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Effects of Auxin Treatments and Cutting Types on Rooting of an Endangered Species (*Glyptostrobus pensilis* K.Koch)

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Abstract

Glyptostrobus pensilis K.Koch (Chinese Swamp Cypress) is listed as "critically endangered" in Vietnam's Red Data Book and also in the IUCN Red List of threatened tree species. This species is of high conservation concern due to their rarity and threats to their survival in terms of environmental changes such as habitat loss from expanding cultivation, felling and fires. There are only 164 mature individuals of *G. pensilis* in Dak Lak province, Vietnam and no regeneration has been found in studies, recently. Therefore, study on breeding techniques for *G. pensilis* by cutting is needed. Experiments was conducted in Tropical Forest Research Centre in order to assess the effect of (1) various concentrations of IBA (3-Indole butyric acid) and NAA (1-Naphthalene acetic acid), (2) cutting seasons (dry season and rain season), and (3) cutting types (softwood, semi-hardwood, and hardwood) on rooting percentage. The results showed that IBA with a concentration of 1.000 ppm produced the highest rooting percentage (67 %), followed by 20–27 % of rooting percentage was recorded in various NAA concentrations, while no rooted cuttings were found in the control treatment. Significant difference between dry and rainy season was found, the rooting percentage in the dry season is higher than that of the rainy season, with the rooting percentage of 38–41 % and 26–28 %, respectively. Concerning cutting types, the rooting rate of softwood and semi-hardwood was significantly higher than that of hardwood cuttings. The results from this study could potentially be used as basic information on the conservation of *G. pensilis* in future time.

Keywords: Auxin treatment, cutting seasons, cutting type, *Glyptostrobus pensilis*

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