

SELECTION OF SUPERIOR FAMILIES OF *Acacia mangium* FOR TIMBER PLANTATIONS IN NORTHERN PROVINCES

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Summary

The family selections on growth, stem quality and some mechanical properties of wood were conducted in the 2nd generation progeny tests of *Acacia mangium* in Hanoi at age of 7 years and Tuyen Quang at the age of 3 years. The results showed that there were significant differences between families on growth, stem quality and wood mechanical properties in both progeny tests. At Ba Vi – Ha Noi families 127, 35, 37, 135, 88, 110 and 81 outperformed. Volumes of these families exceeded from 19.7% to 45.2% compared to mean value of the test, as well as 122.6%-170% against Pongaki provenance in the test. At 7-year-old MAI of these families also reached from 24.3 to 29.5 m³/ha/year. Especially, families N^o 127, 110, 37, 88 and 35 also had higher wood density, wood strength and modulus of elasticity than the average values of the tests. At Son Duong - Tuyen Quang the volumes of 4 best families (2, 14, 62 and 66) were over 20.0% to 32.1% greater than the average volume of the test. Selections of the best individuals within these families showed that they had high MAI and low T/R ratios. In comparison with the mean values of the test, there was a range of 316%-434% increase in tree volume; 2.6% – 23.4% decrease in the T/R ratios for 4 best families, where as wood density, hardness, strength and modulus of elasticity of these best families were also greater from 1.4% to 20.8% than those of mean value of the test. These superior families therefore are more suitable for planting high-quality timber plantations in Ha Noi, Tuyen Quang and other similar sites in Northern Vietnam.

Keywords: *Acacia mungium*, family, mechanical property, timber.