GAU Research Journal **51** (2) : 147-156 https://doi.org/10.68890/gaurj.5102.09

ID: GAURJ-26-002

Spider Lily (*Hymenocallis littoralis* L.): Cultivation, production technology, yield and economic importance

D. P. Prajapati[1] and K. S. Solanki[2]

[1]ASPEE College of Agriculture, Junagadh Agricultural University, Khapat-Porbandar- 360 579, India.
[2]College of Horticulture, Sardarkrushinagar Dantiwada Agricultural University, Jagudan-Mehsana -382 710, India.
*Correspondence author email id: *dhruviprajapati17@gmail.com*
ORCID: https://orcid.org/0009-0004-0416-7235

Received: 15/09/2026 Accepted: 14/10/2026

ABSTRACT

Spider lily (*Hymenocallis littoralis* L.) is an attractive perennial bulbous ornamental plant belonging to the family *Amaryllidaceae*. It is widely cultivated for its fragrant white flowers, which are extensively used in garlands, floral decorations, bouquets and religious offerings. The crop is vsalued for its adaptability, year-round flowering under favourable conditions, and economic productivity for 7–8 years. Commercial production involves the use of healthy bulbs, proper planting, balanced nutrient management, irrigation and effective pest and disease management. Flower buds are harvested at the fully developed but unopened stage to ensure superior quality and longer vase life. Besides its ornamental value, the crop has medicinal potential due to the presence of bioactive alkaloids (Guan *et al*., 2026). This chapter highlights the cultivation practices, production technology, harvesting, yield and economic importance of spider lily for researchers, students, extension workers and commercial growers.

Keywords: *Hymenocallis littoralis*, spider lily, production technology, flower buds, yield, economic importance.

INTRODUCTION

Spider lily (*Hymenocallis littoralis* L.) is a perennial bulbous ornamental plant belonging to the family *Amaryllidaceae*. It is valued for its distinctive white spider-like flowers with a prominent central corona and long, narrow tepals. The species has a somatic chromosome number of 2n = 46 (Flory, 1977; Meerow, 1987). Native to tropical America, it is now widely naturalized in tropical and subtropical regions due to its adaptability, attractive flowers, and year-round blooming habit (Alam *et al*., 2013). In India, spider lily is cultivated as both an ornamental and a commercial loose flower crop, with major production concentrated in the South Gujarat districts of Navsari, Valsad, Surat, Tapi, and Dang (Patil *et al*., 2026; *Nursery Today*, 2023). According to the Zone-wise/District-wise Estimated Area, Production and Productivity of Flower Crops for 2024–25, Spider lily occupied an area of 2,954 ha, producing 29,021 MT with an average productivity of 9.82 MT/ha in Gujarat. The flower buds are harvested throughout the year for making garlands, gajras, veni, religious offerings, and floral decorations. Commercial cultivation is also practiced in Tamil Nadu, Karnataka, Kerala, and Maharashtra. Owing to its continuous flowering, high market demand, and adaptability, spider lily has become an economically important loose flower crop in India, with South Gujarat as its leading production region (Patil *et al*., 2026).



Fig.1 : Spider lily flower

IMPORTANCE OF THE SPIDER LILY

Spider lily is valued for its ornamental, commercial, and medicinal importance. Its attractive white flowers, hardiness, and low maintenance make it popular in landscapes, parks, and home gardens. The flower buds are widely used for preparing garlands, gajras, venis, religious offerings, and floral decorations, contributing to its commercial significance (Datta, 2019). The bulbs of *Hymenocallislittoralis* are a rich source of bioactive Amaryllidaceae alkaloids, including lycorine, haemanthamine, pancratistatin, narciclasine, pretazettine and related alkaloids. These compounds have attracted considerable pharmacological interest because of their reported cytotoxic, antiproliferative, antiviral and other biological activities, indicating the potential of *H. littoralis* bulbs as a source of bioactive compounds for pharmaceutical research.(Abou-Donia *et al.* 2008).







Fig. 2: Diverse commercial uses and market applications of spider lily (*Hymenocallis littoralis*) flowers, including temple decoration, Gruh Puja garlands, gajra, veni and flower-market trade.

SPECIES AND VARIETIES OF SPIDER LILY

The genus *Hymenocallis* comprises approximately 60–70 species distributed mainly in the tropical and subtropical regions of the Americas (Akshatha, 2022). The important species of the genus are presented in Table 1. Among these, *Hymenocallislittoralis*, *H. speciosa*, *H. caribaea*, and *H.* × *festalis* are the most important species for commercial cultivation. Although no officially recognized commercial varieties of spider lily are available, two distinct types are commonly observed based on their vegetative and flowering characteristics. The first type has narrow, dark green leaves and flowers only during the rainy season, whereas the second type has broad, medium green leaves and produces flowers throughout the year (Sindha and Solanki, 2023).Owing to its continuous flowering habit and higher commercial value, the broad-leaved, medium green type is predominantly cultivated by farmers for commercial flower production.





Fig3: (A) Dark green, narrow leaved type, (B) Light green, broad leaved type

SOIL AND CLIMATE REQUIREMENTS

Spider lily grows well in fertile, well-drained sandy loam to loamy soils rich in organic matter. A soil pH ranging from 6.0 to 7.5 is considered ideal for optimum growth and flowering (Shweta, 2020).The crop thrives under tropical and subtropical climatic conditions with temperatures ranging from 20°C to 30°C. Full sunlight to partial shade promotes vigorous vegetative growth and better flower production. Warm temperatures and moderate humidity favor continuous flowering throughout the year (Datta, 2019).

PROPAGATION

Spider lily is primarily propagated through bulbs and bulb offsets. Mature bulbs produce daughter bulbs around the mother bulb, which are separated and planted individually for crop establishment (Prajapati, *et al.,* 2023).

The Navsari Agricultural University recommends bulb propagation for commercial production and suggests the use of healthy bulbs of approximately 4–6 cm diameter for obtaining better growth and yield as it ensures true-to-type plants and early flowering(Navsari Agricultural University, n.d.).Seed propagation is generally restricted to breeding programs because seedlings require a longer period to flower. Tissue culture methods have also been developed for rapid multiplication of disease-free planting material (Akshatha, 2022).





Fig4: (A) Bulbs of spider lily, (B) Tissue cultured bottle

LAND PREPARATION AND PLANTING

The optimum time for planting spider lily is during May–June, coinciding with the onset of the monsoon season. Since it is a perennial bulbous flower crop, bulbs used for planting are generally collected from healthy 5–7-year-old plants, with each plant producing approximately 7–10 bulbs. After lifting the bulbs from the soil, they are separated from the mother clump, the leaves are trimmed and the bulbs are planted immediately without storage. For commercial cultivation of spider lily (*Hymenocallis littoralis*), a spacing of 90 × 30 cmis recommended, while 60 × 30 cm may be adopted for high-density production based on experimental findings (Ghormade and Haldavnekar, 2022).Immediate irrigation after planting is essential to promote proper bulb establishment and sprouting (Prajapati *et al*., 2023).

Spider lily is well suited for ratoon cropping and productive ratoon crops can be maintained for several years. For obtaining vigorous ratoon growth, de-leafing is recommended twice a year, during February and August. In the early stages of regrowth, flower spikes may emerge simultaneously with vegetative growth. Since these early flower spikes compete with developing shoots for nutrients and assimilates, they should be removed at the pre-emergence stage to encourage vigorous vegetative growth and ensure better plant establishment for subsequent flowering.

NUTRIENT MANAGEMENT

Spider lily is a perennial bulbous crop that requires a continuous supply of nutrients for sustained vegetative growth, flowering, and bulb multiplication. During land preparation, 20–30 t/ha of well-decomposed farmyard manure (FYM) should be incorporated into the soil (Shweta, 2020).

Nutrient / Input	Recommended dose (kg/ha/year)	Method of application	Time of application
FYM	20,000 kg	Apply and incorporate into soil	June / before planting
Nitrogen (N)	300 kg	Four equal split doses	June, September, December & March
Phosphorus (P2O5)	225 kg	Full dose as basal application	June
Potassium (K2O)	200 kg	Full dose as basal application	June

(Patel, M.A. (2000). Fertilizer recommendation for spider lily (*Hymenocallis littoralis*) under South Gujarat conditions.)

Foliar application of gibberellic acid (GA2) @ 250 ppm and naphthalene acetic acid (NAA) @ 150 ppm has been reported to improve plant growth, flowering, flower quality, yield, and bulb multiplication. Moreover, two foliar sprays of GA2 @ 250 ppm at 45 and 60 days after de-leafing are recommended for obtaining higher flower yield, superior flower quality, and greater economic returns. Integrated nutrient management combined with the judicious use of plant growth regulators further enhances flower yield, bulb multiplication, flower quality, and overall crop productivity (Pithiya *et al.,* 2024; Parmar, 2019; Prajapati *et al*., 2023; Prajapati *et al*., 2025).

IRRIGATION MANAGEMENT

Spider lily requires regular irrigation for continuous vegetative growth and flowering. The first irrigation is provided immediately after planting. Subsequent irrigations are scheduled at intervals of 7–10 days during summer and 10–15 days during cooler months depending on soil moisture availability (Prajapati *et al*., 2023). Drip irrigation is recommended for efficient water use, uniform soil moisture maintenance, and improved growth and flower yield while minimizing water loss. Waterlogging should be avoided because it increases the incidence of bulb rot and root diseases (Shweta, 2020).

INTERCULTURAL OPERATIONS

Regular intercultural operations are essential for maintaining healthy plant growth and maximizing flower yield in spider lily. Weeding and hoeing should be carried out periodically to keep the field weed-free and improve soil aeration (Datta, 2019). Mulching with organic materials or black plastic helps conserve soil moisture, suppress weed growth, and regulate soil temperature. Removal of dried leaves, spent flower stalks, and diseased or damaged plant parts promotes plant health, reduces pest and disease incidence, and encourages continuous flowering. Earthing-up around the base of plants improves bulb development, anchorage, and drainage (Alam *et al*., 2013). Periodic loosening of the soil, replacement of gaps by replanting healthy bulbs, and regular field sanitation further enhance crop vigor, bulb multiplication, and overall flower productivity.

CROP DURATION AND REJUVENATION

Spider lily is a long-duration perennial crop and remains productive for about 7–8 years after planting. However, flower yield and quality gradually decline with the age of the plantation. Therefore, after 7–8 years, the bulbs should be lifted from the soil, the bulblets separated from the mother bulbsand stored in a cool, dry place before replanting to establish a new plantation and maintain optimum productivity.

HARVESTING OF FLOWER BUDS

Harvesting of spider lily flower buds is a labour-intensive and costly operation. Flower buds should be harvested when they are fully developed, white in colour, remain unopened, and are swollen at the base. Harvesting should preferably be carried out during the cool hours of the early morning or evening to ensure maximum freshness, extended vase life, and superior post-harvest quality. The harvested buds are grouped into bundles of 50 and tied with soft rope, rubber bands or fibers obtained from the lily flower stalk to prevent mechanical injury during handling. The bundles are then packed in wet jute bags or other suitable packaging materials for transportation. Spider lily is a perennial crop that remains economically productive for

7–8 years under proper management. Careful harvesting and handling are essential to minimize mechanical damage and maintain flower quality during marketing (Prajapati *et al*., 2023).



YIELD AND PRODUCTIVITY

The crop produces the highest flower bud yield during summer compared to the rainy and winter seasons, with an average annual production of about 2.7–3.0 million flower **buds per hectare**. The yield depends on bulb size, planting density, soil fertility, irrigation and climatic conditions. Flower production and quality can be further enhanced through balanced nutrient management, integrated crop management and the judicious use of plant growth regulators (Prajapati *et al*., 2025).

INSECT-PESTS

Spider lily is relatively resistant to major insect pests.However, the following pests may occasionally cause damage:

1. Aphids (*Aphis gossypii*, *Myzuspersicae*)

Aphids are small, soft-bodied sap-sucking insects that colonize the undersurface of young leaves, flower stalks, and developing buds. They feed by inserting their piercing-sucking mouthparts into the phloem, resulting in leaf curling, chlorosis, stunted growth, and reduced flower production. Aphids also excrete honeydew, which promotes the growth of sooty mold fungi, reducing photosynthetic activity. In severe infestations, they act as vectors for several plant viruses. Management includes removal of heavily infested plant parts, conservation of natural enemies (ladybird beetles and lacewings) and application of systemic insecticides is useful.

2. Thrips (*Thripstabaci*, *Frankliniellaoccidentalis*)

Thrips are minute insects that rasp and suck the contents of epidermal cells from leaves, flower buds, and petals. Feeding causes silvery streaks, bronzing, discoloration, distorted flowers, and reduced ornamental value. Severe infestations may result in premature flower senescence and poor market quality. Hot, dry weather favors rapid multiplication of thrips. Management includes removal of weeds that serve as alternate hosts, installation of blue or yellow sticky traps for monitoring, maintenance of field sanitation, and need-based spraying of insecticides such as spinosad (0.3 ml/l) or fipronil (1 ml/l).

3. Mealybugs (*Planococcuscitri*, *Phenacoccussolenopsis*)

Mealybugs are sap-sucking insects covered with a white waxy secretion. They infest leaves, leaf axils, flower stalks, and bulbs, extracting plant sap and causing yellowing, wilting, stunted growth, and poor flowering. Honeydew secreted by mealybugs encourages the development of sooty mold, further reducing plant vigor. Infestations are more severe under dry conditions and in densely planted fields. Management includes destruction of infested plant parts, control of ants that protect mealybugs, release of biological control agents such as *Cryptolaemusmontrouzieri*, and application of systemic insecticides like imidacloprid or dimethoate as recommended.

4. Caterpillars (*Spodopteralitura*, *Helicover paarmigera*)

Caterpillars are dangerous chewing pests that feed on leaves, flower buds, and occasionally flowers. Early instar larvae scrape leaf surfaces, while older larvae consume large portions of foliage, producing irregular holes and reducing the photosynthetic area. Feeding on flower buds results in bud damage and poor flower quality. Severe infestation may lead to complete defoliation of young plants. Management includes collection and destruction of egg masses and larvae, installation of pheromone traps for monitoring, application of biological insecticides such as *Bacillus thuringiensis* (Bt), and need-based spraying of insecticides such as emamectin benzoate (0.4 g/l) or chlorantraniliprole (0.3 ml/l). Proper sanitation, monitoring and need-based insecticide application effectively manage these pests (Datta, 2019).



Fig6. Damage of Caterpillar on flowers and slower spike

Bacillus thuringiensis (Bt), and need-based spraying of insecticides such as emamectin benzoate (0.4 g/l) or chlorantraniliprole (0.3 ml/l). Proper sanitation, monitoring and need-based insecticide application effectively manage these pests (Datta, 2019).

DISEASES

1. **Bulb Rot (*Fusarium oxysporum* f. sp. lycoridis / *Fusarium spp*.)**

Bulb rot is the most serious fungal disease of spider lily. The pathogen survives in soil and infected bulbs as chlamydospores and infects plants through wounds or the basal plate. Initial symptoms include yellowing and wilting of leaves, followed by soft, water-soaked lesions on the bulb scales that later become brown to dark brown. Advanced infection causes complete bulb decay, poor sprouting, stunted growth, and plant death. Disease development is favored by warm temperatures (25–30°C), poorly drained soils, and high soil moisture. Management includes the use of disease-free bulbs, crop rotation, well-drained soils, hot water treatment (50°C for 20–30 minutes), bulb treatment with fungicides such as carbendazim (0.1%) or thiophanate-methyl before planting, and destruction of infected plants.

2. **Leaf Spot (*Alternariaalternata*, *Cercospora* spp., *Colletotrichum* spp.)**

Leaf spot is caused by several fungal pathogens that infect the foliage under humid conditions. Symptoms begin as small, circular to irregular brown lesions with dark margins and pale centers. Under severe infection, lesions enlarge and coalesce, leading to extensive leaf blight, premature senescence, and reduced photosynthetic efficiency, thereby affecting bulb development and flowering. Disease severity increases at temperatures of 20–30°C with relative humidity above 85%. Removal of infected leaves, proper plant spacing, avoiding overhead irrigation, and fungicidal sprays such as mancozeb (0.25%) or copper oxychloride (0.3%) effectively reduce disease incidence.

3. **Root Rot (*Pythium* spp., *Rhizoctoniasolani*, *Phytophthora* spp.)**

Root rot is a soil-borne disease that damages the root system and basal plate of spider lily. The pathogens invade young feeder roots, causing cortical tissue decay, resulting in reduced water and nutrient uptake. Symptoms include yellowing of foliage, wilting, stunted growth, root browning, and eventual plant collapse. The disease is severe in heavy soils with poor drainage and prolonged waterlogging. Preventive measures include raised-bed cultivation, proper drainage, balanced irrigation, soil solarization, application of biological control agents (*Trichoderma harzianum*), and fungicides such as metalaxyl or captan where recommended.

The use of healthy planting material, proper drainage, and fungicidal treatments can minimize disease incidence (Shweta, 2020).

PHYSIOLOGICAL DISORDERS

The major physiological disorders observed in spider lily include:

1. **Poor Flowering**

Poor flowering is a physiological disorder caused by inadequate carbohydrate accumulation, immature bulbs, excessive nitrogen fertilization, insufficient solar radiation, overcrowding, and improper photothermal conditions. Bulbs require adequate size and carbohydrate reserves to initiate floral primordia. Excessive vegetative growth suppresses floral induction, resulting in delayed or reduced flowering. Maintaining optimum bulb size, balanced N:P:K fertilization, adequate spacing and full sunlight promotes normal flower initiation (Parmar, 2019).

2. **Leaf Yellowing (Chlorosis)**

Leaf yellowing results from impaired chlorophyll synthesis due to nutrient deficiencies, especially nitrogen, iron, magnesium, and sulfur, or from root dysfunction caused by waterlogging and poor soil aeration. Iron deficiency produces interveinal chlorosis in young leaves, whereas nitrogen deficiency causes uniform yellowing of older leaves. Waterlogged conditions reduce root respiration, limiting nutrient absorption and accelerating chlorosis. Corrective measures include improving drainage, maintaining soil pH between 6.0 and 7.0 and applying balanced fertilizers with micronutrients

3. Flower Bud Drop

Flower bud drop occurs due to physiological stress that disrupts hormonal balance, particularly auxin, gibberellin, and abscisic acid metabolism. Water stress, sudden temperature fluctuations, low relative humidity, nutrient deficiencies (especially potassium and boron), and transplant shock reduce assimilate translocation to developing buds, causing premature abscission. Maintaining uniform soil moisture, adequate potassium and boron nutrition, and avoiding environmental stress during the reproductive stage minimizes bud drop (Pithiya *et al.,* 2024).

Proper irrigation scheduling, balanced fertilization, optimum soil aeration, healthy bulb selection, and integrated crop management are essential to minimize physiological disorders and ensure high-quality flower production in spider lily.

CONCLUSION

Spider lily (*Hymenocallis littoralis* L.) is an important ornamental bulb crop with considerable commercial potential. Its adaptability, attractive flowers and prolonged flowering period make it suitable for landscaping and cut flower production. Proper management of soil fertility, irrigation and intercultural operations is essential for achieving high flower yields. Recent studies have confirmed the beneficial effects of plant growth regulators on flowering, yield, flower quality and economic returns. Therefore, the integration of improved cultural practices with plant growth regulator applications can significantly enhance the productivity and profitability of spider lily cultivation.

Table 1. Important species of the genus *Hymenocallis* (Spider Lily)



Hymenocallis littoralis
Beach Spider Lily



Hymenocallis speciosa
Green Spider Lily



Hymenocallis caribaea
Caribbean Spider Lily



Hymenocallis latifolia
Broad-leaved Spider Lily



Hymenocallis occidentalis
Northern Spider Lily



Hymenocallis coronaria
Shoals Spider Lily



Hymenocallis × festalis
Peruvian Daffodil



Hymenocallis rotata
Rotated Spider Lily



Hymenocallis eucharidifolia
Eucharis-leaved Spider Lily



Hymenocallis tubiflora
Tube-flowered Spider Lily



Hymenocallis choctawensis
Choctaw Spider Lily



Hymenocallis palmeri
Palmer's Spider Lily



Hymenocallis acutifolia
Sharp-leaved Spider Lily



Hymenocallis imperialis
Imperial Spider Lily



Hymenocallis graminifolia
Grass-leaved Spider Lily



Hymenocallis godfreyi
Godfrey's Spider Lily



Hymenocallis pygmaea
Dwarf Spider Lily



Hymenocallis narcissiflora
Narcissus-flowered Spider Lily



Hymenocallis arenicola
Sand Spider Lily



Hymenocallis henryae
Henry's Spider Lily



Hymenocallis harrisiana
Harris Spider Lily

Source: Images of the Hymenocallis species were obtained from Wikimedia Commons.

REFERENCES

Abou-Donia, A.H.; Toaima, S.M.; Hammoda, H.M.; Shawky, E.; Kinoshita, E. and Takayama, H. (2008). Phytochemical and biological investigation of *Hymenocallis littoralis* Salisb. *Chemistry & Biodiversity*, 5(2): 332–340.

Akshatha, V. (2022). Morphological and Molecular Characterization of Spider Lily *(Hymenocallis spp. and Crinum spp.)* Genotypes. KrishiKosh Repository.

Alam, A.; Iqbal, M. and Vats, S. (2013). Cultivation of Some Overlooked Bulbous Ornamentals—A Review on Their Commercial Viability. Report and Opinion.

Alam, M. A.; Juraimi, A. S.; Rafii, M. Y.; Hamid, A. A.; Aslani, F.; Hasan, M. M. and Uddin, M. K. (2013). Morphological and anatomical characterization of *Hymenocallislittoralis* and its adaptability under tropical conditions. *Australian Journal of Crop Science*, 7(8): 1034–1041.

Datta, S. K. (2019). Present Status of Research on Floriculture in India. *International Journal of Life Sciences*.

Directorate of Horticulture, Gujarat State, Gandhinagar. *Zone-wise/District-wise Estimated Area, Production and Productivity of Flower Crops for the Year 2024–25.*

Flory, W. S. (1977). Chromosome numbers in *Hymenocallis* and related genera (Amaryllidaceae). *Plant Life*, 33: 21–27.

Ghormade, A. S. and Haldavnekar, P. C. (2022). Effect of nitrogen and spacing on flowering parameters of spider lily (*Hymenocallislittoralis* L.). *International Journal of Current Microbiology and Applied Sciences*, 11(3): 146–156.

Guan, R.; Zhu, M.; Zhang, M.; Liu, X.; Zhang, J.; Wu, J.; Xu, J.; He, X. and Wamg, Y. (2026). Anti-inflammatory flavan alkaloids from the bulbs of

Hymenocallislittoralis (Jacq.) Salisb. *Phytochemistry*, 250, 114967.

India Flora Online. (2023). *Hymenocallislittoralis* (Jacq.) Salisb. Centre for Ecological Sciences, Indian Institute of Science, Bengaluru.

Meerow, A. W. (1987). Cytotaxonomy of the genus *Hymenocallis* (Amaryllidaceae). *Systematic Botany*, 12(3): 443–454.

Navsari Agricultural University. (n.d.). *Spider lily*. NAU Krushi Kiosk, Navsari Agricultural University, Navsari, Gujarat, India.

Nursery Today. (2023). *All About Spider Lily*. *Nursery Today*, 8(10): 44–46.

Parmar, A. B. (2019). Response of Plant Growth Regulators on Growth, Flowering, Flower Yield and Quality of Spider Lily *(Hymenocallisspeciosa L.).*KrishiKosh Repository.

Patel, M. A. (2000). Fertilizer recommendation for spider lily (*Hymenocallislittoralis*) under South Gujarat conditions. As cited in the *Hymenocallis* production technology literature.

Patil, S.; Chawla, S. L.; Bhatt, D. S.; Patel, M. A. and Chaudhary, A. P. (2026). Evaluation of spider lily (*Hymenocallislittoralis*) for flower quality and yield. *Journal of Horticultural Sciences*, 21(1).

Pithiya, I.; Varu, D. K.; Maheta, P. V. and Prajapati, D. P. (2024). Effect of Integrated Nutrient Management on Growth, Flowering and Yield of Spider Lily *(Hymenocallislittoralis L.).International Journal of Advanced Biochemistry Research,* SP-8(7): 450-455

Prajapati, D. P. (2023). Effect of Plant Growth Regulators on Growth, Flowering, Flower Yield and Quality of Spider Lily *(Hymenocallislittoralis L.).*Unpublished M.Sc. thesis, Junagadh Agricultural University, Junagadh, KrishiKosh Repository.

Prajapati, D.; Joshi, N. S.; Patel, D. and Solanki, K. S. (2023). Response of plant growth regulators on growth and flowering of spider lily *(Hymenocallislittoralis* L.*). The Pharma Innovation Journal,* 12(10): 461–465.

Prajapati, D.; Joshi, N. S.; Solanki, K. S. and Pooja V. Maheta (2023). Efficacy of Foliar Application of Plant Growth Regulators on Flowering, Quality and Yield Aspects of Spider Lily (*Hymenocal lislittorallis* L.). *Biological Forum – An International Journal*, 15(9): 222-226.

Prajapati, D.; Solanki, K. and Joshi, N. S. (2025). Economic assessment of spider lily cultivation with plant growth regulators: yield, cost and profitability analysis. *Plant Arch*, 25: 443-6.

Shweta, G. H. (2020). Standardization of NPK for Spider Lily (*Hymenocal lisspeciosa* L.) Under Hill Zone of Karnataka.KrishiKosh Repository.

Sindha, M. and Solanki, K. S. (2023). Spider lily: An important cash crop (in Gujarati). Krushijivan, January Issue, pp. 18–21.