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**Natural Durability of Tropical Species with Emphasis on Malaysian
Hardwoods – Variations and Prospects**

by

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Abstract

The tropical timber resources of the world play an unequivocal role in economic development of both the tropical timber producing and importing regions. This paper describes natural durability as an important and preferred wood quality of tropical species of the world with emphasis on Malaysian hardwoods, the link between various aspects of tropical hardwood durability, hardwood utilization and biological hazards of different regions of the world, the resource evolution in the utilization of tropical hardwoods including the introduction of plantation-grown durable species and increased use of wood composites, a summary of research on the major cause of variations in natural durability of tropical hardwoods focusing on heartwood extractive bioefficacy, their microdistribution in relation to natural durability, heartwood extractives as future sources of novel organic wood protecting chemicals, and the likely role of lignin. Recent advances in genetic manipulation of disease resistance in certain tree species makes it theoretically possible to genetically produce naturally durable tropical species with their accompanying inherent anti-microbial substances, which if/when realized, would provide significant opportunities to produce transgenic naturally durable species befitting a natural wood protection concept.

Keywords: Natural durability, Decay resistance, Tropical timbers, Wood utilization, Heartwood extractives, Extractive microdistribution, Wood lignin, Genetic engineering