

Title Effects of pre-harvest calcium fertilization on vase life of rose cut flowers cv. Alexander
Authors A. Mehran, D.G. Hossein, A. Tehranifar
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Abstract

The main problem of rose is its short vase life. Calcium is one of the important elements of cell wall that plays a major role in vase life. In similar horticultural products such as apple, pre-harvest fertilization of Ca is a conventional treatment to improve storage life. In this study, a factorial experiment was conducted based on completely randomized blocks design to consider the effect of Ca on the vase life and longevity of cut flowers. The first factor was concentration in 3 levels: 0, 10 and 20 mM and the second factor was time of fertilization in 3 times as 40, 30 and 25 days before harvesting. The experiment was conducted in 3 replications. After harvesting, the cut flowers were kept in laboratory condition in distilled water. Quantitative and qualitative factors like the rate of weight lose, rate of wilting, leaf chlorophyll content, change of petal color and other visual characteristics were evaluated. The results showed that fertilization with concentration of 10 mM CaCl₂ at 40, 30 and 25 days before harvest, improved vase life compared to untreated controls. Ten days after harvesting the cut flowers treated with CaCl₂ had good quality while the quality of control flowers decreased on fifth day after harvesting.