Effects of different media on vegetative growth of two Lilium cultivars in soilless culture

R. Nikrazm[1]*, S. Alizadeh Ajirlou[2], A. Khaligy[3] and S. J. Tabatabaei[4]

(Received : December 1-2010 ; Accepted : July 31-2011)

Abstract

Strong, tall and healthy stems, as well as green background by means of leaves, are very important characters in marketing of cut flowers including Lily (Lilium). Also, in order to reuse the bulbs for next crop production, they should have enough stored materials and perimeter. This investigation was conducted to evaluate the effects of different media on some vegetative characters of two Lillium cultivars in greenhouse conditions and determine the most suitable medium. The experiment was based on randomized complete design with two cultivars namely Bernini (Oriental) and Cebdazzle (Asiatic) and 4 replicates. Ten treatments of the experiment were organic and mineral media including cocopeat, sand, vermiculite, perlite and mixture of each two media at equal volumes (50: 50). All the pots were fertigated daily by 250 ml of Hoagland half strength solution. Means were compared by Duncan multiple range test at 5% probability level. The results showed superiority of cocopeat over other media in terms of plant chlorophyll content, fresh and dry weight of leaves and stem, leaf area, height, stem diameter, number of leaves, and bulb perimeter in both cultivars. Root length of both cultivars reached the highest using the mixture of perlite and cocopeat. The performance of Cebdazzle cv. against Bernini cv. regarding fresh and dry weight of leaves, leaf area, stem diameter, number of leaves, stem dry weight and root length were better in all the media. While, mean chlorophyll content and fresh weight of stems in Bernini was significantly higher than Cebdazzle.

Keywords: Lilium, Soilless culture, Medium, Vegetative growth, Asiatic, Oriental.

[DOR: 20.1001.1.20089082.1390.2.2.1.4]

1. Former MSc. Student, Islamic Azad Univ., Sci. and Res. Branch, Tehran, Iran.
2. Assist. Prof., Landscape Eng. Dept., Univ. of Tabriz, Iran.
3. Prof., Hort. Dept., Univ. of Tehran, Karaj, Iran.
4. Prof., Hort. Dept., Univ. of Tabriz, Iran.
*: Corresponding Author, Email: raminnikrazm65@gmail.com