Lisianthus Production

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LISIANTHUS (*Eustoma grandiflorum*)

Lisianthus is regarded as a very popular, high-end cut flower for its exceptional, rose-like beauty and extended vase life. Growing this crop presents some unique challenges, including the long propagation period, preventing the plants from rosetting, and avoiding blemishes on the blooms. You can achieve great results with patience and close attention to the correct cultural factors, however, especially those that initiate flowering: temperature, light intensity, and day length. The results of the months of care will prove worthwhile, by virtue of the blooms' strong visual appeal and potential return at market.

PELLETING

Because lisianthus seed is extremely tiny, all lisianthus seed is pelleted, to improve ease and accuracy when sowing. Pelleting shortens the shelf life of the seed. We recommend using pelleted seed within one year of purchase. Pelleted lisianthus seeds offered are **not** NOP-compliant.

HARVEST PERIOD

Lisianthus varieties are categorized into groups that indicate their optimal growing environment. Different groups are suited to various climates and growing seasons. It is essential to select a variety bred to perform for your desired planting and harvest dates. This will ensure the maximum stem length for your climate and growing season. The chart below indicates the group and optimal flowering times for each series we offer at Johnny's.

HARVEST PERIOD

Bloom Type	Group 1	Group 2	Group 3	Group 4*
	Spring	Summer	Fall	Winter
	Moderate Light & Heat	High Light & Heat	Moderate Light & Heat	Low Light & Heat
Mini	DOUBLINI 1 SERIES			
Lightly ruffled	ROSANNE 1 & 2 SERIES			
Standard	MARIACHI 2 SERIES			
Heavily ruffled	VOYAGE 2 SERIES			
Standard		ARENA III SERIES		
Lightly ruffled		CORELLI III SERIES		

* Johnny's does not currently carry a group 4 series lisianthus, which are bred for very late harvest in late fall and winter.

Flowering times can vary, and we recommend trialing many varieties to determine which ones work best in your growing environment. Many varieties will bloom and produce usable stems outside of their typical harvest group, but by slotting the varieties by group the stem and flower quality will be optimal at harvest.

LIFE CYCLE

While lisianthus are perennial in their native habitat of the southwestern United States, they are best grown as an annual in most production systems.

PROTECTED CULTURE
Growing in a greenhouse or other protective structure is recommended to protect lisianthus blooms from the elements, especially rain, which causes spotting on the petals. Even in a protected setting water droplets from condensation can cause spotting on the blooms. Efforts should be made to vent out excess moisture. Spotting is most visible on deeply pigmented blooms.

If planted in the field, you might consider protecting your flowers from rain with greenhouse film over supports and with adequate ventilation.

SITE SELECTION
Grow lisianthus in healthy soil rich in organic matter, with an ideal pH of 6.5–7.0. Drip irrigation is recommended to prevent spotting on the flower petals. Water early in the day and ensure proper ventilation on sunny days by opening the vents of your structure.

Using white-on-black or reflective mulch will keep the soil cool and suppress weeds. One or two layers of horizontal netting will support the stems, keeping them straight.

SUCCESSION HARVEST
One way to achieve a staggered harvest is to plant different harvest groups (1, 2, and 3) on the same date, so they will mature sequentially. For example, by planting a later-flowering group 3 variety along with an earlier group 2 variety, the group 2 variety will bloom first, followed by group 3.

CULTURE
Sow 12–13 weeks before planting out. Place one pelleted seed per cell into a 288-cell or similarly sized deep-cell seedling container. Applying Rootshield® at the time of sowing is recommended to provide prolonged protection against pathogens affecting the roots. Light is needed for germination, but a thin layer of fine vermiculite covering the seed will help to control algae growth.

During the germination phase, which lasts 10–15 days, keep temperatures at 68–72°F (20–22°C). Growing media should be evenly moist but not saturated. Do not allow the growing media to dry out during germination, as adequate moisture is needed to dissolve the pellet coat around the seed. Covering the trays with clear or white plastic domes may aid in maintaining consistent moisture and heat levels during germination.

After germination, grow seedlings on at 60–68°F (15–20°C) and provide good ventilation. Fans can be used to aid in ventilation. Excess moisture can cause damping off and mold or algae issues.

Seedlings are very slow to grow and can take up to 75 days to reach readiness for transplanting.

Maintain a soil temperature of 60–70°F (16–21°C). Moderate growing temperatures are key to successful seedling development. Rosetting will occur if plants are stressed with prolonged temperatures above 85°F (29°C) during the day and 70°F (21°C) at night or if they are overwatered or dry out during the seedling plug stage. Keeping nighttime temperatures cool [55–59°F (13–15°C)] can help minimize rosetting even if daytime temperatures rise higher than desired.

ROSETTING

Rosetting occurs when the plant fails to elongate and flower but instead produces only a basal cluster of leaves. This results when optimal temperature, water, and light requirements are not met.

Once rosetting occurs it is difficult to reverse but may be reversible by lowering the temperature to 50°F (10°C) for approximately 30 days. By following the cultural guidelines outlined here you can successfully prevent rosetting.

TRANSPLANTING

Once the seedlings have 4 true leaves they are ready to be transplanted, approximately 60–75 days from seeding. Do not let the plugs become root bound as this can cause the flowers to bloom earlier on short stems, especially during long days. Plant seedling plugs out at 4–8 inches apart. To prevent stem rot and *Rhizoctonia* keep the crown of the seedling at or just above the soil line.

Keep temperatures at 75–80°F (24–27°C) during the day and 60–65°F (16–18°C) during the night. Once budding and flowering are initiated, rosetting is no longer a concern and the plants can handle more extreme temperature fluctuations.

Do not let the plants dry out. Keep the soil evenly moist but not saturated. To prevent the flowers from being scorched by high light levels and warm temperatures a light shade cloth can be used.

Lisianthus seedlings at the research farm in Albion, Maine, at about 65 days, or 9 weeks, from seeding.

PESTS AND DISEASES

Crop rotation helps to prevent the build-up of pathogens and pests in the soil. The most common pests of lisianthus are aphids, leaf miners, thrips, and whiteflies. Lisianthus is susceptible to *Botrytis*, *Fusarium*, and other diseases. Rootshield® will protect against most root pathogens; PyGanic® is effective in controlling a number of insect pests. Visit our Pest & Disease Control Library to learn more about management options.

HARVEST

Harvest when one or more flowers are open. There is often a long period of time between the first bloom and subsequent blooms. Harvesting or pinching the first bloom will result in a more uniform set of blooms per stem. The harvested first bloom can be used in corsages, small bud vases, or short arrangements.

Harvesting is best done in the morning ,when temperatures are at their coolest. Place stems in clean buckets of cool water. For optimum storage, place buckets inside a cooler at 36–41°F (2–5°C). Lisianthus flowers and buds may last for long periods of time out of water without wilting and for this reason are a favorite for wedding bouquets, corsages, boutonnières, and head wreaths.

VASE LIFE

When kept at the ideal storage temperature, lisianthus can last for 10–15 days in a vase. Floral preservatives can be used to further prolong vase life.

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