



Effect of pulsing and different holding solutions on flower quality and vase life of tuberose (*Polianthes tuberosa* Linn) cv. CALCUTTA DOUBLE

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ABSTRACT

An experiment was conducted to extend the vase life of tuberose cut flowers cv. CALCUTTA DOUBLE by using pulsing and different holding solutions. The results revealed that pulsing with sodium thiosulphate for 1hr along with holding solution of 4% sucrose+2% citric acid+20ppm AgNO₃ (T₉) recorded significantly higher water uptake, per cent floret opening, diameter of fully opened florets and vase life of flowers over control. T₉ is followed by 2% sucrose+2% citric acid+20ppm AgNO₃ (T₇) and 4% sucrose+4% citric acid+30ppm AgNO₃ (T₁₀).

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Key words : Tuberose, Vase life, Pulsing, Quality

Tuberose (*Polianthes tuberosa* Linn.) belongs to the family Amaryllidaceae, is one of the most popular cut flower grown in India. The white, sweet scented flowers are valued as cut flower, used in bouquets, for making garlands, veines and as a source of essential oils for perfumery industries. The flowers are highly perishable and, therefore, need to be treated with suitable chemicals, to enhance their vase life and improve quality. The vase life of tuberose in tap water under good environmental conditions is only a few days. Extension of vase life and improvement of flower quality are highly desirable characters. It has been reported that pulsing treatments prevent vascular infections and inhibit ethylene production and thereby result in prolong storage period and higher quality flowers with increased vase life (Sankar and Bhattacharjee, 2002). Moreover, investigations pertaining to extend the vase-life of tuberose flowers by chemical treatments have been carried out with varying success. Several chemicals *i.e* silver nitrate, aluminium sulphate, cobalt sulphate, 8-hydroxyquinoline sulphate, boric acid, citric acid, ascorbic acid, sucrose etc. have been used in different formulations and combinations to enhance the vase life of tuberose (Saini *et al.* 1994, Reddy *et al.* 1995,

Sathyannarayan *et al.*, 1996). Therefore, the present investigation was undertaken to study the combined influence of pulsing and holding solutions on vase life and quality of tuberose spikes.

MATERIALS AND METHODS

The experiment was conducted in completely randomized block design with factorial concept in the laboratory of Department of Horticulture, Assam Agricultural University, Jorhat during the month of June to July, 2009 at ambient temperature of 26-35°C. Each flower was harvested with uniform length between 8.00 am to 8.30 am at stage when the first 1-2 florets start opening. Immediately after harvest, the flowers were put in buckets containing water to remove field heat. After that the flowers were pulsed with sodium thiosulphate solution for 1hr and then they were stored in different holding solutions. Treatment details of holding solutions used in the experiment consisted of T₁: 2% sucrose, T₂: 4% sucrose, T₃: 2% citric acid, T₄: 4% citric acid, T₅: 20ppm AgNO₃, T₆: 30 ppm AgNO₃, T₇: 2% sucrose+2% citric acid+20ppm AgNO₃, T₈: 2% sucrose+4% citric acid+30 ppm AgNO₃, T₉: 4% sucrose+2% citric acid+20ppm