

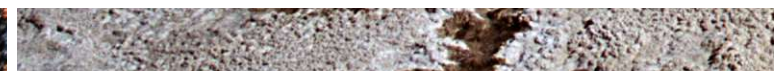
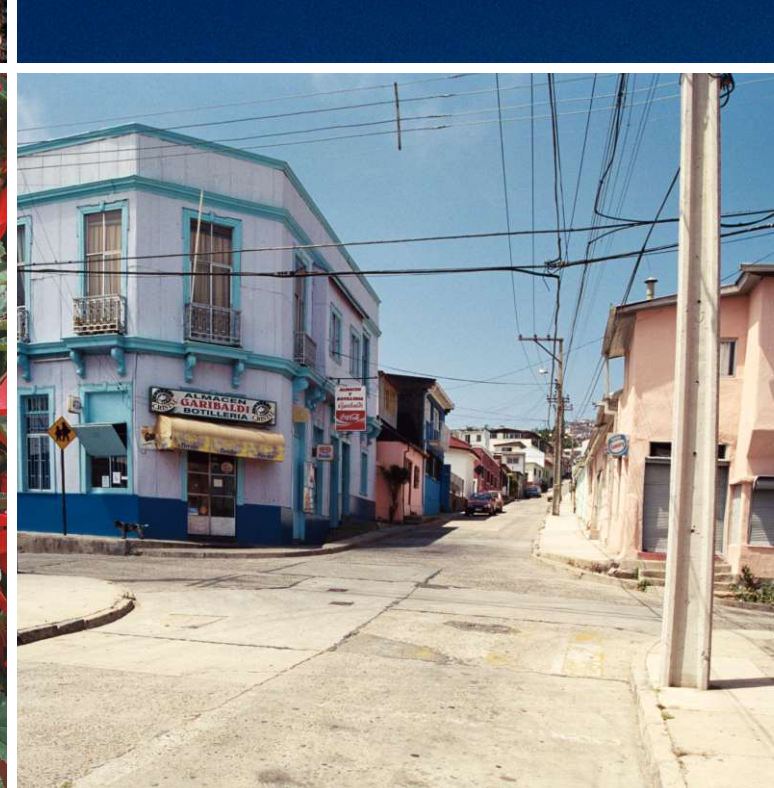


Сермý



Begonia boliviensis
Copacabana F1

Varieties grown from seed





Begonia boliviensis

E149 Copacabana Orange F1

E150 Copacabana Salmon F1

E151 Copacabana Red F1

A good alternative to varieties propagated by cutting.

Compact habit during production.

Three colours available, bell-shaped flowers, flower size 6-7, plant height in flower beds 35cm.

Tolerant to a wide range of cultivation conditions: drought, rain, full sun and shade. When we compare this new product with other types of begonia, it performs excellently in places exposed to full sunlight. It significantly extends the possibility of using these new varieties in plantations.

Use: Annual – Ideal for big hanging baskets, containers and garden beds. Young plants have erect growth first and later produce a large quantity of side shoots. They create a small overhang in boxes. The growth in garden beds is decumbent.

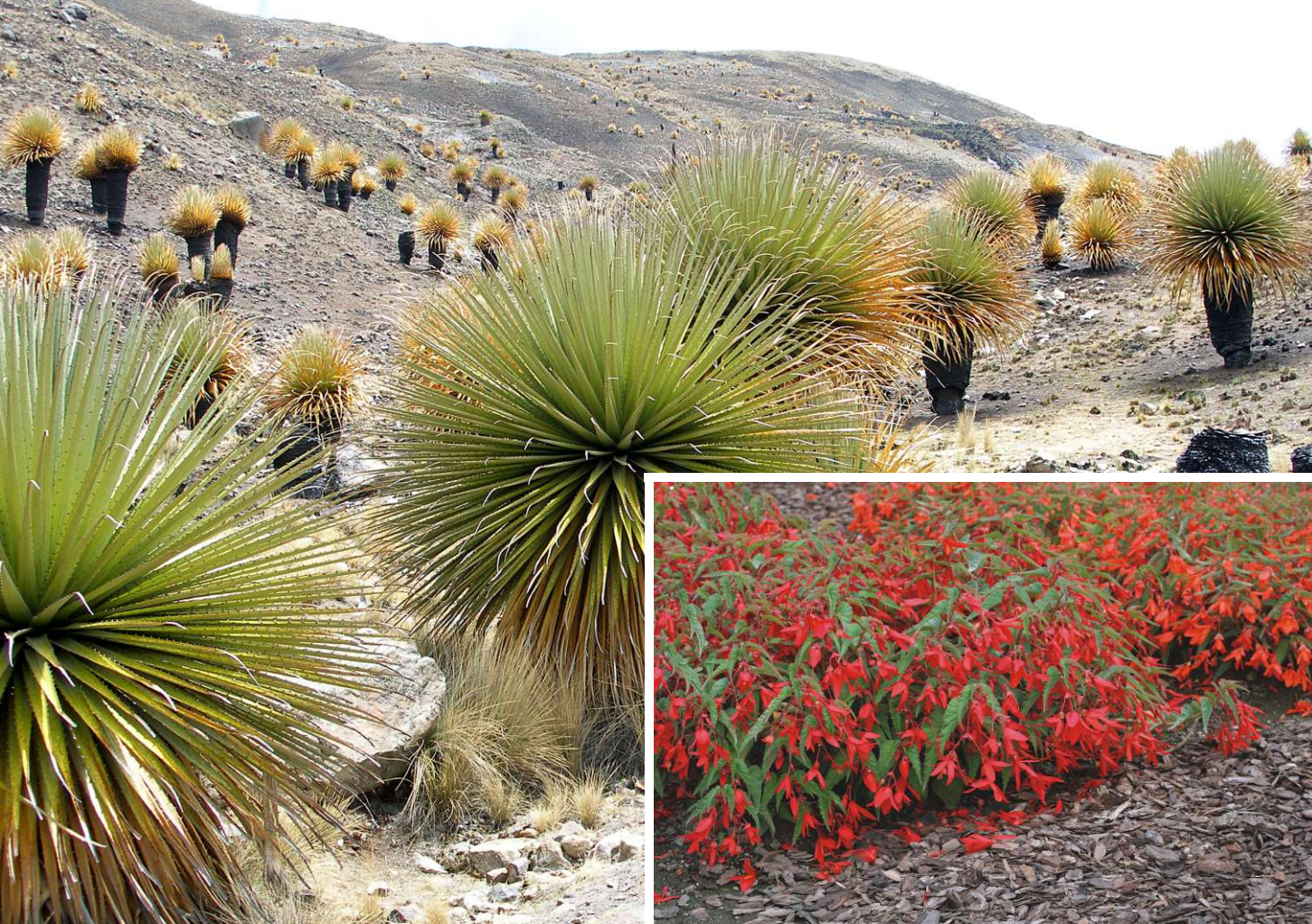
Exposure: Full sun - shade

Crop time: 14-17 weeks

Sowing time: January for flowering bedding plants from May onwards.

Seeds: Excellent seed quality. Available only as pellets.







CULTIVATION RECOMMENDATIONS

Sowing time: January for flowering bedding plants from May onwards.

Growing *Begonia boliviensis* is generally quite similar to cultivation of *Begonia tuberhybrida*.

Germination – Stage 0

Media pH 5.5 – 5.8, good quality sowing media with 0.5kg PG-Mix (14-16-18) per m³. Begonia are sensitive to damping-off disease of seedlings therefore we recommend application of *Trichoderma* fungi and Previcur (propamocarb) pesticide as a precaution. Sciarid larvae (*Bradysia paupera*, *Bradysia aprica*) present in the medium will dramatically decrease the number of sprouted seedlings. In this case we recommend precautionary application of parasitic nematodes *Steinernema feltiae*.

Germination- Stage 1

High humidity close to 100% and temperature 21-23 °C are the basic conditions leading to good results. Do not cover the pellets.

The length of this stage lasts 7-10 days until radicle emergence.

Visual Note: At the end of Stage 1, the radicle grows from the destructed pellet and the roots start to form.

Moisture: Moisture level 5 (saturated)

Humidity: 100%, even short drops of humidity can harm the germinating seeds, to maintain high humidity you can cover the plug with plastic foil.

Media EC 0.5-0.75

Lighting: Light is necessary for germination. The light intensity in the chamber needs to be 200-1,000 lux (20-100 foot candles).

Germination-Stage 2

In this stage it is necessary to ensure optimum conditions for growth of the root system. This especially means high humidity.

Visual Note: The seeds are completely sprouted by the end of stage 2. The radicle is developed, the stem is present and cotyledons have expanded.

Moisture: The moisture alternates between levels 4 (wet) and 3 (moist). Oversaturated media will inhibit the

growth of the root system deep into the media due to a shortage of oxygen. Seedlings are tiny and therefore watering must be gentle so the first roots that fixate the plant in the media do not tear out.

Humidity: constantly keep the humidity around 95%

Media Temperature: 21-23 °C

Media EC: 0.5-1.0, in this stage, begonia are sensitive to high EC

Lighting: Begin with supplemental lighting after germination. *Begonia boliviensis* is an obligate long-day plant. During a short day, the seedlings stagnate and form miniature tubers. Extend the day length up to 14-16 hours using supplemental photosynthetically active light. High quality plants are produced at an intensity of 4,500-7,000 lux (450-700 foot candles).

Germination Stage 3

Optimum water and nutrient management in this stage will result in a perfect root system that will allow for optimum development of the above-ground part.

Visual Note: At the end of Stage 3, the roots should be penetrating the plug cell and the first true leaves will have developed.

Moisture: The moisture alternates between levels 4 (wet) and 2 (medium). The alternation of these moisture levels will ensure a sufficient amount of oxygen in the whole plug and the roots can grow through the media right to the bottom.

Media Temperature: 18-20 °C

Fertilizer: if necessary 2 times per week or more often; 50 ppm nitrogen (19+6+20)

Media EC: 1.0 – 1.5

Lighting: same as Germination Stage 2

Germination Stage 4

In this stage, it is important to take care of the plants' health and to apply fungicides if necessary. Dense growth could, in unsuitable growing conditions, suffer from *Botrytis cinerea*.

Visual Note: At the end of Stage 4, the roots should hold the plug mass together easily. The shoots should have 2-3 true leaves.

Moisture: The moisture alternates between levels 4 (wet) and 2 (medium). Sufficient watering must be ensured so the whole plug is moist. Too frequent but insufficient watering is not appropriate.





Fertilizer: if necessary 2 times per week or more often;
100 ppm nitrogen (19+6+20)

Media EC: 1.0–1.5

Lighting: same as in Germination Stage 2. In the event of light intensity close to 25,000 lux (2,500 foot candles) the plants should be shaded.

Temperatures below 14 °C result in stagnation of growth and formation of tubers.

Growth Regulators: Generally not needed. If necessary, it is possible to use Cycocel (chlormequat chloride) treatment at 30-50 ppm (active substance). At most two treatments.

Further growing

Temperature: After transplanting, temperature 18-20 °C during the night. Lower the temperature to 16-18 °C later.

Moisture: Alternate between moisture levels 4 (wet) and 2 (medium).

Humidity: 40-70%. Using of horizontal airflow is beneficial for the health of the plants.

Fertilizer: if necessary 2 times per weeks or more often; 100-150 ppm nitrogen (19+6+20) alternate (12+12+36). Increased N: K ratio towards K has a positive influence on the health of the plants and their compactness. Fertilizer usage with high ammonium nitrate content might result in root damage especially at lower temperatures.

Growth Regulators: Generally not needed. If necessary, it is possible to use Cycocel (chlormequat chloride) treatment at 30-50 ppm (active substance). At most two treatments.

These suggestions are only guidelines and may have to be modified to meet the individual grower's needs.

Moisture level 5 (saturated): Water is easily observed in the media.

Moisture level 4 (wet): Media is wet to touch, but not saturated.

Moisture level 3 (moist): Media is black but not glistening.

Moisture level 2 (medium): Media has changed colour from black to a medium brown.





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