



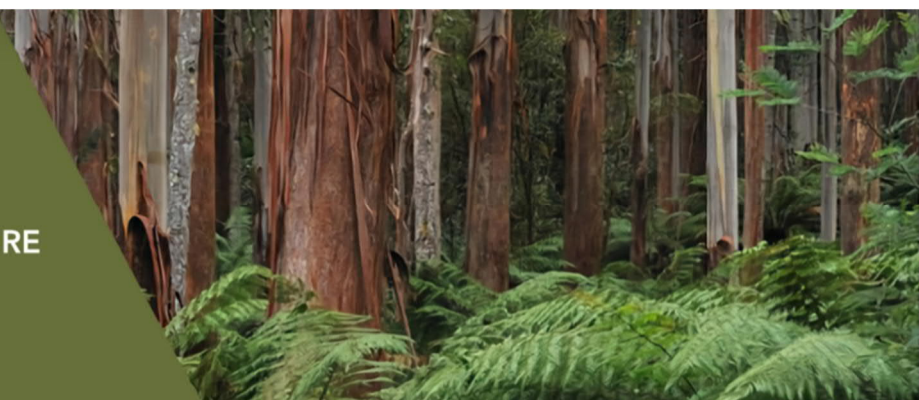
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Presentation Title

Incorporating genetics into growth models and forest valuation

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Abstract (no longer than 250 words)

Tree improvement programs of pines and eucalypts have been successful in enhancing traits such as growth, form, wood properties and health attributes. Forest growers are deploying these genetically improved trees in the re-establishment programs, but the added value is not usually recognised in forest valuation until inventory measurements are done, e.g., usually ten years after establishment in pines. Recognising the marginal increase in value due to the deployment of improved genetics in young stands is critical for investors to make informed decisions about likely returns and alternative land uses. The aim of the research is to help recognise the contribution of improved genetics in plantations at the time of establishment by estimating expected future values of key tree traits on a site and stand specific basis. The increase in value to be realised by the grower requires stand specific estimates of improved biological traits while accounting for genotype by environment interactions. Results from analyses of block-plot trials are presented, including the effect of estimated breeding value on harvest-age yield in radiata pine, southern pines, and blue and shining gums. The results are consistently demonstrating genetic gains, however, to quantify the absolute scale of gains over plantation rotations is challenging. Methodology for incorporating genetic gains into growth and yield modelling, and forest valuation is discussed.