Onion Growth and Composition in Hydroponic Systems. (S04-green164648-Poster)

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Abstract:

This study is a component of a project designed to develop a management strategy for growing onions in a closed growth system on a planetary setting. The objective of this research is to evaluate the effects of hydroponic nutrient solution composition and pH on growth and nutritional quality of green onions. Three onion varieties, Allium cepa L. ('Deep Purple' and 'Purplette') and A. fistulosum L. ('Kinka'), were propagated in three nutrient solutions (Peter's Hydro-Sol, Hoaglands, or half strength Hoaglands), at two pH levels (5.8 and 6.5), in a three by two factorial design applied in a randomized block with three replications. Seeds were germinated in Cropking's oasis horticubes under greenhouse conditions, and were irrigated with tap water. Once the seedlings reached the flag stage, the plants were placed into hydroponic units in the greenhouse and grown under ambient conditions. Plants were harvested 30 days after transplanting to the hydroponic units. Physiological and composition data were collected. The results of this study will provide information on the effects of nutrient solution and pH on the growth and nutritional quality of green onions.

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