

Cultural Information for:	Begonia semperflorens	Annual
Common Name:	Wax Begonia	
Botanical Name:	Begonia semperflorens	
Seed Count:	1,900,000/oz	70,000/gr.
Optimum Germination Temperature:	72-77°F / 22-25°C	
Optimum Growing Temperature:	70-72°F / 21-22°C	

Plug Culture – 8 weeks (288 / 12 x 24 tray)

Stage 1 (days 1-10) Sow pelleted seed into trays filled with a sterile and well-drained media with an EC of 1.0 or less (1:2 slurry). Optimum pH is 5.5 to 6.0. Do not cover the seed as begonias require light to germinate. Provide 20-100 foot candles (215-1,100 lux) in the germination chamber. Maintain a temperature of 72-77°F/22-25°C and sufficient moisture to melt the pellet. The media should be wet to saturated with 100% relative air humidity.

Stage 2 (days 11-21) The cotyledons are now visible and roots are beginning to form. Maintain the media moist but not saturated to promote healthy root development and penetration. Reduce air humidity to 70-80% and maintain the air temperature at 72-77°F/22-25°C. Begin feeding at 50-75 ppm nitrogen from a well-balanced calcium nitrate based formulation. Avoid using ammonium nitrate which may inhibit root growth during germination and plug development. Supplemental lighting at 450-700 foot candles (4,800-7,500 lux) following germination greatly reduces crop time. Strong sunlight (>2,000 foot candles / 21,000 lux) will cause high leaf temperature and leaf edge burn. Highly alkaline water (> 300 HCO₃) will also have deleterious effect on seedlings by causing burn.

Stage 3 (days 22-48) The first true leaves are developed and roots are beginning to penetrate the media. Allow the media to dry slightly between irrigations as begonia roots require high levels of oxygen. Reduce air temperature to 65-68°F/18-20°C. Increase the fertilizer rate to 100-150 nitrogen once or twice per week to maintain an EC level of 1.0-1.5 mmhos, (1:2 slurry). Begonias are light accumulators and flowering is directly related to the quantity and quality of light received. Another important point in growing Begonia is to maintain high air humidity level of 70-80% (relative humidity) to minimize leaf burning during stage 2 and 3.

Stage 4 (days -49-56) At the end of stage 4 the plugs should have 2-3 sets of true leaves and the roots should

hold the plug media together. Optimum air temperature is 62-68°F/17-20°C to help tone the plugs. Avoid temperatures below 59°F/15°C. Maintain the EC level at 1.0-1.5 mmhos.

Transplanting to flower – 3 to 6 weeks

Media: Select a sterile and well-drained media with a pH between 5.5 -5.8 and low in nutrients (EC level less than 1.0 mmhos).

Temperature: Optimum growing temperature is 70-72°F/ 21-22°C during the day and 62-68°F/17-20°C at night. Once established the night temperature may be reduced to 59°F/15°C.

Fertilizer: Maintain the media EC between 1.2 to 1.5 mmhos (1:2 slurry) by applying 100-150 ppm of nitrogen from a well balanced calcium nitrate based formulation. The use of cal/mag formulations like 15-5-15 work well to supply adequate amounts of magnesium. Tall and stretched plants with few flowers indicate too much or too little phosphorous. Stunted, chlorotic plants with marginal leaf burn indicate a lack of calcium and magnesium. To maintain optimum pH one may alternate with an ammonium based fertilizer like 20-10-20.

Note: Water early in the day if using overhead irrigation to avoid leaf edge burn when leaf temperatures are high.

Lighting: Supplemental lighting, up to 2,500 foot candles (27,000 lux), will hasten development and flowering.

Pests and Diseases: Aphids and Thrips. Pythium, Rhizoctonia, Botrytis, Blight, Tomato Spotted Wilt Virus

Crop Scheduling:

Cell packs – 3-4 weeks from transplanting
 4 inch/10 cm pots – 4-5 weeks from transplanting
 6 inch/15 cm pots – 3 plants per pot 5-6 weeks from transplanting

Series	Leaf color	Garden Height
Ambassador	Green	12 inches/30 cm.
Senator	Bronze	12 inches/30 cm.
Emperor	Green	14 inches/35 cm.
Inferno	Green & Bronze	18 inches/45 cm.