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Rhizogenesis of Leafy Stem Cuttings of *Calycophyllum spruceanum* (Bentham) Hooker F. Ex Schumann: Effect of Indol-3-Butyric Acid

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Abstract

Reforestation and domestication of forest trees in the Peruvian Amazon depends especially on successful propagation of particular species. Vegetative propagation may serve as a tool for selected genotype conservation, and is an alternative to propagation by seeds, which is often constrained. This study focused on determining effects of five different concentrations of Indole-3-butyric acid (IBA) on rooting parameters of leafy stem semihard wood cuttings of *Calycophyllum spruceanum* (Rubiaceae). This fast growing pioneer tree species is valued by local people not only for its relatively good quality wood with straight growth habit, but also for its medicinal purposes. After 21 days in sub-irrigated polyethylene polypropagator, rooting parameters of the propagules were measured. The number and percentage of rooting, callus formation, number of roots, total root length, and length of the longest root was significantly higher, while mortality and leaf abscission was significantly lower in group treated with 2000 ppm of IBA than in control group with untreated cuttings ($p < 0.05$). However no significant differences were found in these parameters between the group treated with 2000 ppm and groups treated with 4000 and 5000 ppm, respectively, except for the leaf abscission parameter. No significant differences were recorded in number of calluses per cutting between the five groups tested. These results show that rhizogenesis of *C. spruceanum* was influenced by the application of IBA. The best concentration for successive vegetative propagation of juvenile leafy stem semihardwood cuttings of this species was 2000 ppm of IBA.

Keywords: Domestication of timber species, Indole⁻³-butyric acid (IBA), leafy stem cutting, subirrigated polyethylene polypropagator