



Research Paper

Article history :

Received : 19.01.2012

Revised : 23.05.2012

Accepted : 14.06.2012

Flower production of hybrid tea rose (*Rosa hybrida* L.) cv. 'GLADIATOR' under protected condition through different treatments during winter season

■ S.J. PATIL, N.L. PATEL¹, S.S. GAIKWAD¹ AND P.P. BHALERAO¹

Members of the Research Forum

Associate Author :

¹Department of Fruit Science,
ASPEE College of Horticulture
and Forestry, Navsari Agricultural
University, NAVSARI
(GUJARAT) INDIA

Author for correspondence :

S.J. PATEL

Department of Fruit Science,
ASPEE College of Horticulture
and Forestry, Navsari Agricultural
University, NAVSARI
(GUJARAT) INDIA
Email : goldmedalist@rediffmail.
com

Abstract : A field experiment was conducted during the year 2003 and 2004 with two main plots viz., 50% shade net (S₁) and open field (S₂) and eight sub treatments viz., full dose of N (75 g plant⁻¹- T₁), T₁ + *Azotobacter* 2 g plant⁻¹ (T₂), T₁ + BA 100 mg l⁻¹ (T₃), T₂ + BA 100 mg l⁻¹ (T₄), 3/4th dose of N (T₅), T₅ + *Azotobacter* 2g plant⁻¹ (T₆), T₅ + BA 100 mg l⁻¹ (T₇) and T₆ + BA 100 mg l⁻¹ (T₈). Results revealed that, the vigorous plant growth viz., plant spread, plant height, total leaf area, number of leaves and shoots per plant, fresh and dry weight of pruned shoots was observed in S₂. The rose plants grown under shadenet had higher nitrogen content in leaf, superior quality of flowers with more longevity while, early flowering, maximum flower production with more vase life in S₂. The vigorous growth in terms of plant spread, number of leaves, total leaf area and number of shoots was noted in T₈ treatment plants. Consequently, these plants produced early flower, longer flower stalk with maximum flower production and higher longevity as well as vase life of flower. The height and weight of pruned shoots, nitrogen content in leaf were higher in T₄ treatment. The flower quality in all most all the respects was also better in the plant receiving T₄ treatment. Interaction of situation and treatment was found significant in case of plant spread, total leaf area, number of shoots per plant and flower production in S₂T₈ treatment combination. The flowers with higher stalk length were produced in S₁T₈.

Key words : Gladiator, Open field, Shade net, *Azotobacter*, Benzyladenine, Rose

How to cite this article : Patil, S.J., Patel, N.L., Gaikwad, S.S. and Bhalerao, P.P. (2012). Flower production of hybrid tea rose (*Rosa hybrida* L.) cv. 'GLADIATOR' under protected condition through different treatments during winter season, *Asian J. Hort.*, 7(1) : 154-159.

In today's modern world, rose is the highest demanded cut flower and it ranks first in international flower trade. The annual consumption of rose as cut flower in the world is worth 1.5 billion US dollars (Reddy, 1999). The *Rosa hybrida* L. is a vigorous shrub with mild fragrance, foliage soft gray-green, the leaflet oval and usually three to five leaves. Branches are very prickly with hooked. Flowers are of large size, blaring red colour of cv. 'GLADIATOR'. The major rose producing states in India are Karnataka, Maharashtra, Punjab, Uttar Pradesh, Delhi, Chandigarh, West Bengal, Himachal Pradesh, Rajasthan, Kashmir and Gujarat. Biofertilizers are microbial inoculants of selective microorganisms like bacteria, algae, fungi, already existing in nature. *Azotobacter* is one of the most important non-symbiotic nitrogen fixing micro-organism.

A number of experiments conducted have shown a positive response to *Azotobacter* application on a wide range of crops like cereals, cash crops, flower crops and vegetables. In South Gujarat, during summer, temperature is very high. Due to high temperature, flower colour becomes faint due to which flower quality deteriorates. Use of 50 per cent shade net can reduce light intensity, insect attack and improve flower quality. Considering the importance of rose as cut flower and its popularity, it was thought worthwhile to carryout research as on use of 50 per cent shade net, Benzyladenine plant growth regulator and *Azotobacter* bio-fertilizer to know the growth, yield, and quality as well as vase life of rose cv. GLADIATOR under the agro-climatic conditions of South Gujarat.