowers and weak stems.

**Bunching:** For best transportation, bunch cut flowers when foliage shows signs of some wilt.

*“All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on North American conditions and Sakata cannot be held responsible for any crop damage related to the information given herein. Application of recommended growth regulators and chemicals are subject to local and state regulations. Always follow manufacturer’s label instructions. Testing a few plants prior to treating the entire crop is best.”*