



CROP MANUAL

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# Pelargonium spec.

## rooting guideline

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Region Europe



All series and varieties

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# Cultivation Advice for URC

Unrooted cuttings (URC) have to be processed as fast as possible to secure optimal rooting success. Most important is to get the URC turgid as fast as possible to ensure a quick recovery after transport. Therefore temperature should not be too high in the first days. No assimilation light until URC are turgid (2 -3 days under normal circumstances).

Be aware of Xanthomonas and other bacterial diseases. Stick to hygiene rules. In case of any questions please contact us for further support.

Do not use Switch (cyprodinil & fludioxonil) as under certain conditions an application results in severe phytotoxicity.



## Substrate

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0,8 – 1 mS/cm. Plug size is depending on further processing and climate conditions.



## PGR Applications

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CCC. Please start with PGR treatments in time to avoid stretch (between day 6 and 10 in most cases). Bonzi might be used in Cascade varieties to avoid stretch. Any chemicals applied must be registered for use in both the country used & the region destination.

## Rooting Hormones

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Can be used with some slow rooting ivy varieties, for all other not needed. Details on request. Any chemicals applied must be registered for use in both the country used & the region destination.

## URC Handling

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Process within 24 hours. Store URC at 5 - 8°C — open boxes before storage. If possible unpack in the sticking area and keep under mist until processed and stuck.



## Pests

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Aphids, Thrips, Caterpillars



## Diseases

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



Botrytis, Pythium, Puccinia pelargonii (Pelargonium rust)

# Recommendations for URC





| Days                 | 1  | 2                    | 3 | 4 | 5 | 6 | 7 | 8 | 9  | 10     | 11        | 12                         | 13 | 14 | 15          | 16 | 17        | 18 | 19                    | 20 | 21       | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|----------------------|--|----------------------|---|---|---|---|---|---|----|--------|-----------|----------------------------|----|----|-------------|----|-----------|----|-----------------------|----|----------|----|----|----|----|----|----|----|
| Crop profile         |  |                      |   |   |   |   |   |   |    | Callus |           |                            |    |    | 1st root    |    |           |    | growing tip stretches |    | 1st leaf |    |    |    |    |    |    |    |
| Handling mist system | M1   |                      |   |   |   |   |   |   | M2 |        |           | P                          |    |    | P           |    | W         |    |                       |    |          |    |    |    |    |    |    |    |
| Air temperature D/N  | 16–18°C  | 18 – 20°C            |   |   |   |   |   |   |    |        |           |                            |    |    | 16 – 18°C   |    |           |    |                       |    |          |    |    |    |    |    |    |    |
| Soil temperature D/N | 16–18°C  | 19 – 21°C            |   |   |   |   |   |   |    |        |           |                            |    |    | 16 – 18°C   |    |           |    |                       |    |          |    |    |    |    |    |    |    |
| Light                | 10–15 mol/cm <sup>2</sup> /day, additional HID light is needed if light levels is < 5 mol/cm <sup>2</sup> /day |                      |   |   |   |   |   |   |    |        |           |                            |    |    |             |    |           |    |                       |    |          |    |    |    |    |    |    |    |
| Shading              | 300 W/m <sup>2</sup>   | 350 W/m <sup>2</sup> |   |   |   |   |   |   |    |        |           | 400 – 450 W/m <sup>2</sup> |    |    |             |    |           | *  |                       |    |          |    |    |    |    |    |    |    |
| Humidity             | 90%  |                      |   |   |   |   |   |   |    |        | 80%       |                            |    |    |             |    | 50 – 70%  |    |                       |    |          |    |    |    |    |    |    |    |
| Moisture             | 5 – 4  |                      |   |   |   |   |   |   |    |        | 4 – 3     |                            |    |    |             |    | 3 – 2     |    |                       |    |          |    |    |    |    |    |    |    |
| pH                   | 5,8–6,0  |                      |   |   |   |   |   |   |    |        |           |                            |    |    |             |    |           |    |                       |    |          |    |    |    |    |    |    |    |
| EC growing medium    | 0,8 mS/cm  |                      |   |   |   |   |   |   |    |        | 1,5 mS/cm |                            |    |    |             |    | 2,0 mS/cm |    |                       |    |          |    |    |    |    |    |    |    |
| EC feeding in mS/cm  |  |                      |   |   |   |   |   |   |    |        |           |                            |    |    | 1,8 mS/cm   |    |           |    |                       |    |          |    |    |    |    |    |    |    |
| Fertilizer           |  |                      |   |   |   |   |   |   |    |        |           |                            |    |    | N : K 1 : 1 |    |           |    |                       |    |          |    |    |    |    |    |    |    |

## Legend







### Soil moisture level

|  |   |  |
|--|---|--|
|    | 5 | <b>saturated:</b> water is easily observed. When the substrate is touched, water moves out freely from top to bottom.                    |
|    | 4 | <b>wet:</b> water is not easily observed. When the substrate is touched, there is very little movement of water from top to bottom.      |
|   | 3 | <b>moist:</b> the substrate is black but not glistening. When the substrate is touched, there is water, but virtually no water movement. |
|  | 2 | <b>medium:</b> the substrate turns from dark to medium brown. There is no water movement when touched.                                   |
|  | 1 | <b>dry:</b> the substrate changed color to very light brown.   |








### Culture stages Cuttings / Seeds

|  |   |
|--|---|
|  | callus development / germ1, radicle emergence |
|  | root development / germ2, cotyledon expansion |
|  | leaf development / plug bulking               |
|  | plug finishing / plug finishing               |










### EC zones feeding mS/cm

|   |   |               |
|---|---|---------------|
|    | 1 | 0,5–1,0 mS/cm |
|    | 2 | 1,0–1,5 mS/cm |
|   | 3 | 1,5–2,0 mS/cm |
|  | 4 | 2,0–2,5 mS/cm |
|  | 5 | 2,5–3,0 mS/cm |
|  | 6 | 3,0–3,5 mS/cm |

### EC zones growing medium mS/cm (Sonneveld 1:1,5)

|   |   |                |
|---|---|----------------|
|  | 1 | 0,5–0,75 mS/cm |
|  | 2 | 0,75–1,0 mS/cm |
|  | 3 | 1,0–1,25 mS/cm |
|  | 4 | 1,25–1,5 mS/cm |
|  | 5 | 1,5–1,75 mS/cm |
|  | 6 | 1,75–2,0 mS/cm |
|  | 7 | 2,0–2,25 mS/cm |

### Temperature zones

|  |   |         |
|--|---|---------|
|    | 1 | 0–5°C   |
|    | 2 | 5–8°C   |
|   | 3 | 8–12°C  |
|  | 4 | 12–14°C |
|  | 5 | 14–16°C |
|  | 6 | 16–18°C |
|  | 7 | 18–20°C |
|  | 8 | 20–22°C |
|  | 9 | >22°C   |

### Light zones

|  |   |  |
|--|---|--|
|  | 1 | total darkness                               |
|  | 2 | short day <12 h/short day treatment          |
|  | 3 | shaded                                       |
|  | 4 | no-shading / natural light                   |
|  | 5 | supplemental light > 14 h/long day treatment |
|  | 6 | night interruption                           |

### Shading

|  |   |                                |
|--|---|--------------------------------|
|   | 1 | shading > 250 W/m <sup>2</sup> |
|   | 2 | shading > 450 W/m <sup>2</sup> |
|  | 3 | shading > 750 W/m <sup>2</sup> |

|                       |                                      |
|-----------------------|--------------------------------------|
| <b>ST</b>             | sticking URC                         |
| <b>RD</b>             | root development                     |
| <b>SC<sub>0</sub></b> | sowing no Vermiculite cover          |
| <b>SC<sub>1</sub></b> | sowing plus light Vermiculite cover  |
| <b>SC<sub>2</sub></b> | sowing plus medium Vermiculite cover |
| <b>SC<sub>3</sub></b> | sowing plus thick Vermiculite cover  |
| <b>RE</b>             | radicle emergence                    |
| <b>Cot</b>            | cotyledon                            |
| <b>M<sub>1</sub></b>  | mist day and night                   |
| <b>M<sub>2</sub></b>  | mist day – dry night                 |
| <b>W</b>              | end mist                             |
| <b>FC</b>             | fleece cover                         |
| <b>PC</b>             | plastic cover                        |

|            |                                       |
|------------|---------------------------------------|
| <b>PC</b>  | plastic cover                         |
| <b>L</b>   | lift cover                            |
| <b>G</b>   | gapping                               |
| <b>TP</b>  | transplanting                         |
| <b>T</b>   | yp1 transplanting                     |
| <b>C</b>   | cover to protect from frost           |
| <b>PGR</b> | PGR treatment (spray)                 |
| <b>PD</b>  | PGR treatment (drench) or heavy spray |
| <b>X</b>   | pinch                                 |
| <b>DB</b>  | disbud                                |
| <b>P</b>   | potting                               |
| <b>S</b>   | spacing                               |
| <b>F</b>   | flowering                             |
| <b>LF</b>  | leaf removal and maintenance          |