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BOOK OF ABSTRACTS

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Spinach production in cocopeat: Effects of plant density and the number of emitters on plant growth and nitrate concentration

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Currently, the interest in the use of coir dust (or cocopeat) as a growing medium has increased. The aim of this research was to evaluate the effects of plant density and the number of emitters per Styrofoam box on plant growth, nitrate (NO_3^-) concentration and antioxidant activity in spinach (*Spinacia oleracea* L. cv. Manatee) cultivated in cocopeat. The experiment was carried out with four treatments, including two plant densities (160 and 280 plants/m^2) and two number of emitters per Styrofoam box (4 and 8 emitters). The crop was irrigated and fertigated daily with a complete nutrient solution, in which NO_3^-/NH_4^+ ratio decreased through the crop cycle. Shoot dry weight was not affected by plant density or emitter number. However, the yield (kg m^{-2}) increased significantly with plant density and with the number of the emitters by Styrofoam box. The yield in treatment 280 plants/m^2 and 8 emitters reached 5.4 kg m^{-2}. Leaf-blade and petiole NO_3^- concentration was not affected by plant density, number of emitters and the interaction between treatments. Leaf-blade and petiole NO_3^- concentration was low, ranged from 0.49 to 0.56 and 0.94 to 0.96 NO_3^- mg g^{-1} fresh weight, respectively. These results indicate that cocopeat is a very suitable growing medium for spinach production.