Johnny's Selected Seeds
An employee-owned company

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 incredible vase life. However, in preparing to grow lisianthus, you should be aware of the unique challenges of this flower, including preventing the plant from rosetting and avoiding blemishes on the blooms.

You can achieve great results growing lisianthus with patience and close attention to the correct cultural factors, especially those that initiate flowering: temperature, light intensity, and day length. The results of the months of care are well worth your efforts, due to the visual appeal of the flowers and the potential return at market for this cut flower.

PELLETING:
All of our lisianthus seed is pelleted for ease of sowing and greater accuracy. Pelleting offers many other advantages, but this process also shortens the shelf life of the seed. We recommend using pelleted seed within one year of purchase. Pelleted lisianthus seeds offered at this time are **not** NOP-compliant.

HARVEST PERIOD:
Different groups are available for various climates and growing seasons. Due to these varying conditions, it is essential to select a variety bred to perform for your desired harvest period. By doing so, you will ensure the maximum stem length for your climate and growing season. The chart below refers to the flowering times for each series we offer at Johnny's, in respect to the group in which they belong and the season in which they flower and can be harvested.

Harvest Groups

Group 1	Group 2	Group 3	Group 4*
Spring	**Summer**	**Fall**	**Winter**
Moderate Light and Heat	High Light and Heat	Moderate Light and Heat	Low Light and Heat
Echo Series			
Mariachi Series			
	Arena III Series		
Rosanne Series			
Doublini Series			

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

Flowering times can vary, and it is best to trial many varieties to see 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, stem and flower quality will be optimal at harvest.

LIFE CYCLE:
Though a perennial in their native habitat of the southwestern United State, Lisianthus is best grown as an annual in most production systems.

PROTECTED CULTURE:
Growing in the greenhouse or another protected structure is recommended for lisianthus in order to shelter the flowers from the elements, especially rain which causes spotting on the petals. Even in the greenhouse water droplets caused by condensation can still be a concern and efforts should be made to vent out excess moisture. Darker flower colors are more susceptible to showing spotting than lighter colors. Imperfections on the flowers can reduce value.

If planted in the field, protect your flowers from rain with greenhouse film over supports. Monitor the underside of the plastic for condensation that may develop.

SITE SELECTION:
Grow lisianthus in a pest- and disease-free soil that is rich in organic matter with a pH of 6.5–7.0. Drip irrigation is recommended to prevent spotting on the flower petals, but overhead irrigation can be used until the plants start to flower. Water early in the day and ensure proper ventilation on sunny days by opening the vents of your structure.

Using white-on-black mulch will keep the soil cool and suppress weeds, which is particularly helpful for weed control around drip irrigation. One or two layers of horizontal netting will support the stems, keeping them straight.

SUCCESSION HARVEST:
If you desire a staggered harvest, you can plant different harvest groups (1, 2, and 3) on the same date and they will mature at different times. For example, when planting a later flowering group 3 variety along with an earlier group 2 variety, the later group will begin to bloom approximately 2 weeks after the earlier group.

CULTURE:
Sow 12–13 weeks before planting out or after the last frost. Place one pelleted seed per cell into a 288-cell, 406-cell, or similar sized deep cell tray using a well-drained media. Applying Rootshield® at the time of sowing is recommended to provide prolonged protection against root pathogens. Light is needed for germination, but a thin layer of fine vermiculite covering the seed will help to control algae growth.

Keep the soil 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. During the germination phase, which lasts 10–15 days, keep temperatures at 70–75°F/21–24°C and provide good air circulation. Covering the trays with clear or white plastic domes may aid in maintaining consistent moisture and heat levels, but may cause excess moisture to build under the dome. This can cause dampening off and mold issues. If you use domes to cover the trays, remove the domes before the seeds have fully germinated. Fans can be used to further ventilate the seedlings in order to prevent the occurrence of mold.

Seedlings are very slow to grow and can take up to 60 days to be ready for transplanting. After emergence, place cell trays in a location where they will continue to receive good air circulation. To prevent algae growth reduce moisture levels and allow the soil to dry out slightly between watering. Avoid low light levels and excessive humidity.

Maintain a soil temperature of 60–70°F/16–21°C. Rosetting will also occur if plants are stressed with prolonged temperatures above 85°F/29°C during the day and 70°F/21°C at night and if they are over watered or dry out during the seedling plug stage. If fertilizing is necessary, use an all-purpose fertilizer at each watering.

Rosetting:
Rosetting is when the plant fails to flower and instead produces a basal cluster of leaves. This occurs when temperature, water, and light requirements are not followed properly. Once rosetting happens it is difficult to reverse, but may be reversed by lowing 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, or approximately 55–60 days from seeding. Do not let the plugs get root bound as this can cause the flowers to bloom earlier on short stems, especially during long days. Space plants 4–8 inches apart, directly in the greenhouse soil or in the field. To prevent stem rot try not to bury the plugs too deep. Planting the plugs a little higher than soil level will help to protect against rhizoctonia.

It is recommended to keep temperatures at 75–80°F/24°C–27°C during the day and 60–65°F/16–18°C during the night. Once budding and flowering has initiated, rosetting is no longer a concern and the plants can handle more extreme temperature fluctuations.

Keep the soil evenly moist but not saturated, and do not let the plants dry out. Reduce water levels once buds have formed. To prevent the flowers from getting scorched from high light levels and warm temperatures a light shade cloth can be used.

Lisianthus seedlings about 65 days, or 9 weeks, from seeding. These seedlings were sown March 19, 2015 and the photo was taken May 14, 2015.

PESTS AND DISEASES:
Crop rotation should be practiced 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. If the presence of insects or disease is found, identify the problem and refer to our pest and disease charts in our catalog or in the Grower's Library on our website for the proper control. Rootshield® will protect against most root pathogens; Safer® Insect Soap and PyGanic® are effective in controlling a number of insect pests.

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 is useful in corsages, small bud vases, or short arrangements.

Harvest is best in the morning when temperatures are at their coolest. Place stems in clean buckets of cool water. For optimum storage, place buckets in a cooler at 36–41°F/2–5°C. Floral preservatives can be use to increase the length of vase life. 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, lisanthus can last for 10-15 days in a vase.

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