

Celosia Dragon's Breath Red

Crop	Celosia
Series	Dragon's Breath
Botanical name	<i>Celosia argentea plumosa</i>
Plant type	Annual
Seed type	Raw
Seed count	1,300 seeds / gr
Germination	25°C – 5-7 days light inhibited
Growing	18-24°C
Optimum pH	5.8-6.2

Plug Culture: 5 weeks (288 cell tray)

Stage 1 (days 1-10) Sow seeds in a well-drained soil mix and cover lightly with medium vermiculite or media. Provide a soil temperature of 25°C. Germination occurs in 7-10 days. Since the root system is very delicate, sowing directly into plug cells is recommended over sowing into open trays.

Stage 2 (days 11-20) After seedlings emerge, place trays in a well-ventilated area and reduce the temperature to 18-21°C during the day and 16- 18°C at night. Fertilize seedlings with 50-100 ppm nitrogen. Over watering will promote disease; especially damping off and botrytis.

NOTE: Celosia requires long day conditions (> 14 hours) in the seedling stage to maintain vegetative growth and avoid premature flower budding.

Stage 3 (days 21-28) Maintain good air circulation. Celosia is sensitive to day length and any type of stress; like water, low temperature or root banding. Avoid stressing the seedlings with low fertilizer or moisture, which promotes premature budding and stunted growth later in production.

Stage 4 (days 29-35) Seedlings are ready for transplanting. It is best to handle Celosia by the leaves when transplanting to ensure that no damage occurs to the delicate root system. Also, avoid deep transplanting to prevent rhizoctonia. Do not delay transplanting. Holding the seedlings too long in the plug tray will stunt future development of the plant and might cause premature budding.

Transplanting to Finish:

Media: Select a well-drained media with little or no starter charge.

Temperature: Maintain the plants between 18-24°C.

Lighting: High light, full sun is best.

Plant growth regulators: daminozide, paclobutrazol, chlormequat and uniconazole are effective. Do not pinch.

Fertilizer: To promote bright red foliage, avoid excess nitrogen and phosphorus which promote green leaves; especially when planted in the landscape. Apply 100 ppm nitrogen biweekly for strong growth. Adequate potassium is necessary since a deficiency results in weaker stems and abnormal shaped flowers. Therefore, a high potassium formulation, such as 15-3-20 or 15-5-30, works well and is highly recommended. Alternate with 15-0-15 or 15-5-15, if needed, to supply calcium and magnesium.

Photoperiod: Dragon's Breath Red is an obligate short-day plant and is best sown in early April (Northern Hemisphere) under increasing day length to promote sufficient vegetative growth prior to the start of short days in mid-June. If sowing under short days, provide long day conditions (>14 hours) with either night interruption or day length extension (10 pm-2 am) to promote vegetative growth until the desired plant height is achieved.

Flowering: Plants set out early in the garden with unimpeded root growth will flower in late summer as the days shorten. Container grown plants initiated with 3 weeks of short days will continue to flower in the container, even under long days, but if planted in the ground will revert to vegetative growth under long days.

Disease: botrytis, downy mildew, rhizoctonia

Pests: aphids and thrips.

Culture Watch Points: Boron deficiency causes deformed foliage and a witch's broom effect. Celosia is sensitive to vaporized gases of certain herbicides like methylurea, methoxy, dichlorophenyl and dichlorobenzonitrile. Thiophanatemethyl and mefenoxam fungicides cause marginal chlorosis; especially when combined with heat and or moisture stress. Avoid low temperatures, (under 16°C).

Landscape: Celosia Dragon's Breath Red is ideal for planting outdoors. Highly prized for its attractive red foliage from sowing through flowering. Space 40 cm apart. To avoid stem rot, mulch should not contact the plant stem (rhizoctonia). Night lighting, from streetlights and parking lots, inhibits flowering. Although plants may eventually flower due to age.

All information given is intended for general guidance only and may have to be adjusted to meet individual needs. Cultural details are based on Asian conditions such as in Japan and Sakata cannot be held responsible for any crop damage related to the information given herein. Always follow manufacturer's label instructions. Testing a few plants prior to treating the entire crop is best.