

DEVELOPMENT OF VEGETATIVE PROPAGATION TECHNIQUE FOR HYBRID NAPIER VARIETY CO-3

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This study was conducted to find out a suitable method for propagating hybrid Napier variety CO-3 (*Pennisetum americanum* × *Pennisetum purpureum*). Four experiments were conducted in Complete Randomized Design (CRD). In experiment one, two node hard wood stem cuttings (18 cm) were propagated with two levels of rooting hormones (+ or - 0.3% indole-3-butyric acid), three types of nutrient solutions (urea, triple super phosphate and muriate of potash) and two types of growing media (sand + coir dust and coir dust alone). Same type of stem cuttings were propagated in coir dust with or without rooting hormones and two levels of nutrient solutions (+ or -) in experiment two. In the third experiment, two node hard wood stem cuttings (10 cm) were propagated in coir dust with two levels of hormones (+ or -) and two levels of nutrient solutions. Forth experiment was done with one node length (5 cm) stem cuttings in three maturity stages (hard wood, semi hard wood and soft wood), which were propagated in coir dust with two levels of hormones. In each experiment, number of roots were noted and total root and shoot lengths were measured at 7 - 10th day. Data were analyzed by Analysis of Variance (ANOVA) procedure of Statistical Analysis Software (SAS). Root length and number of roots in experiments 2 and 3 were compared using t-test. Satisfactory shoot growth was observed in all experiments. Root length and number were significantly higher ($p < 0.05$) in hormone (0.3% indole-3-butyric acid) treated media in the first three experiments. There were no differences ($p > 0.05$) in root and shoot lengths with changing maturity stage or hormones used to propagate 5 cm stem cuttings. Thus, propagation of two node 18 cm or 10 cm stem cuttings in coir dust with 0.3% indole-3-butyric acid is advantageous in facilitating the vegetative propagation of CO-3.

Keywords: Coir dust, Hybrid Napier, Indole-3-butyric acid