

Cultivation description

P.O. Box 88, 1430 AB Aalsmeer, The Netherlands

Date

June 30, 2010



Producing Royal Celosia from cuttings

General information

The Royal Celosia varieties are beautiful plants that bloom for a long period. This Celosia series is produced in greenhouses and can be used as both a houseplant and garden plant. Planted in a low wide-diameter pot on the patio or in the border, these plants can produce spectacular flowering displays for three months. The plants require little maintenance.

Production can begin when light intensity reaches sufficient levels. In Western Europe, this is week 8 (in modern greenhouses equipped with high pressure sodium lamps, week 4). Production time from sticking the cuttings to finished products ranges from 7-10 weeks.

Available assortment

- Celosia Merida Dark Caracas® - bright purple spike, deco leaves
- Celosia Merida Bolivar® - pink spike, deco leaves
- Celosia Merida Maripa - creamy white spike
- Celosia Flame - orange plume
- Celosia Solera - yellow plume
- Celosia Robina - red spike

Propagation material

Celosia propagation material is supplied as unrooted cuttings pre-treated with a rooting hormone. Since Celosia is susceptible to Botrytis, the cuttings must be stuck as soon as possible after receipt.

Pot size

Celosia can be produced in pots of various sizes: one cutting in a 9-12 cm pot, three cuttings in a 15-cm pot, or three to five cuttings in low wide-diameter pots.

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Rooting

Celosia cuttings should be rooted in a separate section of the greenhouse. The use of assimilation lighting (HPS lamps) during the rooting phase is recommended. Cyclic lighting with 150-watt lamps (15 watt m²) or HPS lamps (2500-5000 lux) for a daylength of up to 19 hours. The unrooted cuttings are stuck directly into their final pots (either standard or low, wide-diameter pots). After sticking (and up to sticking week 15) cover with transparent film and, after sticking week 16, with translucent film and spray to prevent Botrytis / Rhizoctonia. Rooting time ranges from 14 days in the spring to 10 days from May onward. Once the cuttings are rooted, the film can be removed (preferably in the evening). It is important to remove the film in time in order to prevent stretching.

Potting up

Celosia cuttings are potted up / stuck into a well-aerated, water-permeable potting compost containing 55% milled peat (Norwegian), 35% upgraded black peat and 10% Perlite amended with a base dressing of (for example) 5 kg Dolokal, 0.7 kg PG Mix + 0.7 kg calcium nitrate or 2-3 kg Osmocote per m³. Excellent results can also be achieved with a standard pot chrysanthemum mix.

Topping

Topping is done when the pots are still in the rooting area. About 3 pairs of leaves should be removed about 10-14 days after sticking.

Spacing out

If a heavier quality product is desired, the pots can be spaced out to their final pot density 14-17 days after sticking. After topping, the plants will thus be given another few days of long daylengths and then spaced out to their final pot density. (For information about short daylength, see 'Reduced photoperiod'). The final pot densities are:

9 cm pot: 42-45 per m².

10.5 cm pot: 28-32 m².

12 cm pot: 26-28 per m².

Low wide-diameter pots: 14-16 per m².



Reduced photoperiod

Celosia is a short-day plant: it will initiate flower buds only when the night period is longer than the day period. Obtaining flower bud initiation requires 14 hours of dark (example: from 6:00 p.m. to 8:00 a.m.). Response time is 6.5 – 7 weeks.

Climate

Set the temperature throughout production at 20-22°C accompanied by a high RH. It is also important to maintain night temperatures above 20°C. Excessively low night temperatures will trigger cell stretching and reduce crop uniformity. Venting temperature should be set at 1°C higher than the heating temperature, or 2-3°C higher for 'light increase' (to accommodate the additional heat generated by an increase in light intensity). Celosia is a subtropical plant and thus requires a high RH and high light intensities.

Plant growth regulators

Plants can be kept more compact by applying Cycocel (active ingredient: chlormequat chloride) Concentration: 100-150 ml/100 litres of water. The first application to this crop should be made when the plume is from 1-1.5 cm. tall. The second application is made 7-10 days thereafter. Plants should display proper cell turgidity to prevent yellow spots from developing. Another application will depend on climate conditions and the desired product.

Fertilising

The K-N ratio for side dressing is 1:2. Set EC to 1.5 – 2.0.

Target values for fertilising Celosias in mmol:

EC	pH	NH4	K	Na	Ca	Mg	NO3	Cl
1.0	5.8	<0.1	3.8	<1.0	2.1	0.9	6.0	<1.0

SO4	HCO3	P	Fe	Mn	Zn	B	Cu	
1.0	0.5	0.5	8.0	2.0	2.0	15	0.7	

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An example of nutrients using two fertiliser solution tanks:

Tank A

100 kg calcium nitrate
5 kg DTPA chelated iron
5 kg magnesium nitrate

Tank B

50 kg potassium nitrate
25 kg magnesium sulphate
5 kg mono-potassium phosphate
300 gm trace elements mix
(example: Microsol Blue)

The nutrients in tank A can be applied until the plumes begin to display colour.

Crop protection

Celosia is relatively unsusceptible to diseases and pests but a single preventive application of an agent to prevent aphids and thrips is recommended.

Celosia can be damaged by red spider mites. Control this pest by two applications of Vertimec, Milbeknock and/or Floramite about five days apart.

Preparation, transport and marketing

Celosia can be sold sleeved or unsleeved. Air-conditioning during transport should not be set any lower than 10°C.

Because consumers are not yet that familiar with Celosia as a product, extra attention should be devoted to this aspect to increase sales. Royal Van Zanten can support you in this respect.

In conclusion

Royal Van Zanten wishes you success with your production of Celosia.

These production methods serve only for information purposes. Royal Van Zanten cannot be held responsible for errors resulting from these recommendations.

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