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Efficiency of using seaweed extracts under varying levels of N-P-K on growth, yield and quality of sweet potato (*Ipomoea batatas* L.)**Amira Abd El Hamid Helaly Ali**
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Two field experiments were carried out at the Agriculture Experimental Station Farm (Abies region), Faculty of Agriculture, Alexandria University; during the two summer seasons of 2013 and 2014. The objective of this study was to assess the response of sweet potato plants (*Abies* cv.) to the spraying with three concentrations of seaweed extract (0.5%, 0.75% and 1.0%), as well as a control treatment (spraying with distilled water) under, varying NPK levels of mineral fertilizer (25%, 50%, 75% and 100% of the recommended rate, in addition to a control treatment, without NPK application) and their interactions on vegetative growth characters, yield and its components as well as on some chemical compositions characters of tuber roots. The results revealed that the gradual increases of NPK fertilizer levels were accompanied with significant increases on sweet potato growth, yield and its components as well as the chemical composition of tuber roots. Spraying of sweet potato plants with seaweed extract at the concentration of 0.75% led to positive response on the all studied traits, in both growing seasons. Generally, the most efficient treatment combination which gave the best sweet potato growth, yield and tuber roots chemical compositions was the application of NPK mineral fertilizer, at the rate of 75% of the recommended, with seaweed foliar spray at the concentration of 0.75%. On this regard, it is possible to reduce the NPK mineral fertilization by 25%, through using a foliar spray of 0.75% seaweed extract concentration without compromising the production value of the sweet potato plants, concerning the quantity and quality of tuber roots.

Biography

Amira Abd El Hamid Helaly Ali has her expertise in Agriculture Science. She has experience in the field of plant breeding as the subject of her Master's theses and also in the field of organic farming using natural alternatives in fertilization, in which she studied the possibility of reducing the NPK mineral fertilization, through using a foliar spray seaweed extract concentrations without compromising the production value of the sweet potato plants. She has built this model after years of experience in research, evaluation, teaching and administration in education institutions.

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