

Cultural recommendation

Poinsettia

Description

Name: Euphorbia pulcherrima
Family: Euphorbiaceae

Product use

Use: Indoor plant



Technical recommendations

Potting and Spacing: Poinsettia are short day plants and depending on the variety the induction takes places after a critical day length of 12-13,5 hours. The potting date depends on variety, desired plant height, location and growing conditions.

Spacing and schedule recommendations:

Pinched

Pot size cm	Final spacing plants /m ² .	Planting weeks (under natural day length)
6,5-7	28-38	35-42
10	20-25	33-36
12	12-16	29-33
13-14	7-10	27-31
15-16	5-7	25-29

Non Pinched

Pot size cm	Final spacing plants /m ² .	Planting weeks (under natural day length)
6,5-7	40-50	37-43
10	22-27	35-39
12	14-18	34-37

Pre-plant Considerations: Be sure the greenhouse is clean, free of insects, plant debris, algae and weeds. Always disinfect the greenhouse before you receive the rooted cuttings.

- Check the plants during the planting process and discard any plant with problems.
- Unpack cuttings immediately and transplant or hold them in cooler until transplanting
- Hold the RC between as possible at 13-15°C (56-59°F) and out of direct sunlight. Do not store RC for more than 24 hours
- Water cuttings thoroughly with an initial watering. Check water content of media daily
- Do not allow rooted cuttings to wilt or become dry. Mist them regularly during the first 2-5 days or until you see new root development. Wilted cuttings will be not recovered at all.

Technical recommendations

- Avoid mixing fertilizer containing phosphorus with the overhead watering, foliar absorption of some fertilizer results in distorted foliage. Washing the leaves with clean water after each watering with fertilizer, helps to minimize this problem
- Keep air humidity > 75% until the plants are well established and shade from 20-25 Klux until you see new roots development (7-10 days), then gradually increase light levels.
- Establish young plants period, approx. the first 4 weeks: Day temperature: 24-27°C (75-81°F), Night temperature: 19-22°C (66-72°F), Media temperature: 18-20°C (64-68°F)

Managing Heat Stress

Avoid heat stress during the first 3-4 weeks by shading, misting/syringe, controlled air movement and avoid letting the media get completely dry, especially after transplant with temperatures > 30°C (85°F), in the early weeks, poinsettias can begin to suffer. Common symptoms are:

- Poor and uneven branching development
- Leave distortion
- Root loss and/or no development

Substrate: Poinsettia require a high-quality substrate; best is to use a special Poinsettia substrate.

The substrate should provide good structure stability, permeability and good drainage. pH value: 5,5 - 6,5

Fertilizer: Feeding should be based on regularly conducted substrate analyses. Ideally three analyses should be made at the beginning of September, end of September and mid-October. Poinsettias have high nutrient requirements. As a basic fertilization starter a 1-1,5 Kg/m³ compound fertilizers should be in the substrate.

Fertilization depends on:

- Water quality
- Substrate
- Irrigation system

It's recommended a constant feed fertilizer with (0.8-1.2 gr/l) using commercial fertilizer blends that provide all the essential nutrients or a balanced nutrient solution.

Vegetative period: Start feeding as soon as the roots appear at the pot edge. The N:K ratio should be 1.5 (1,2):1. It is recommended that the nitrogen forms have a maximum content of 30% in ammonia and avoid the use of urea.

Finish period: Two weeks prior to the end of cultivation feeding should be reduced. The N:K ratio should be 1:1,5 to end up at sales time. This increases the shelf life considerably.

Humidity: At the initial growing period (until about one week after pinching) it is recommended to ensure a high humidity to stimulate branching. Leaves and bracts should be dry during nights, thus water in the morning. Especially with a low temperature regimen you can quickly fall below the dew point which leads to condensation on the plants. There is a high risk of Botrytis when the humidity is too high, hence, use ventilation and dehumidification programs. It is important to put the temperature- and humidity-sensors on plant level. We also recommend using cloth instead of plastic sheet if you are planning a blackout crop.

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Temperature:

Growing stage	Day temp	Night temp	Remarks
After potting (first two weeks):	24-27°C (75-81°F)	19-22°C (66-72°F)	Daily misting several times depending on humidity, light conditions and temperature
Vegetative period	20-28°C (68-83°F)	18-21°C (65-70°F).	For northern regions, we recommend using heating during cold summer nights to ensure branching and incremental growth. For warm climates, use shade and ventilation to avoid heat stress
Induction period: (1st two weeks of short days):		16-18°C (61-65°F)	
Induction period: 2nd week of short days:		16° C (61°C).	At this stage you can control the growth with DIF techniques
Finish plant	17-20°C (63-68°F)	>13°C (55°F)	To hold the finished plants, lower the temperature gradually to 17 – 14° C (63-57°F). This stimulates coloring and the shelf life. Be aware of the differences between varieties Be careful when temperature is falling below the dew point. <u>Avoid high humidity.</u>

Light levels:

Week	1	2	3
Light levels (Klux)	20-30	35	40-55

Under high radiation, shade from 50 Klux and adjust ventilation to the recommended temperature levels. Good shading under high light levels and temperature, avoids stress, leaf edge necroses, hardening of the plant and increases the shelf life of the plants.

Short day treatment: The natural day length for the flower induction is given between September 20 and 28 depending on the variety (in Central Europe). Poinsettia need an average 40 days of undisturbed short day treatment to develop the bracts properly. If you are planning to create short days and initiate early flowering, shade cloth should not allow more than 0,005 Klux of light penetration. Crop should be shade for a minimum 12,5-13h to initiate flowering. Be aware of the light pollution sources.

Pinching: Pinch multi-stem plants approx. 10-14 days after potting or 4-5 weeks after direct sticking leaving the desired number of nodes. As a reference: for 10,5 cm pot; 4-5 nodes, for 13-14 cm pot; 5-7 nodes and for >15cm pot; 7-8 nodes. Leaving too many nodes will encourage open branching and later stem breakage.

Growth regulation: Growth can be regulated by several growing techniques

- Do not delay spacing. Give the proper spacing for each pot size.
- Cultivate bright and dry and choose the right variety for the desired product (see recommendations in our catalogue).
- DIF and Cool morning techniques help to keep a compact growth.

Technical recommendations

Cool Morning: Decrease the greenhouse temperature to 12-14° C (54-57°F) by opening the ventilation for 2-3 hours at dawn. Do not reduce the average day temperature too much as this might delay the crop. Use a softer Cool Morning during periods of bad weather. Cool Morning should not be used before side shoots are well developed. Keep in mind that Cool Morning in the short day phase can lead to smaller bracts. Cool Morning is not recommended for late varieties.

PGR's. For light control it's recommended to use Cloromequat (Cycocel) and for moderate control a tank mix of Cloromequat (Cycocel) + Daminozide (Dazide/Alar/B-nine).

PGR's considerations:

- Applications generally begins when lateral shoots are 1,5 to 2 cm long.
- The frequency of applications depends on: growth rate, variety and desired plant high.
- Apply only Cloromequat (Cycocel) from flower initiation to first bract color. Other applications are not recommended except in south regions of high heat
- PGR's applications should be done when greenhouse temperature is < 28°C (82°F) to avoid any risk of phytotoxicity. Best time to apply PGRs is in the morning when the leaf surface is cold.

Weekly tracking of the height compared to the desired height is useful to control the growth (graphical tracking). In this way you can identify the stage of development and react with proper environment management like temperature or apply PGR.

These recommendations for plant growth regulators should be used only as general guidelines. Growers must trial all PGR under their conditions and follow the registration uses of each chemical in their country. In case you need advise, please contact our tech support team

Pest and diseases:

Poinsettia is sensitive to various pest under greenhouse conditions. Whiteflies, shore fly (fungus gnats) and spider mites are the most common pest of Poinsettias. Start with clean material a well disinfected facilities together with a proper pest management program using different control strategies: exclusion, monitoring, biological and chemical control, are the best tools to control these pests.

Poinsettia are also sensitive to several diseases like Botrytis, Pythium, Rhizoctonia, bacterial pathogens, etc. Disease management should be addressed by sanitation strategies, environmental conditions control, biological and chemical control.

For the chemical control, follow the registration uses of each product in each region.

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Crop schedule

Crop schedule* 10 cm pot with standard young plant

Natural short day (Week 39)

weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
stage	P	Pi						SD								F

Crop schedule* 13 cm pot with standard young

Natural short day (Week 39)

weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
stage	P	Pi									SD								F

P: Potting. Pi: Pinching. SD: short day. F: Finish plant

* This is a reference time schedule that can vary depending on the variety, growing conditions and region.

NOTE: Growers should use the information presented here as guidelines only. Selecta One recommends that growers conduct a trial of products under their own conditions. Crop times will vary depending on the climate, location, time of year, and greenhouse environmental conditions. It is the responsibility of the grower to read and follow all the current label directions relating to the products. Nothing herein shall be deemed a warranty or guaranty by Selecta One of any products listed herein