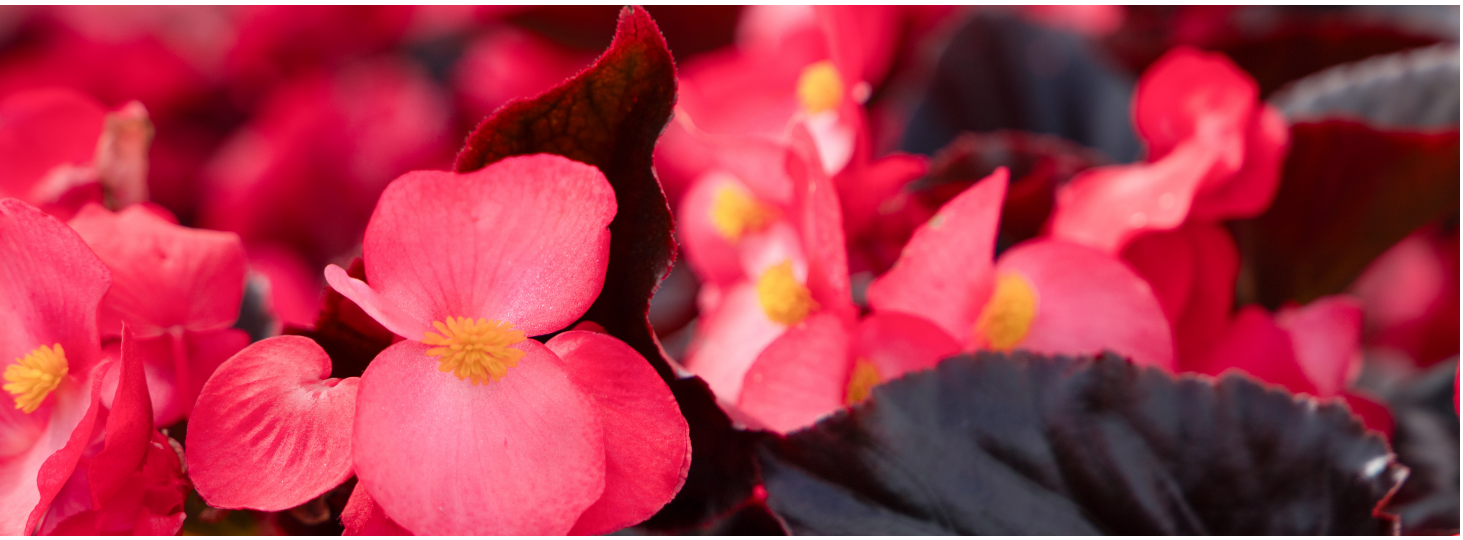
Begonia x benariensis F_1

BIG® DeluXXe®

Rose Espresso

Item no.: BB0210P



A Premium Product for Premium Landscape Application

- 20–25 % larger than BIG®
- Eye-catching season extender with extraordinary flower power
- Outstanding show as well-branched solitary plant
- Rain and drought tolerant, disease resistant
- Thrives in all climates and soils

Exclusively available as Whopper® through Ball Seed in North America.

Crop Time	Spring: 16 - 20 weeks
Height ⌀	35 " / 90 cm
Width ⌀	25 " / 63 cm
Exposure	Sun - Partial shade
Seed Form	Pelleted Seed
Product Use	Pots, Hanging Baskets, Mixed Containers, Landscape
Family, Origin	Begoniaceae, South and Central America
Minimum Germ. Rate	90 %

TECHNICAL GUIDE

Begonia x benariensis F_1 BIG® DeluXXe®

Flowering
Flowering Type: Obligate long day plant. A day length > 13 hours will result in flower initiation.

Flowering Mechanism: Higher light intensity and warmer temperatures will promote earlier flowering. Supplemental lighting during germination is beneficial but not necessary.

Plug Culture
Germination: Maintain optimal conditions for seedling development, should begin on the day of sowing until radicle emergence. Expect the emergence of the first seedlings after 6-8 days.

Cover: Light is required for germination, do not cover the seeds.

Sowing method: 1-2 pellets per plug.

Media: pH 5.5-5.8; EC 0.5-0.75. Raise to EC 1.25-1.5 from stage 3.

Temperature: Maintain 22-24 °C (72-76 °F) for the first 10 days. For irrigation use warm water above 18 °C (64 °F) only. Then lower the

temperature to 20–21 °C (68–70 °F) during night and day. When the roots reach the bottom of the cell, the temperature can be lowered to 20 °C (68 °F).

Moisture: Begin with the moisture level saturated (5) for the first 10 days or until radicle emergence has occurred. Afterwards, begin to dry them back and alternate between a wet (4) and a moist (3) until day 21. On day 21 it is critical to begin a good wet to dry cycle to prevent algae growth and help with the uptake of nutrients. At this point you can alternate between a wet (4) and a medium (2) within a 24 hours period.

Humidity: 95–100% until day 10; then reduce to 40–50 %. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

Dehumidify: On day 11 dehumidify, moving from 100 % to 40–50 %. Provide proper ventilation and horizontal airflow to improve oxygen levels in the media.

Light: Light is required and will help giving a more uniform germination. If germinating in a chamber supply 100–200 ft. candles (1000–2,000 lx) to prevent seedling stretch. Always protect seedlings from direct sunlight when moving to stage 2 until they are well established. Once established, the light levels can be increased to 2,000–2,500 ft. candles (20,000–25,000 lx). After 3 weeks, the light levels can be raised to 3,000–3,500 ft. candles (30,000–35,000 lx).

Fertilizer: Maintain an EC < 1.0. Fertilized water should not exceed an EC of 0.5. Begin fertilizing early to improve seedling quality. Under high light conditions more ammonium-based fertilizers can be used (17-5-17 and 20-10-20) and under low light use a calcium-based fertilizer (14-4-14 or 14-2-14). Initial feeding should start at 50-100 ppm and gradually work up to 100–150 ppm.

Plug Bulking and Flower Initiation: Optimum conditions during the vegetative stage from cotyledon expansion to flower initiation. This stage is when the seedlings root to the edge of the plug and reach the 4-6 true leaf stage where flower initiation occurs.

Growth Regulators: No growth regulators should be necessary since growth can be controlled by temperature and moisture management. If seedlings are uneven, a very light application of B-Nine (daminozide) or Cycocel (chlormequat

chloride) can be applied. In the finishing stages lower temperatures of 12-14 °C (54-57 °F) will help to control leaf size and stem elongation. Approximately two weeks after transplanting, a very light application of Cycocel can be applied.

Fungicides: Scout for botrytis and phytophthora during the plug stage and apply specific fungicides per the recommended labeled rate.

Growing On
Media: pH 5.5-5.8; EC 1.2-1.5.

Light: Provide 3,500-4,000 ft. candles (35,000-40,000 lx).

Temperature: 20-21 °C (68-70 °F) during nights, 18-19 °C (64-66 °F) during days until the roots reach the bottom of the container. Thereafter, temperatures may be lowered to 16-18 °C (60-64 °F) day and night. An ADT (average daily temperature) of 19 °C (66 °F) will give the fastest finished crop. Once well-established in the final container, the temperature can be lowered further to 13-15 °C (56-58 °F). This will keep the plants toned and prevent excessively large leaves.

Moisture: Alternate between moisture levels wet (4) and medium (2). Let plants dry back before re-saturating to a wet (4). Extremely dry plants will have a grayish cast to the leaves. Avoid watering plants under high temperature and light when the leaf temperature is excessive. This can cause leaf burn.

Humidity: 40-60 % humidity is ideal. Providing good ventilation and horizontal airflow will help lower the humidity and dry back the media, providing oxygen to the roots.

Fertilizer: Moderate fertilization levels are required. Fertilize the crop weekly with 100-150 ppm nitrogen, using a complete balanced fertilizer. Avoid high ammonium and high nitrogen levels, because the foliage can grow very large. Avoid pH levels above 6.0, as this can cause iron deficiency. Watch for low calcium and magnesium levels since this can result in stunted plants with marginal leaf edge burn. Under high light conditions, use an ammonium-based fertilizer (17-5-17) and under low light use a calcium-based fertilizer (14-4-14).

Growth Regulators: With proper moisture and temperature management, there should not be a need for growth regulators. If needed, apply Cycocel (chlormequat chloride) as a spray at 250-300 ppm one to two weeks after transplant. A B-Nine application can also be used as a spray at 500–750 ppm.

Fungicide: Apply fungicides during long periods of low light and high humidity.

Common Diseases: Botrytis.

Pests: Primarily aphids and thrips.

Post Harvest: Fertilize with potassium nitrate at 100 ppm 1–2 weeks prior to shipping.

Plug & Finished Crop Time
Plug Time:

288 tray: 6-7 weeks

128 tray: 8-9 weeks

Finished Time (from 288 tray):

12 cm (5") pots (1*): 8-9 weeks

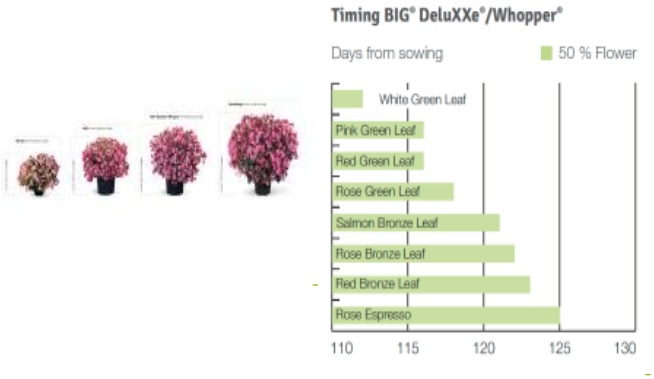
15 cm (6") pots (1-2*): 9-10 weeks

20 cm (8") pots (3*): 10-11 weeks

30 cm (12") pots (3-4*): 11-12 weeks

*plants per pot

Timing & Positioning Charts



Expert Tip

Do not hold in the plug stage too long. A root-bound plug will promote stretch and delay the crop. Reducing the temperature to 13-15 °C (56-58 °F) in the finishing stages 2-3 weeks after transplanting will keep plants toned with slightly smaller leaves.

Moisture Codes

Saturated (5)	Water is easily observed when finger is pressed on cell. Water moves freely from the top of the plug to the bottom.
Wet (4)	Media looks black and is not glistening. The media feels wet to the touch but there is very little water movement.
Moist (3)	Water is not easily visible. When finger is pressed on the cell there is very little movement from top to bottom.
Medium (2)	Media is not black, but now looks medium brown. There is no water movement when pressed with finger.
Dry (1)	Media has changed color to a very light brown and is dry to the touch.

All information in our technical guide is based on our own trials and would therefore be as guideline only. Detailed cultivation aspects vary depending on climate, location, time of year and environmental conditions. Benary expressly disclaims any responsibility for the content of such data/information and makes no representation or warranty for the cultivation of any products listed. It is recommended that growers conduct a trial of products under their own conditions.

COLORS OF THE SERIES

Begonia x benariensis F_1 BIG® DeluXXe®



White Green Leaf
BB0207P



Red Bronze Leaf
BB0206P



Red Green Leaf
BB0202P



Salmon Bronze Leaf
BB0209P



Pink Green Leaf
BB0203P



Rose Bronze Leaf
BB0205P



Rose Espresso
BB0210P



Rose Green Leaf
BB0201P