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IMPROVED CLONAL PROPAGATION TECHNIQUE FOR MASS MULTIPLICATION OF *BIXA ORELLANA*, L.

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ABSTRACT

Clonal propagation is one of the most effective tools for improvement in forestry. The study describes the scope and development of clonal propagation technology for *Bixa orellana* commonly known as Annatto. Developing rapid and improved clonal study reveals that clonal prorogation is possible through stem cuttings collected from matured trees. The study standardized the effect of cutting size, concentration of IBA and root media on success and survival of stem cuttings in this species. Percentage rooting and primary root number differed significantly between treated and untreated cuttings. Treatment of cuttings with 4000 ppm IBA maximized rooting (83.30%), along with increased survival (78.30%) and primary root number (20.20). Rooting success and root number were better in 15 cm x 20 mm diameter sized cuttings. Cuttings planted in sand: soil (1:1) rooted better with more roots ensuring better survival. Survival and growth of the clonal plants were best when using improved techniques like size of the cuttings with proper concentration of IBA and also combined with suitable rooting media. However, there was significant variation in height growth (shoots sprouts length) of cuttings due to IBA treatments. The results suggested that it could be possible to produce clones of high yielding superior genotypes of *Bixa orellana* on large scale through stem cutting for popularization and establishment of commercial forestry and agroforestry plantations.

Key words: Bixin, Rooting, Indole Butyric Acid, Rooting media, Tree improvement.