

<b>Cultural Information for:</b>	Celosia Kimono	Annual
<b>Common Name:</b>	Celosia	
<b>Botanical Name:</b>	Celosia argentea var. plumosa	
<b>Seed Count:</b>	45,000 / ounce	1,600 / gram
<b>Optimum Germination Temperature:</b>	70-75°F / 21-24°C	
<b>Optimum Growing Temperature:</b>	61-75°F / 16-24°C	

**Optimum pH:** 5.8 – 6.2

**EC – Plug:** 0.26 – 0.75 mmhos/cm (1:2) / 0.76 – 2.0 (SME)

**EC – Finishing:** 0.76 – 1.25 mmhos/cm (1:2) / 2.1 – 3.5 (SME)

### Plug Culture – 4 weeks (405 / 12 x 24 tray)

**Stage 1** (days 1-10) - Sow seeds in a well-drained soil mix with a pH between 5.5 and 6.5 and low soluble salts. Cover the seed lightly with media or vermiculite. Provide a soil temperature of 77°F/25°C.

Germination takes place in 7 to 10 days. Since the root system is very delicate, either direct sow or transplant from plugs.

**Stage 2** (days 11 - 20) - After seedlings emerge, place plug flats in a well-ventilated area and reduce the temperature to 66-70°F / 19-21°C during the day and 61-65°F/16-18°C at night. Fertilize plugs lightly with 50 - 100 ppm N. Over watering promotes disease; especially damping off and botrytis.

**Stage 3** (days 21 - 27) - Maintain good air circulation. Celosia is sensitive to day length and any type of stress, such as water, high temperature or root banding. Avoid stressing the plugs or else they will bud prematurely, causing stunted growth later in production. Celosia blooms more quickly under short day conditions (< 12 hours). Providing long days (> 14 hours) will delay flowering and build vegetative growth.

**Stage 4** (day 28) - Plugs are ready for transplanting. Do not delay transplanting. Holding the plugs too long in the plug tray will stunt future development of the plant and may cause premature budding.

### Transplanting to flowering – 4 to 6 weeks

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

**Media:** Select a well-drained media with a low starter charge. Ideal pH is 5.5 to 6.5.

**Temperature:** Maintain the plants at a temperature of 61-75°F/16-24°C. Avoid low temperatures under 61°F/16°C.

**Light:** High light, full sun is best. Kimono is a facultative short-day plant so providing long days (> 14 hours) early in production promotes more bulk.

**Growth Regulator:** Not necessary. Do not pinch.

**Fertilization:** Feed with 100-150 ppm N as needed to maintain strong growth. *It is important to supply sufficient amounts of potassium in the fertilizer.* A lack of potassium causes smaller flower plumes and abnormal shaped flowers.

**Insects:** Aphids and thrips

**Diseases:** Botrytis, downy mildew, pythium and, rhizoctonia

**Cultural Watch Points:** Celosia Kimono must be kept growing vigorously in order to reach favorable size before flowering slows its growth. Stress from a lack of fertilizer or water or root binding will cause the plume to form prematurely with very poor growth in the garden. Boron deficiency can cause deformed foliage and a witch's broom effect. Some colors are more sensitive to boron deficiency than others. Celosia can also be sensitive to vaporized gases of certain herbicides like methylurea, methoxy, dichlorophenyl and dichlorobenzonitrile.

**Marketing Tips:** Celosia Kimono looks great when multi planted in containers and is ideal to produce for mid-summer and early autumn sales. After the busy spring season, a crop of Celosia Kimono can help fill empty benches and grows well in heat and humidity. Containers can be direct sown and are ready to sell in only 8-10 weeks. Sow 12 seeds per 6 inch/15 cm. pot and thin to 8 seedlings. For larger containers sow 16 seeds per 10 inch/25 cm. pot and thin to 12 seedlings. Direct sowing will maximize plant growth and height and avoid damaging the delicate root system. We highly recommend this culture to growers to help create a new pot plant market for mid-summer and early autumn sales.

*“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”.*