

geranium

Americana™ Eclipse™ Freestyle®

VEGETATIVE GERANIUM

Temperature and light will have the greatest influence upon both vegetative growth and earliness to flower. The following cultural factors must be managed properly to produce and finish a high quality crop.

RECEIVING UNROOTED GERANIUM CUTTINGS

Open the boxes upon arrival. Cuttings should be stuck as soon as possible. Cuttings may be temporarily stored overnight at 8°C in open boxes.

ROOTING UNROOTED GERANIUM CUTTINGS

Root Emergence: 12-14 days

Total Rooting Time: 28 days.

Preparation Prior to Arrival of Cuttings: Clean and disinfect propagation area. Place rooting media on the bench shortly before arrival of cuttings. Preservation of cutting quality is dependant upon how quickly cuttings are stuck into ideal propagation conditions.

Rooting Hormones: Will encourage uniform rooting. Determine proper concentrations prior to sticking the entire crop. Excess hormones can cause severe damage.

Misting: Cuttings will require mist up until the 4th – 7th day or until roots begin to push into media. If using bottom heat, the cuttings may require occasional misting overnight during this crucial period. Mist for short durations as needed to keep cuttings turgid and prevent wilting. Frequency will be dependant upon light and temperature conditions. Misting should be complete 4 – 7 days after arrival. Excess misting can leach nutrients and create conditions favorable for disease.

Disease Control: Removing old leaves and disbudding will help decrease the possibility of botrytis. To control botrytis, begin foliar applications of fungicides the day after cuttings are stuck. Apply fungicides in late afternoon when misting needs are minimal will help avoid washing chemicals off the foliage. At 12-14 days or once roots are established, begin treatments for Pythium. Excessive pesticides usage either in frequency or concentration may delay root development.

Moisture: Moisture level 4 (wet). Media is wet to the touch, but not saturated. After roots are established, keep foliage as dry as possible. Irrigate in the morning to prevent botrytis infections.

Ventilation: Ventilation and Horizontal Air Flow fans are the most important tools in reducing botrytis infections.

Humidity: 40 – 60%

Air Temperature: 18°-24°C

Bottom Heat Temperature: 22°C. Bottom heat is recommended to promote uniform rooting.

pH: 6.0 – 6.4

Media EC: < 1.5

Light: Shade fresh cuttings, at 1500-2000 foot candles, the first week to reduce transpiration and to avoid excessive misting. Under cool conditions, cuttings with established roots can tolerate higher light levels, 3500-4500 foot candles.

Fertilizer: Apply as soon as cuttings start to root at 100 ppm nitrogen.

Growth Regulators: Begin foliar applications of Cycocel at 750 ppm about 18 – 21 days after sticking to promote overall uniformity and encourage basal branching.

RECEIVING CALLUSED GERANIUM CUTTINGS

Disease Prevention/Sanitation: Preventing plant disease is the easiest and most cost effective method of controlling potential disease problems. Prior to the arrival of your plugs, disinfect all growing surfaces. Use only new pots and fresh media. Remove and destroy all geraniums species held over from the previous season. Older geraniums are a primary source of plant diseases.

Media: Select a porous media that drains well. A pre-plant charge of micro and macro-nutrients is recommended.

Pre-Plant: Thoroughly water the plugs until media is saturated. Moisten finish container media till wet to the touch, but not saturated. Dibble a small hole to prevent breaking of delicate roots when transplanting plugs.

Transplanting: Transplant directly into finish container using good quality potting medium. Transplanting above the soil line will promote excessive drying out and wilting of the plug despite a moist environment.

Zonal Geranium Media pH: 6.2-6.5 Levels below 6.0 may encourage iron and manganese toxicity, which is exhibited by necrotic spotting of older foliage. pH levels above 6.8 may promote iron or manganese deficiency which is observed by interveinal chlorosis on younger leaves and inhibit phosphorus and calcium uptake.

Ivy Geranium Media pH: 5.5-6.2 iron or manganese deficiency may be observed above 6.3.

Moisture: Alternate moisture level 4/2. Moisture level 4 (wet). Media is wet to the touch, but not saturated. Moisture level 2 (medium). Media has changed colour from dark black to a medium brown. Irrigate early in the morning to allow foliage to dry before nightfall. Drought stress will increase crop time and can potentially build up salt levels sufficiently to burn root hairs and promote root diseases. Symptoms of excessive drying include lower leaves turning reddish to yellow, and root tip dieback. Avoid wet/saturated soils, especially under cool and cloudy conditions.

Zonal Geranium Fertilizer: Zonal Geraniums are heavy feeders. Once new root growth is initiated, begin a constant liquid feed program with a neutral nitrate based fertilizer, such as 15-2.2-12.5 at 250 ppm nitrogen. Under low light, cool temperature conditions, avoid ammonium based feeds, which can promote soft, leafy growth and lower pH levels. Supplement with calcium and magnesium as needed.

Ivy Geranium Fertilizer: Ivy geraniums are heavy feeders and prefer an acid based fertilizer, such as 20-4.3-16.6 with a minimum of 60% nitrogen in the nitrate form. Once new root growth is initiated, begin a constant liquid feed program at 250 ppm nitrogen. Supplement with calcium and magnesium as needed.

Media EC: 2.0-2.5. Excess salt levels may mimic iron or manganese toxicity. EC levels below 1.5 may also mimic iron or manganese deficiency. Either condition may actually be related to abnormal pH levels rather than fertility rates. Regular leaching to maintain EC levels between 2.0 and 2.5 is recommended.

Temperature: Earliness to flower, flower size and bloom count is directly influenced by both light levels and temperatures. Initially heat the root zone to 21°C to stimulate rapid root growth. Once rooted to the sides of the pot, manage ambient air temps at the canopy level to 18°C days/16°C nights. Ventilate at 22°C.

Light: Light quality in combination with temperatures has a direct impact on crop time and quality. Geraniums are light accumulators, the more light received, the faster the growth and earlier the flowering.

Geranium

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Initially provide 1500-2000 foot candles to a newly transplanted crop. Increase light levels to 3000-4000 foot candles once a root system is established. Excessive light levels will cause dark colored blooms to burn. Low light levels will lengthen crop time and produce smaller and fewer flower heads.

Growth Regulators: The compact habit of the Eclipse series makes growth regulators unnecessary. All other geraniums will benefit from Cycocel applications at 750 ppm beginning 14-21 days after transplant. Apply every 7-10 days as needed. Do not apply after buds have emerged above the foliage. Small and/or malformed flowers will result from late applications of Cycocel.

Common Pests: Thrips

Common Diseases: Botrytis, Pythium, Alternaria, Pseudomonas, Rust

SCHEDULING

Rooted to 100mm finish: 8-12 weeks

Rooted to 140mm finish: 10-14 weeks

Rooted to 250mm basket finish: 10-14 weeks

Rooted to 300mm basket finish: 10-14 weeks

GARDEN PERFORMANCE

Location: Full sun

Garden Height: 30-45cm

Width: 30-45cm

