

The Effect of Iron Chelate soil applications on Damask Rose

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ABSTRACT

Saline and alkaline soils can reduce availability of nutrients to plant roots, so it is recommended to soil applications Fe fertilizers on plant Root, instead of applying them in soil. To study the response of damask rose (*Rosa damascena* Mill.) to Fe chelate, this experiment was conducted in 2012 at Alborz research station, Research Institute of Forests and Rangelands, Karaj, Iran. Experimental design was randomized complete block design with three replications. Treatments included without soil applications, 8 gr (at bud appearance stage), 12 gr (at bud appearance and 10 days later) for each plant. Analysis of variance indicated that Fe application significantly affected plant height enhancement, the number of main and lateral branches, the number of flowers, essential oil percentage and essential oil yield. The highest total fresh flower weight during the period (3625.7g/plant) was achieved in 12 gr soil applications, the highest number of flowers during the period (2831.67) in 12 gr soil applications and the highest essential oil percentage (0.04%) in in 12 gr soil applications. Results generally indicated that the best treatment was in 12 gr soil applications.

KEYWORDS: essential oil, soil applications, morphology, *Rosa damascena*.



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

