

Lisianthus F1 Arena™ Series

Eustoma grandiflorum



COLORS AVAILABLE:	II Kilimanjaro, II Light Pink, II White, III Apricot, III Baby Pink, III Blue Picotee, III Champagne, III Gold, III Green, III Pink, III Pink Flash, III Red, IV Rose, IV White
SIZE/PLANT HABIT/TYPE:	31 – 39 inches/Good branching/High quality, fully double flowers on strong stems
NOVELTY CHARACTERISTICS:	Flowers average 3" in diameter, excellent flower shape and stem strength
MARKET USE:	Cut flower
<u>CULTURAL RECOMMENDATIONS:</u>	
PLUG STAGE:	
TRAY SIZE:	392, 288; Deep trays are preferable for better rooting into the beds
GERMINATION:	10-14 days at 65–68°F/18-20°C, do not cover seed (light required for germination)
GROWING MEDIUM PH:	A well-draining, well-aerated medium with a pH of 6.5 – 6.8 is essential for proper root development and to avoid damp-off disease problems
EC (POUR THRU METHOD):	0.6 – 1.0; seedlings are sensitive to high salt levels, avoid letting the plugs wilt
GROW ON TEMPERATURES:	Temperatures between 60°F/15°C at night and 78°F/25°C are recommended for finishing the plugs to prevent rosetting (temps above 70°F/21°C at night or 86°F/30°C during the day can induce rosetting). Low temperatures result in slow growth.
PLUG FINISH TIME:	7 to 9 weeks - seedlings should be planted into the final beds at the 4 true-leaf stage. Stress from too long of culture or from holding in the plug tray before field planting can lead to premature stem elongation, or bud blasting in production, due to improper rooting into the final planting beds
FINISHING:	
TRANSPLANT:	Transplant at the fourth true leaf stage – generally around 50 to 60 days from sowing, depending on area of production
SPACING:	5" x 5" (some growers use 4" x 6" spacing)
DAYS TO FLOWER FROM SOW	Group II is early flowering, group IV is the latest to flower from sowing
TEMPERATURE:	75-85°F/24-29°C daytime/60–65°F/15-18°C night Flowering is normally initiated at the 7 to 10 leaf node stage for extra-early varieties at these temperatures under long-day conditions. (Later varieties will normally have a higher leaf node count.) Average temperatures below 55°F/13°C make stem elongation for flowering extremely slow to develop, and flower initiation is suppressed. Temperatures below 45°F/7°C will stop growth.
COMMON DISEASE/PESTS:	Fusarium, pythium, rhizoctonia, botrytis, downy mildew/Fungus gnats, whitefly, thrips, aphids, leaf miners

Please see additional Notes on next page

NOTES:

	Before flower initiation	After flower initiation	Suggested group
Temperature & Light Intensity	High	High	→ III, IV
	High	Low	→ I, II, III
	Low	High	→ I, II, III, IV
	Low	Low	→ I, II

ROSETTING:

- The primary cause for 'rosetting,' or failure of the flower stems to elongate uniformly for a crop, is excessively high temperatures, even 1 exposure to temperatures over 94°F/34°C in the time from germination to the second set of true-leaves in plug culture can result in rosetting. Extreme dryness before bolting can also cause rosetting. Watch water level carefully before and around transplant stage.
- Rosetting, once experienced, can usually be broken by exposure of the seedlings to a temperature of 40-50°F/4-10°C for a period of 30 days.
- Pre-cooling treatment may help avoid rosetting. After sowing and the pellet material has broken down from watering, cover trays with plastic and keep humidity at 100%. Put the tray in cold storage at 40-46°F/4-8°C for 4 weeks without light, and then take trays out to greenhouse to start germination.

BUD BLASTING:

- 'Bud Blasting' is the aborting of developing flower buds when they are in the development stage, usually from bud emergence until they are between 1 and 2 inches long, most commonly caused by low light levels; other cultural conditions can factor into bud blasting as well. Shade cloth should not be used on Eustoma at low-light times of year.
- Other contributory causes for bud blasting are:
 - Low levels of nutrition
 - Improperly developed root system
 - Low levels of ground moisture
 - Extremely hot conditions
- HID supplemental lighting during short-day, low light times of year will help prevent bud blasting. Under short-day conditions, daylength extension to 16 hours will help plants maintain developing flower buds – high light intensity is as important as long days and temperature for proper flower development. Be sure to maintain night temperatures above 56°F/13°C when lighting.
- To avoid bud blasting, make sure plugs are planted at the proper stage, at 4 true leaves (2 nodes), to afford best rooting into the bed medium; using deep plug trays provides a better root system for bed planting
- Make sure beds have ample soil moisture and fertility levels after transplanting to allow the development of a strong, deep root system that can sustain the later bud formation and readily access ground moisture and nutrition
- When planting for production under low light or extremely hot conditions, growers will often increase plant spacing to 6" x 6" to afford better air movement and light penetration around the plants, and also to give the individual root masses more area for water and fertilizer absorption into the developing plants