Effect of N, K and Mg on yield and fruit quality of strawberry (*Fragaria×ananasa* cv. Sun Rise) in hydroponic culture conditions

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Abstract

Soilless culture (hydroponic) and timely supply of plants' essential nutrients will increase their quantitative and qualitative performance. To assess the impact of N, K and Mg on yield and fruit quality of strawberry (*Fragaria×ananasa* cv. Sun Rise) an experiment was performed which included control treatment (no fertilizer application), two levels of urea (100 and 200 mg/L per pot), two levels of potassium chloride (75 and 150 mg/L per pot) and two levels of magnesium sulfate (50 and 100 mg/L per pot), as a randomized complete blocks design with five replications, in the controlled greenhouse conditions, as hydroponic culture, in cocopeat+ perlite (50: 50 v/v) substrate. Traits such as number of florescence, number of flowers, number of fruits, fruit weight, titrable acidity, soluble solids concentration, fruit firmness, fruit yield and total anthocyanin of the fruit were measured. The results showed that high level of magnesium sulfate significantly increased number of florescence, flowers and fruits. Application of low level of urea increased fruit weight significantly. Low level of potassium chloride increased significantly the concentration of soluble solids and fruit firmness, and high level of potassium chloride increased total anthocyanin of the fruits. None of the treatments had significant effect on titrable acidity of the strawberry.

Keywords: Strawberry Cultivars San Rise, Hydroponic Culture, Strawberry Yield, Total Anthocyanin Fruit.

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