Characteristics of Paprika on Coir Block by Nutrient Supply Method before Planting

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Currently, Rockwool blocks are mainly used for block cultivation in the farms of paprika (Capsicum annuum L.) however, Research on eco-friendly material blocks is a need for rockwool block replacement for sustainable agriculture due to the cost of disposal (198,000 won/10a) after using rockwool block. The purpose of this study was to investigate the effects on the growth, yield, and economic efficiency of the early crops of paprika grown by coir blocks and to establish effective root zone environment and cultivation methods. Nagano seed was sown on July 8, 2019, was supplied on EC 1.5 dS·m⁻¹ prior to planting. According to methods of nutrient supply, four treatment groups were provided: A (100 mL / 1time), B (200 mL / 2time), C (200 mL / 1time), and D (400 mL / 2times). As Coir block with CaNO₃ pretreatment is chemically analyzed, pH 5.9 and E.C is determined to 0.54 dS·m⁻¹. Care should be taken in the case of untreated coir block because of its high EC, which may affect growth. The main chemicals are: Cl (141.2 mg·L⁻¹), Na (1.4 mg·L⁻¹), Mg (4.9 mg·L⁻¹), NO₃⁻ (0.6 mg·L⁻¹), P (4.12 mg·L⁻¹), K (88.1 mg·L⁻¹), B (0.02 mg·L⁻¹), Fe (1.13 mg·L⁻¹), Zn (1.66 mg·L⁻¹), Mn (0.01 mg·L⁻¹), Cu (0.01 mg·L⁻¹). The average weight before supplying was 75.5 g and the average weight after fully moisture was 434.4 g. Drainage was generated in all treatments when the rhizosphere status was compared according to the feeding method. Treatment D seems to maintain moisture near the entire cultivation period to impart moisture stress to the root zone. Because of coir block with good water retention capacity, the water retained is not discharged when the amount of liquid is excessive. In the case of good ventilation, the distribution of roots is wider, which is good for absorbing nutrients. However, if the moisture in the medium rapidly changes from dry to wet state, it may cause physiological disorders such as heat and so on. The amount of drainage was different, but the result of chemical analysis of drainage showed similar results.

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