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Effect of harvesting dates on quality and vase life of cut flowers in tuberose (*Polianthes tuberosa* L.) cv. DOUBLE

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ABSTRACT

A study was carried out to evaluate the effect of harvesting date on vase life and quality of tuberose cut flower. The harvesting date significantly affected the vase life. 15th September (D_7) was found for longest vase life, whereas, the minimum vase life was noted at 15th March (D_{19}). The harvesting date 15th February (D_{17}) was recorded for maximum uptake of water, while, 15th August (D_5) and 15th October (D_9) were noted for lowest loss of water and loss-uptake ratio, respectively. Similarly, 1st January (D_{14}) was registered for maximum fresh weight of spike as well as highest percentage of opened florets. The higher circumferences of florets were recorded at 15th February (D_{17}). The lowest percentage of neck bent florets as well as minimum percentage of abscised florets was noted at 1st December (D_{12}) and 1st May (D_{22}), respectively.

Key words : Harvesting, Date, Vase life, Tuberose, Cut flower.

Flowers are one of the most important and unique gift of nature. They are the adornments of the world with their valuable aesthetic, environmental, economic and medicinal properties. The estimated area under flower growing in the country is about 1.06 lakh hectares (Jain *et al.* 2003). The cut flowers like rose, gladiolus, tuberose, chrysanthemum *etc*. have commonly and frequently demanded in both the local as well as international market. Among them, tuberose is one of the most important cut flower. The tuberose is grown on a wide range of soil and climatic conditions, but it flowers best in warm and humid climate. Among four types of tuberose, the Double type is mainly cultivated for cut flowers. The post harvest management is one of the most important factors for cut flower industries. The best quality of the spike is very important from marketing point of view. The components of cut flower quality are size, fragrance and freshness of the flowers. Improvement of the keeping quality and enhancement of vase life of cut flowers are important areas of floricultural research. Presently, our cultivators are not aware about standardized post harvest technology including harvesting periods and use of floral preservatives to extends the vase life. So it is great need to standardize the harvesting date and use of floral preservatives during summer season. The present study was undertaken to evaluate the effect of harvesting dates on quality and vase life of cut flowers in tuberose (*Polianthes tuberosa* L.) cv. DOUBLE.

MATERIALS AND METHODS

The healthy, good appearance, uniform and homogenous spikes were selected and harvested at one or two opened floret stage. The spikes were prepared through trimming, with keeping uniform length. The trial was conducted during the year 2003-04 with C.R.D. (Factorial) design at each fortnightly interval of the month in which 24 harvesting date starting from 15th June, 03 to 1st June, 04 were observed and the same was repeated for second year (2004-05). The treatments comprised of different harvesting date like 15th June,03 (T_1), 1st July,03 (D_2), 15th July, 03 (D_3), 1ST August, 03 (D_4), 15th August, 03 (D_5), 1st Sept, 03 (D_6), 15th Sept, 03 (D_7), 1st Oct, 03 (D_8), 15th Oct, 03 (D_9), 1st Nov., 03 (D_{10}), 15th Nov., 03 (D_{11}), 1st Dec., 03 (D_{12}), 15th Dec., 03 (D_{13}), 1st Janu., 04 (D_{14}), 15th Janu., 04 (D_{15}), 1st Feb., 04 (D_{16}), 15th Feb.,04 (D_{17}), 1st March, 04 (D_{18}), 15th March, 04 (D_{19}), 1st April, 04, (D_{20}), 15th April, 04 (D_{21}), 1st May, 04 (D_{22}), 15th May, 04 (D_{23}) and 1st June,04 (D_{24}). The necessary observations for vase life parameters were recorded.

RESULTS AND DISCUSSION

Vase life of spike:

Maximum vase life of the spike (13.32 days) was recorded in 15th September (D_7), however, it was found *at par* with D_{14}, D_{15} and D_{24} harvesting date (Table 1). Whereas, minimum vase life (7.69 days) was noted at 15th March (D_{19}). The longest vase life might be due to decreased loss of water as well as loss-uptake ratio, tends to increase the water balance in the spike because of lower range of temperature and transpiration rate with