The 1st International Conference on New Ideas in Agriculture
Islamic Azad University Khorasgan Branch
26-27 Jan. 2014, Isfahan, Iran

IMPACT OF AMMONIUM NITRATE ON LONGEVITY, BULB AND BULBLET DIAMETER, OF NARCISSUS

[1]Mahnaz Hadi-e-vincheh[*], [2]Davood Naderi and [3]Ahmadreza Golparvar
[1] horticulture science department in university of agricultural sciences a natural resources, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.
[2] Young Researchers club, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.
[3] department in university of agricultural sciences and natural resources, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.
**Corresponding author: [1]Mahnaz Hadi-e-vincheh*
Corresponding Author E-mail address: mahnaz.hadi65@gmail.com

INTRODUCTION: The genus Narcissus comprises bulbous plants of the Northern Hemisphere belonging to the Amaryllidaceae family, consisting of about 63 species and many subspecific taxa and natural hybrids. Narcissus is popular as a cut flower (from field or by forcing), garden flower, park and pot plant (Sochacki and Orlikowska, 2005). Nutritional condition is a factor that can effect on quantity and quality of narcissus flowering. It was reported that, in soil application, NPK mixture in ratio of 1: 3: 4 respectively was the best which affected positively on plant length and bulb weight in Narcissus incomparabilis cv. Carbineer. The positive effects of nitrogen, phosphorus and potassium application in hydroponic systems on bulbs growth, quantity and quality of flowers in Narcissus were documented by others (Ruamrungsri et al., 1997).

MATERIALS AND METHODS: A factorial experiment was established, including ammonium nitrateat 0.0 (control), 100 and 200 $kg.ha^{-1}$, effects on Narcissus. The flowers were harvested in the early morning and transported with appropriate cover (in plastic packages) immediately to laboratory. Leaf longevity, bulb and bulblet diameter, were recorded. The data were statistically processed by analysis of variance according to a randomized complete block design and means with standard errors were calculated using the program Statistical Analysis System, version 9.1 (SAS Institute, Cary, NC, USA). Differences between the treatments were determined using Duncan's test.

RESULTS AND DISCUSSION: The using of different treatments is recommended to improving quality of flowers. In this study, influence of ammonium nitrate applications on improving quality of Narcissus pseudonarcissus flowers during vase period were investigated. This research showed that the same behaviour in all measured factors after harvest for all treatments. The leaf longevity, bulb and bulblet diameter increased significantly after experiment. In addition, statistically significant differences were observed between control and ammonium nitrate treatments in all measured parameters. Thus, the data suggest that ammonium nitrate treatment has the potential to be used commercially to improving quality of *Narcissus pseudonarcissus* flowers.

Keywords: Bulb, Bulblet, *Narcissus pseudonarcissus*, Nitrogen