

EFFECT OF NUTRITIONAL-SHOCK AND pH ON INCREASING THE NUMBER OF MINI TUBERS FROM APICAL ROOTED CUTTINGS GROWN IN COCO-PEAT

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Summary

Research on the experiments include the identification of the effect of nutritional-shock process (reducing N concentration in nutrient solution), the growth stage of plant to conduct nutritional-shock; the implementation time of nutritional-shock and the impact of nutritional-shock and pH level on the formation and development of mini tubers from rooted-cuttings grown in coco-peat. This research was done on Atlantic and PO3 varieties, using rooted cuttings as materials. The experiments were implemented in cement tanks in greenhouse conditions, using the coco-peat substrate (excluding tannin) with the nutritional formula of Novella & CS, 2008 (182 mg NO_3^-/L , 46.5 mg $\text{H}_2\text{PO}_4^-/\text{L}$, 48 mg $\text{SO}_4^{2-}/\text{L}$, 160 mg Ca^{2+}/L , 253.5 mg K^+/L , 36 mg Mg^{2+}/L and 0.03 mg Mo /L, 0.26 mg B/L, 0.06 mg Cu/L, 0.5 mg Mn/L, 0.22 mg Zn/L and 4 mg chelat-Fe/L (EC = 1dSm^{-1} , pH = 6)), in which nutrition was supplied through drip irrigation system according to each period of potato growth. The results showed that: at 30 days after planting for Atlantic variety and 35 days after planting for PO3 variety subjected to nutritional-shock within 48 hours raised the average number of tuber per plant and yield; For Atlantic variety, 9.3 tubers per plant yield of 264 tubers/m², higher than the check variety about 171% and for PO3, around 12.6 tubers per plant, yield reaching 320.6 tubers/m², higher than the check variety around 154%. Nutritional-shocking and adjusting to low pH at the same time have a strong interaction with the number of tubers/m² and the tuber yield. For Atlantic variety, the average number of tubers per plant were 10.6 with the yield of 308 tubers/m² and for PO3 variety, around 13.3 tubers per plant, the average yield approaching 369 tubers/m².

Keywords: *Atlantic, PO3, potato, pH, nutritional-shock.*