Int.J.Curr.Microbiol.App.Sci (2025) *14*(07): 68-71

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Volume 14 Number 7 (2025)**
Journal homepage: http://www.ijcmas.com

Original Research Article https://doi.org/10.20546/ijcmas.2025.1407.008

Performance of Rose (*Rosa spp.*) on Vase Life Under Different Growing Condition and Different Growing Media

Siddhi R. Patil[1]* and Manoj J. Patokar[2]

[1]*Assistant Professor, DYP, College of Agriculture, Talsande, India*
[2]*Assistant Professor, College of Horticulture, Kashti, India*

**Corresponding author*

Keywords

Rose, vase life, shadenet, media, cocopeat, soil, growth, condition

Article Info

Received:
08 May 2025
Accepted:
22 June 2025
Available Online:
10 July 2025

A B S T R A C T

An studies on vase life in different growing conditions and media in rose cv. Gladiator was carried out at College of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli during the year 2018-19 and 2019-20 in randomized block design with three treatment of growing condition *viz.,* Open field, Polyhouse condition and Shadenet condition and growing media *viz.,* Soil, Cocopeat, Soil + Cocopeat (1:1), Soil + Coirhusk (1:1), Soil + FYM + Cocopeat + Ricehusk (1:1:1:1) it was undertaken by considering the commercial importance of rose to maximize the production of farmer throughout the year. The result revealed that, the significantly maximum Vase life (11.86 days), was recorded in treatment T_3 i.e. shadenet. And in growing media maximum maximum vase life was recorded in Soil + Cocopeat (1:1) (11.63), respectively.

Introduction

A rose is either a woody perennial flowering plant of the genus Rosa in the family Rosaceae or the flower it bears. There are over three hundred species and tens of thousands of cultivars. They form a group of plants that can be erect shrubs, climbing, or trailing, with stems that are often armed with sharp prickles. Their flowers vary in size and shape and are usually large and showy, in colours ranging from white through pinks, reds, oranges and yellows. Most species are native to Asia, with smaller numbers native to Europe, North America, and Northwest Africa. Species, cultivars and hybrids are all widely grown for their beauty and often are fragrant. Roses have acquired cultural significance in many societies. Rose plants range in size from compact, miniature roses to climbers that can reach seven meters in height. Different species hybridize easily, and this has been used in the development of the wide range of garden roses. The queen of flower, rose is beautiful and attractive. Among these the important categories of roses are Hybrid Tea, Floribunda, Hybrid perpetual, Grandifloras, Tea scented china roses, Polyanthas, Miniatures, Cabbage rose, Bourbon rose, French rose alba, Musk rose, Mamblers moss roses, Noisette roses**.** Rose is a symbol of love, adoration and innocence and it occupies a prominent position in the tradition, religious and social culture of every country in the world. Rose as cut flower has great demand in the internal as well as export markets.

The flower production in rose can be increased by using different growing structure like polyhouse, shadenet and different growing media like Soil, Cocopeat, Soil + Cocopeat (1:1) As it is difficult to obtain good quality cut flowers under open conditions throughout the year in Konkan region due to high average annual rainfall (3635 mm) and low light intensity (150-200 lux) in rainy season.

Therefore the crops should be cultivated under the cover to get good quality produce (Polyhouse, Shadenet), it is large enough to grow crops under partial or fully controlled environmental conditions to obtain optimum growth and quality production. The main advantages of polyhouse and shadenet cultivation are the crops can be cultivated successfully throughout the year, getting high productivity with excellent quality, it is easy to protect the crops against extreme climatic conditions and incidence of pests and disease. Climatic factors play a vital role in the production of quality roses.

Materials and Methods

A field experiment was carried out at College of Horticulture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli during the year 2018-19 and 2019-20 in randomized block design to study effect of different growing condition on flowering parameter (Vase life) of rose cv. Gladiator with three treatment *viz.,* T_1- Open field, T_2- Polyhouse condition and T_3- Shadenet condition and replicated seven times. And different growing media T_1- Soil, T_2- Cocopeat, T_3- Soil + Cocopeat (1:1), T_4- Soil + Coirhusk (1:1), T_5- Soil + FYM + Cocopeat + Ricehusk (1:1:1:1) and replicated five times. The treatments were imposed on new budded plants of rose cv. Gladiator.

The variety gladiator was planted under three growing conditions with 25 plants per plot in seven replications i.e. 175 plants were planted under three growing condition (open, polyhouse, shadenet) with total plant population of 525 plants. Healthy plants were used for the planting in the three sets of experimental plots.

In growing media the variety gladiator was planted under different potting media like soil, cocopeat, coir husk, rice husk, FYM with 25 plants per treatment in each plot i.e. 125 plants were planted under each replication with total plant population of 500 plants. Total 500 pots of 40 x 42 cm (length x width) were utilized for the experiment. Each pot was filled with different media according to treatment. The media was filled in pots as per treatment details to analyse the different qualitative parameters.

Before planting the field was prepared by mixing with different fertilizers like suphala (25 g/plant), FYM (100 g/plant), etc. Planting was done on 19th and 20th June, 2018 for three sets of experiments. The rose plants were planted on bed of size 6.3 m x 1.2 m with spacing 60cm x 45 cm in each experiment.

Nutrient management was done with application @ 600 kg nitrogen, 200 kg phosphorous and 200 kg potash per hectare in the form of straight fertilizers i.e., urea, single super phosphate and muriate of potash for three sets of experiments i.e. 17 gm urea, 32.4 gm SSP, 8.64 gm MOP/plant was provided, whole dose of phosphorous, potassium and 1/3rd dose of nitrogen was applied at the time of planting. While 2/3rd dose of nitrogen was applied as top dressing in three equal splits. Application of 19:19:19 drenching (10gm/lit), soil application of Suphala (15:15:15) @25gm/plant, drenching of 0:52:34 @5gm/lit and Humic acid @10 gm/15 lit of water were singly provided once in a week. FYM was added @100 gm/plant at the time of planting

All cultural operations viz., manual pruning, pinching, disbudding, weeding, irrigation, pest control, etc. were carried out as and when required was done after 45 days of planting. Observations on various flower characters viz., vase life were recorded at proper stage and analysed statistically by the method suggested by Panse and Sukhatme (1978).

Results and Discussion

The data presented in table 1 revealed that, different treatments of growing condition had significant effect on vase life of rose studied in this.

Vase life

The pooled data on vase life observed that treatment T_3 (shadenet) recorded significantly maximum vase life of rose (11.86) which was statistically at par with the treatments T_2 i.e. polyhouse (11.29) whereas minimum vase life of rose (9.87) was observed in T_1 (open).

$T_3 > T_2 > T_1$

A flower, when detached from its source plant is deprived of its metabolic and water supply and show

tendencies of wilting. The development and opening of cut flowers is an active growth process characterized by an increase in the respiration rate during its opening which requires adequate water supply. Thus, water is the most important and universal ingredient for holding solution, to which other chemical preservatives are added to increase the shelf life of the cut flowers. An ideal cut flower should remain fresh with respect to color and fragrance and should have long vase life.

From above result it was noticed that the maximum vase life of flower was observed in shadenet condition which is at par with polyhouse condition. The effect of a holding solution in order to prolong the vase life of cut flowers was reported by several workers (Aarts, 1957; Halevy, 1978; Halevy and Mayak, 1981; Tiwari and Singh, 2002; Karki *et al.,* 2004; Madhubala *et al.,* 2008).

The variation pattern of significance of vase life is as given below-

$T_3 > T_5 > T_4 > T_2 > T_1$

During the investigation of two year it was noticed that the treatments T_3 i.e. Soil + Cocopeat (11.63) recorded significantly maximum vase life which was statistically at par with treatment T_5 i.e. Soil + FYM + Cocopeat + Ricehusk (11.25) whereas, the treatment T_1 i.e. soil noted minimum vase life of flowers (8.88) in pooled study, respectively.

In this experiment the significantly maximum vase life was observed in treatment T_3 i.e. Soil + Cocopeat, however the treatment T_1 i.e. Soil noted minimum vase life of flowers. This may be due to its ability of superior growth throughout the experimental period which provided the best quality flower.

Internal carbohydrate content of the flowers, which is responsible for the vase life of flowers. Substrate having better physical properties, which influence the absorption of nutrients by the plants which ultimately produced long stems and more turgid flowers. Similar results were obtained by in carnation and in gerbera (Chavda *et al.,* 2017).

The better performance of this media in vase life might be due to its ability of superior growth throughout the experimental period and overall food nutrient status of flowers under this treatment provided the best quality flowers. Our findings are also in close agreement with Bhatia *et al.,* (2004).

Table.1 Studies on vase life of rose cv. Gladiator as influenced by different growing condition

Treatment	Vase life (days)
T_1-Open	9.87
T_2-Polyhouse	11.29
T_3-Shadenet	11.86
Mean	11.01
S.Em ±	0.40
CD at 5 %	1.23

Table.2 Studies on vase life of rose cv. Gladiator as influenced by different growing media

Treatment	Vase life (days)
T_1- Soil	10.13
T_2- Cocopeat	8.88
T_3- Soil+Cocopeat (1:1)	11.63
T_4- Soil+Coirhusk (1:1)	9.38
T_5- Soil+FYM+ Cocopeat+ Ricehusk (1:1:1:1)	11.25
Mean	10.25
S.Em ±	0.29
CD at 5 %	1.88

Author Contributions

Siddhi R. Patil: Investigation, formal analysis, writing—original draft. Manoj J. Patokar: Validation, methodology, writing—reviewing.

Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical Approval Not applicable.

Consent to Participate Not applicable.

Consent to Publish Not applicable.

Conflict of Interest The authors declare no competing interests.

References

Aarts, J. F., (1957). Over de houd barrehied van snijblomene. Meded van de Land bou whogeschool te wageningem, 57: 1-62.

Bhatia S, Y. C. Gupta, S. R. Dhiman, (2004). Effect of growing media and fertilizers on growth and flowering of carnation under protected condition. J. of Orn. Hort. 7(2):174-178.

Chavada, J. R., B. V. Thumar, A. N. Vihol, V. S. Patel and B. M. Padhiyar, (2017). Effect of Potting Media on Growth, Flower Yield and Quality of Rose (Rosa hybrida L.) CV. Top Secret under Protected Condition. Int.J. Pure App. Bio sci. 5(5): 821-827.

Halevy, A. H. and S. Mayak, (1981). Senescence and post harvest physiology of cut flowers. In Horticultural Reviews, Part-II Ed. J. Janick 3: 59-143.Mohanty, C. R., A.

Halevy, A. H., (1978). Treatments to improve water balance of cut flowers. J. Ameri. Soc. Horti. Sci., 101: 55-58.

Karki, K., Santoshkuamr, Srivastava, R. and Shivajauhari, (2004). Effect of floral preservatives on vase life of cut roses grown under polyhouse condition. J. Orn. Hort., 7(1):121-123.

Madhubala, Rameshkumar and K. Singh, (2008). Effect of pulsing and holding solutions on keeping quality of cut flowers of rose (Rosa spp.). J. Orn. Hort., 11(1): 54-57.

Panse, V. G. and P. V. Sukhatme, (1978). Statistical methods for agricultural workers. ICAR Publication, New Delhi. p. 359.

Tiwari and Singh, (2002). Effect of certain chemical preservative on cut flowers. *J. Orna. Hort*., 61: 113-116.

How to cite this article:

Siddhi R. Patil and Manoj J. Patokar. 2025. Performance of Rose (*Rosa spp*.) on Vase Life Under Different Growing Condition and Different Growing Media. *Int.J.Curr.Microbiol.App.Sci.* 14(07): 68-71.
doi: https://doi.org/10.20546/ijcmas.2025.1407.008