

Wood decay associated with loggingwounds in *Parashorea malaanonan*

Abstract

Wood decay associated with wounding in 40 trees of *Parashorea malaanonan* growing in Ulu Segama Forest Reserve, Sabah, Malaysia, was estimated 7 years after logging in compartments where reduced-impact (RIL) or conventional (CL) logging methods were used. Trees of ≥ 30 cm diameter were felled and dissected to determine the volume of log occupied by decay. Scrapes were the most common types of wounds sampled, followed by basal wounds, broken tops or branches and butt log wounds. All wounded trees examined had decay, whereas only 25% of trees ≥ 30 cm diameter at breast height of this species in the reserve typically had stem decay. Median defect to gross volume of tree was $\sim 5\%$, and was similar for trees in RIL and CL areas. However, defect volume per wound was greater in trees from CL areas relative to RIL areas, in particular, mid-bole wounds had greater defect volume in trees in CL areas as opposed to trees in RIL areas. The mean rate of decay was estimated at 68 cm³ of timber per year for each cm² of wound area. Defect volume was positively correlated with wound size but was unrelated to tree size. *P. malaanonan* is vulnerable to wood decay following wounding; therefore, in eastern Sabah forests, where this species comprises a large proportion of the commercial volume, efforts to reduce incidental damage to residual stems during harvesting operations are an important component in protecting the growing stock.