Effects of four nutrient solutions on vegetative traits of *Aloe vera* L. cv. Austin at six harvest periods

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Abstract

Aloe vera is a perennial liliaceous plant with succulent green leaves joined at the stem in a whorled pattern. It is highly appreciated due to its short growth period and high economic value among all the aloe species, and is used in pharmaceuticals, cosmetic products and food products. In order to improve *Aloe vera* cultivation in soilless culture, an experiment was conducted in 2011 in greenhouse of College of Agriculture, University of Guilan, Rasht, Iran, as a split plot bi-factorial in completely randomized design with four replications. Four nutrient solutions containing different levels of nitrate and potassium were the main plot, which were sampled at six different periods. Results revealed that the nutrient solutions affect measured traits after 5-6 months. In other words, in research programs for this plant, it is better to record the data for at least 5-6 months. In general, the nutrient solution containing 9.8 mM nitrate and 5.8 mM potassium lead to the best results in all sampling periods. In fact, *Aloe vera* plants respond positively to high levels of nutrients and in solutions containing the highest level of nitrate and potassium show the highest amount of measured traits.

Keywords: Nitrate, Potassium, Dry matter, Gel.

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