

VEGETATIVE PROPAGATION OF DIPTEROCARPS TO ASSURE CONTINUOUS PLANTING MATERIAL FOR FOREST RESTORATION IN SARAWAK

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ABSTRACT

Sarawak's biodiverse tropical rainforests face ongoing threats from deforestation and climate change, necessitating robust strategies for sustainable forest restoration. Dipterocarps, essential for their ecological and economic roles present unique challenges in propagation crucial for forest restoration efforts in Sarawak. Traditional seed-based propagation method for dipterocarps often face limitations such as seed scarcity due to unpredictable fruiting season and irregular fruiting cycles, seed recalcitrance, unpredictable germination rates, and vulnerability to environmental conditions. To address these challenges, methods in vegetative propagation have been developed and implemented. These techniques address the limitations of seed propagation, ensuring reliable access to genetically diverse and resilient planting stock. This paper examines the potential of vegetative propagation methods as a sustainable approach to ensure a consistent supply of planting material for indigenous dipterocarp species in Sarawak's forest restoration initiatives. Examples of dipterocarp species successfully propagated in Sarawak include *Shorea macrophylla*, *Shorea leprosula*, *Shorea parvifolia* and *Dryobalanops beccarii*. Propagation technique focus on vegetative parts such as stem cuttings which offer reliable multiplication under controlled conditions and circumvent uncertainties associated with seed germination. This approach ensures a stable supply of planting material for forest restoration projects additionally supporting biodiversity conservation thus ensuring the adaptation of species to local environmental conditions, promoting sustainable forest management practices.

Keywords: vegetative propagation, dipterocarp, cutting, restoration