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Growth Characteristics of 100 Open-pollinated Families in an Early-age test of *Agathis loranthifolia* in West Java, Indonesia[1]

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ABSTRACT

Early results from a field trail of *Agathis loranthifolia* are reported from a progeny test of 100 open-pollinated families in west Java, Indonesia. The average of height and diameter at root collar (DRC) was 40.18 cm and 0.518 cm at age 15 months. Family survival rate ranged from 86.5% at age 10 months to 81.7% at age 15 months. Family means of 10 best and 10 poorest families for each trait indicated that there was a large difference of growth performances among individual families. For height and DRC growth, the poorest groups had averages of 33.98 cm and 0.43 mm while the averages of the best groups were 47.35 cm and 0.62 mm at age 15 months as a difference of 39.36% and 43.65%, respectively. Differences between the best group and the test population mean, which is the selection differential, were implying that genetic gain from selection for the improvement of height and DRC growth would be achieved. The family variances of DRC and height were relatively small compared to replicate and residual variances. Family heritabilities for both studied traits were fluctuated, and the genetic coefficients of variation for DRC and height at age of 15 months were 7.19% and 5.22%, respectively.

Keywords : *Genetic component, Heritability, Correlation, Breeding strategy, Selection*

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