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Studies on response of height and time of clipping on yield attributes in Spider lily (*Hymenocallis littoralis* L.)

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ABSTRACT

The current research experiment, was conducted at Hi-tech unit of College of Horticulture, Dapoli, Dist. Ratnagiri (M.S) during the academic year 2025-2026. It was carried out in Randomized Block Design (RBD) with nine treatments and three replications. involving two clipping heights (At base and 50 % of plant height) applied across monthly intervals from August to November. The present data revealed that, maximum spikes per plant (2.07) in clipping at 50 % plant height in September (C₄) this treatment also optimized in yielding parameters, flowers per spike (10.40) flowers per plant (20.60), flower buds per plot (0.99 kg/plot), flowers buds per hectare (1.84 t/ha). However, from the above studies adopting 50 % clipping in the month of September was the best management practice for yield improvement in spider lily.

Keywords: Spider lily, Clipping, Spike, Flower, Buds, Konkan

1. Introduction

The bulbous perennial herb known as spider lily (*Hymenocallis littoralis* L.), or beach spider lily, is indigenous to Latin America. Its chromosome number is $2n = 22$, and it is a member of the Amaryllidaceae family. The Greek terms hymen, which means "membrane," and kallos, which means "beauty," are the sources of the genus name *Hymenocallis*. The membrane that joins and creates the filament cup is referred to as the "beautiful membrane" in *Hymenocallis*. There are roughly forty species of bulbous plants in the genus, most of which are indigenous to South America, particularly Peru. The spider lily has long, broad, strap-like dark green leaves that arise from a bulb that is 7 to 10 cm in diameter. It can reach a height of 45 to 60 cm. The name "spider lily" comes from its enormous, fragrant, white blossoms with thin, recurved petals that resemble spider legs and long filaments that emerge from the flower's cup.

Bulbs are used to propagate spider lilies, which bloom from midsummer to late autumn and may grow in both sunlight and partial shade. In western India, notably in southern Gujarat, Maharashtra, and Karnataka, where they have a respectable place in Mumbai's flower market, the flowers are commercially significant and resistant to a variety of growing conditions.

The warm, humid, and rainy Konkan climate is ideal for spider lily cultivation, making it a popular ornamental and landscape plant in the region. The humid tropical climate with heavy rainfall and mild winters in Konkan is highly favourable for spider lily growth. Thrives better in lateritic and sandy loam soils common in the region.

Spider lilies are rapidly becoming a prominent commercial flower in Gujarat and Maharashtra. Clipping is an essential horticultural practice that plays a significant role in the growth, development, and overall health of plants. In ornamental plants like Spider Lily (*Hymenocallis littoralis*), clipping helps in managing plant size, shaping the plant for aesthetic appeal, and encouraging the production of more flowers and foliage. Proper clipping can also remove damaged or diseased parts, which promotes better air circulation and reduces the risk of pest infestations.

The current experiment was conducted to examine the impact of clipping on spider lily development and yield in order to boost flower production in the Konkan area and meet the demands of flower growers.

2. Material and methods

The experiment entitled "Studies on response of height and time of clipping on growth and yield in Spider lily (*Hymenocallis littoralis* L.)" performed during August to November, 2025 at Hi-Tech Unit, College of Horticulture Dapoli, The experiment was laid out in Randomized Block Design with, nine treatments and three replications. In experiment, contained clipping stage, Clipping at base of plant August (C₁), Clipping at 50% plant height in August (C₂), Clipping at base of plant September (C₃), Clipping at 50% plant height in September (C₄), Clipping at base of plant October (C₅), Clipping at 50% plant height in October (C₆), Clipping at base of plant November (C₇), Clipping at 50% plant height in November (C₈), No Clipping (C₉). Five plants were selected thoroughly and tagged in each replication in all treatments for the purpose of recording observations. The mean value of the five selected plants in each treatment was taken to represent a

particular character. During the experiment, observation of yield parameters like Number of spikes plant⁻¹, Number of flowers spike⁻¹, Number of flowers plant⁻¹, Yield of flower bud kg plot⁻¹, Yield of flowers t ha⁻¹ were recorded. The generated data was subjected to statistical analysis method as suggested by Panse *et al.* (1995) [1].

3. Results and discussion

3.1. Yield parameters

3.1.1. Number of spikes plant -1

The maximum number of spikes per plant recorded under C₄ (50% clipping during September) (2.07), the lowest spike count per plant (1.20) was recorded in treatment C₇ (clipping at base in November) may be attributed to the favourable effect of moderate clipping, which possibly stimulated renewed vegetative growth and efficient utilization of assimilates for the development of reproductive shoots. The results are in general agreement with Maheshwari *et al.* (2024) [2], who reported maximum number of spikes per plant in spider lily.

3.1.2. Number of flowers spike -1

The analysis indicated that treatment C₄ (50% clipping in September) produced the highest number of flowers per spike, 10.40. In contrast, the lowest number was recorded in treatment C₅ (Clipping at base in October), 8.13 flowers per spike. This increase may be attributed to enhanced translocation of photosynthates from the source to the sink, triggered by the release or synthesis of growth hormones associated with vigorous plant growth. These hormones likely redirected energy toward the development of new spikes, promoting spike formation through increased cell elongation and cell division. The results correspond with the findings of Shakalya *et al.* (2025) [3] in spider lily.

3.1.3. Number of flowers plant -1

The analysis showed that treatment C₄ (50% clipping in September) resulted in the highest number of flowers per plant, 20.60. In contrast, the lowest flower count was observed in treatment C₇ (Clipping at base in November), 10.53 flowers per plant. The differences in number of flowers per plant may be due to the effect of clipping time and intensity on the production of flower spikes and subsequent flowers. C₄ (50% clipping during September) recorded the highest number of flowers per plant (20.60), possibly because moderate clipping promoted fresh growth and better allocation of assimilates towards flow-

ering. In contrast, C₇ (base clipping during November) recorded the lowest number of flowers per plant (10.53), which may be due to severe and late clipping, giving less time for plant recovery and flower spike development. Thus, 50% clipping during September was favourable for increasing the number of flowers per plant in spider lily. These results are in agreement with the findings of Akhtar *et al.* (2016) and Sha and Rajiv *et al.* (2016) jasmine.

3.1.4. Yield of flower buds (Kg/plot)

The analysis showed that treatment C₄ (50% clipping in September) resulted in the highest number of flower yield kg per plot, 0.99 kg. In contrast, the lowest flower yield per plot count was observed in treatment C₈ (Clipping at 50% in November), 0.43 flower yield per plot. Treatment C₄ (50% clipping in September) recorded the maximum flower yield (0.99 kg/plot), likely because early-season clipping enhanced floral initiation and extended the flowering duration throughout the cropping period. Conversely, Treatment C₈ (50% clipping in November) resulted in the minimum yield (0.43 kg/plot), as delayed clipping suppressed the development of reproductive shoots and truncated the productive phase. Consequently, executing a 50% clipping treatment during September represents the most effective management strategy for optimizing flower yield per plot. The present findings are in agreement with Palanikumar and Chelvi Ramesh (2021), who reported that pruning height influenced flowering and yield in *Jasminum sambac* (Gundumalli), where suitable pruning promoted improvement in yield of flowers. A similar response to clipping height in spider lily may have contributed to enhanced flowering and yield under the optimum clipping treatment.

3.1.5. Yield of flower buds (t/ha)

The analysis showed that treatment C₄ (50% clipping in September) resulted in the maximum number of flower bud yield per hectare, with an average of 1.84, likely because early-season clipping enhanced floral initiation and extended the flowering duration throughout the cropping period. In contrast, the minimum flower yield per hectare count was observed in treatment C₈ (Clipping at 50% in November), averaging 0.79 flower yield per hectare. These results are in agreement with the findings of Mundhe *et al.* (2018) [4] jasmine, Shakalya *et al.* (2025) [3] in spider lily. A similar response to clipping height in spider lily may have contributed to enhanced flowering and yield under the optimum clipping treatment.

Table 1. Effect of clipping on yield parameters in spider lily

Sr. No.	Treatment Details	Number of spikes plant -1	Number of flowers spike -1	Number of flowers plant -1	Yield of flower buds (Kg/plot)	Yield of flower buds (t/ha)
C ₁	Clipping at base of plant height in the month of August	1.47	9.33	14.07	0.67	1.25
C ₂	Clipping at 50% of plant height in the month of August	1.67	9.07	15.20	0.63	1.16
C ₃	Clipping at base of plant height in the month of September	1.33	9.33	11.27	0.54	0.99
C ₄	Clipping at 50% of plant height in the month of September	2.07	10.40	20.60	0.99	1.84
C ₅	Clipping at base of plant height in the month of October	1.40	8.13	11.73	0.55	1.02
C ₆	Clipping at 50% of plant height in the month of October	1.40	9.20	13.13	0.73	1.35

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Sr. No.	Treatment Details	Number of spikes plant ⁻¹	Number of flowers spike ⁻¹	Number of flowers plant ⁻¹	Yield of flower buds (Kg/plot)	Yield of flower buds (t/ha)
C ₇	Clipping at base of plant height in the month of November	1.20	8.80	10.53	0.48	0.89
C ₈	Clipping at 50% of plant height in the month of November	1.27	8.47	10.93	0.43	0.79
C ₉	No clipping in plant (Control)	1.33	8.93	12.27	0.68	1.26
	Mean	1.46	9.07	13.30	0.63	1.17
	Range	1.20 – 2.07	8.13 - 10.40	10.53-20.60	0.43-0.99	0.79-1.84
	F test	SIG	SIG	SIG	SIG	SIG
	S.Em ±	0.12	0.24	1.27	0.07	0.13
	CD at 5 %	0.35	0.71	3.82	0.21	0.39

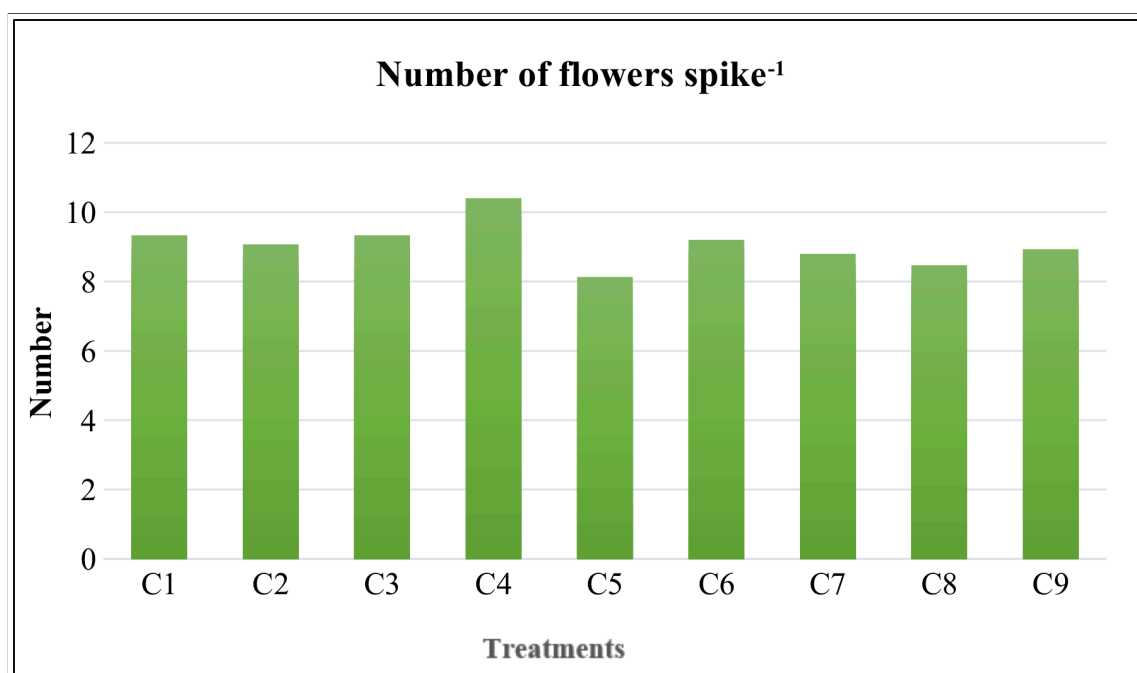


Figure 1. Effect of clipping on number of flowers spike⁻¹ on spider lily

C ₁	Clipping at the base of plant height in August	C ₆	Clipping at the 50% of plant height in October
C ₂	Clipping at the 50% of plant height in August	C ₇	Clipping at the base of plant height in November
C ₃	Clipping at the base of plant height in September	C ₈	Clipping at the 50% of plant height in November
C ₄	Clipping at the 50% of plant height in September	C ₉	No Clipping
C ₅	Clipping at the base of plant height in October		

4. Conclusion

From the above investigation it could be concluded that, C₄ (50% clipping in September) recorded the highest number of spikes per plant, flowers per spike, flowers per plant, and flower bud yield, with maximum yields of 0.99 kg/plot and 1.84 t/ha was the most effective treatment for enhancing flowering, yield, and economic returns in spider lily. However, the study concludes that 50% clipping in September is the most congenial treatment for maximizing the yield and economic returns of spider lily in the Konkan region.

C ₁	Clipping at the base of plant height in August	C ₆	Clipping at the 50% of plant height in October
C ₂	Clipping at the 50% of plant height in August	C ₇	Clipping at the base of plant height in November
C ₃	Clipping at the base of plant height in September	C ₈	Clipping at the 50% of plant height in November
C ₄	Clipping at the 50% of plant height in September	C ₉	No Clipping
C ₅	Clipping at the base of plant height in October		

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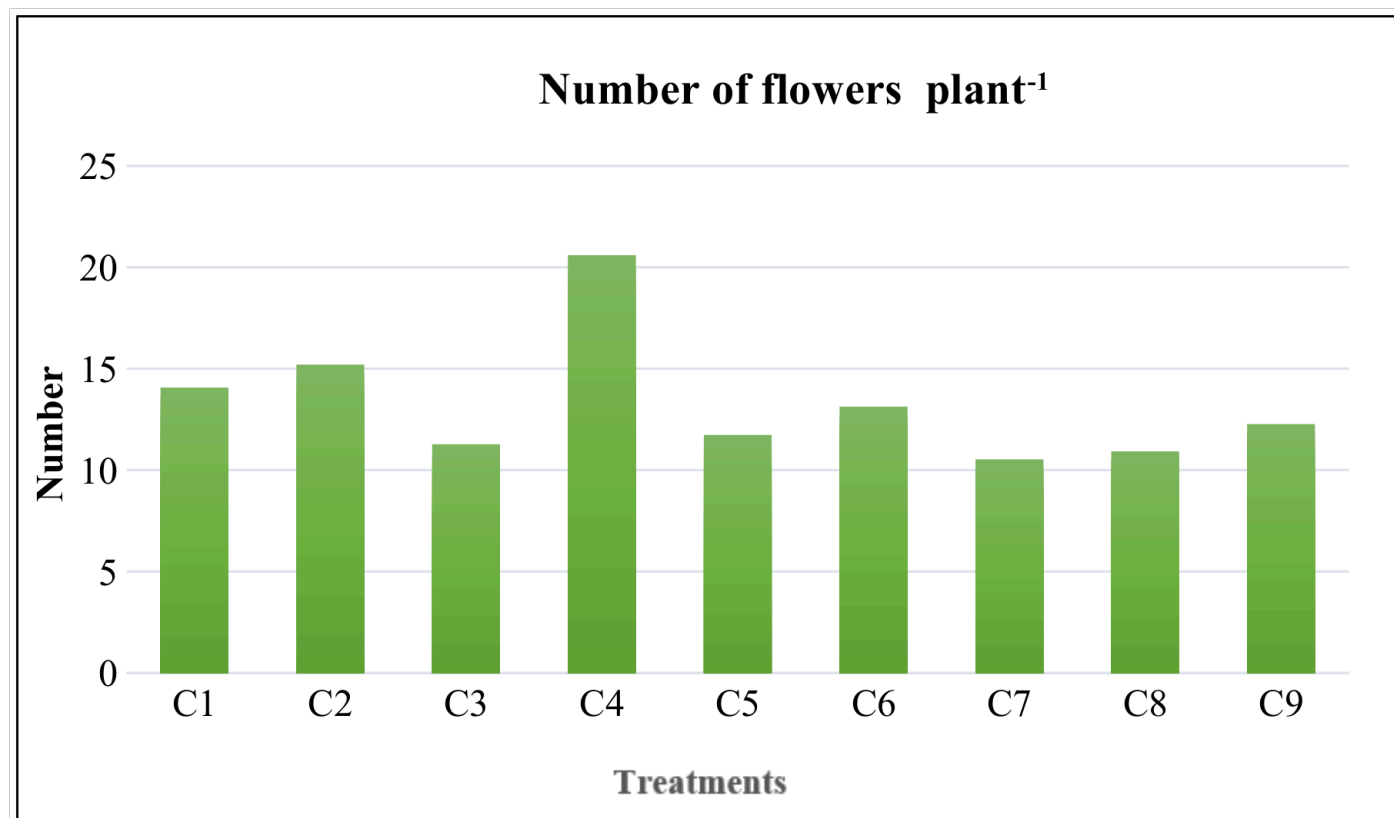


Figure 2. Effect of clipping on number of flowers plant⁻¹ on spider lily

5. Acknowledgement

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