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jou kennisvenoot • your knowledge partner

Wood Mechanics and Processing

Brand Wessels
Advisory Board meeting
27 October 2016





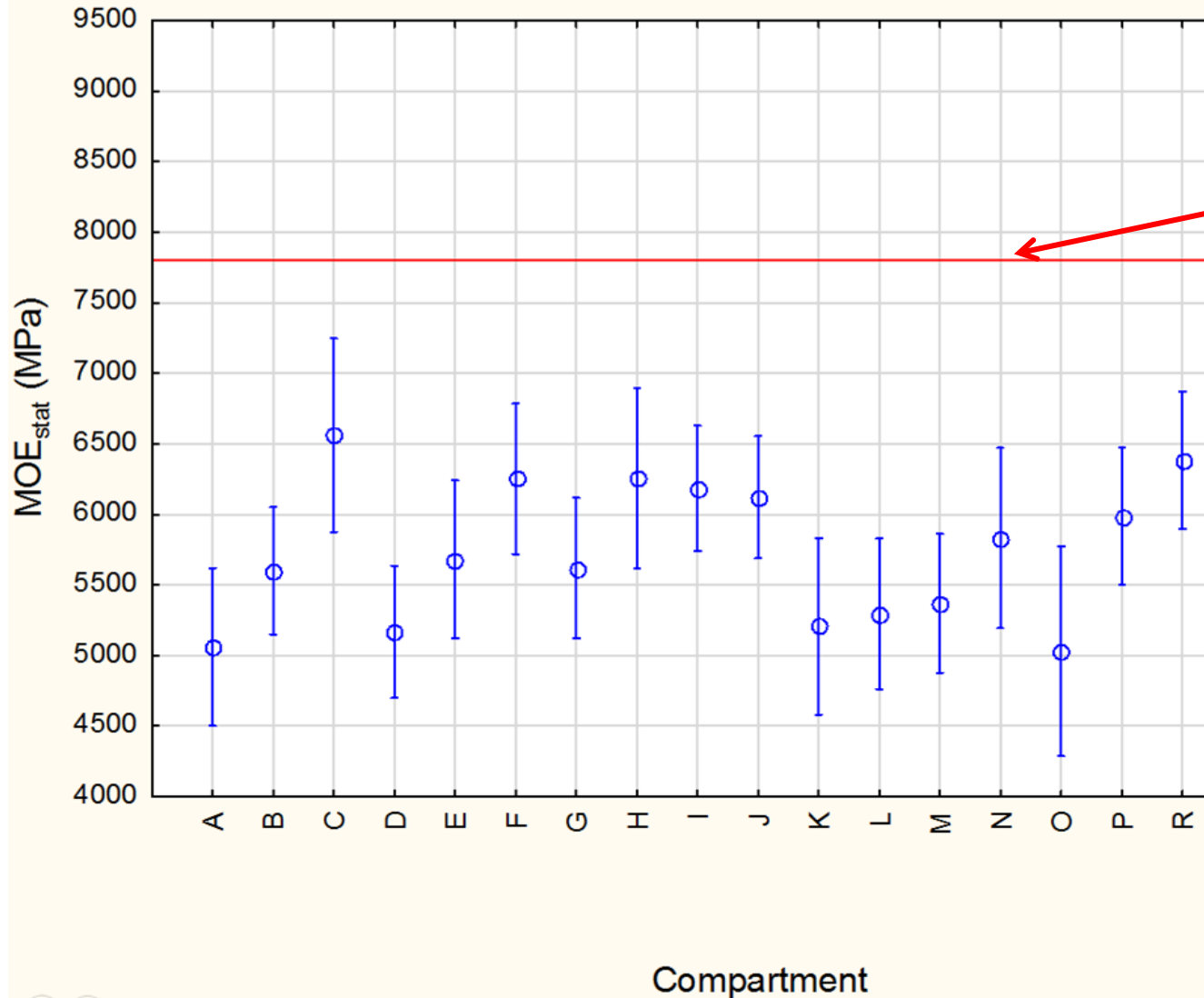
Main focus areas



- Wood quality - mechanical properties
- Solid wood processing and products



1. New sawlog management regimes for SA Pine plantations



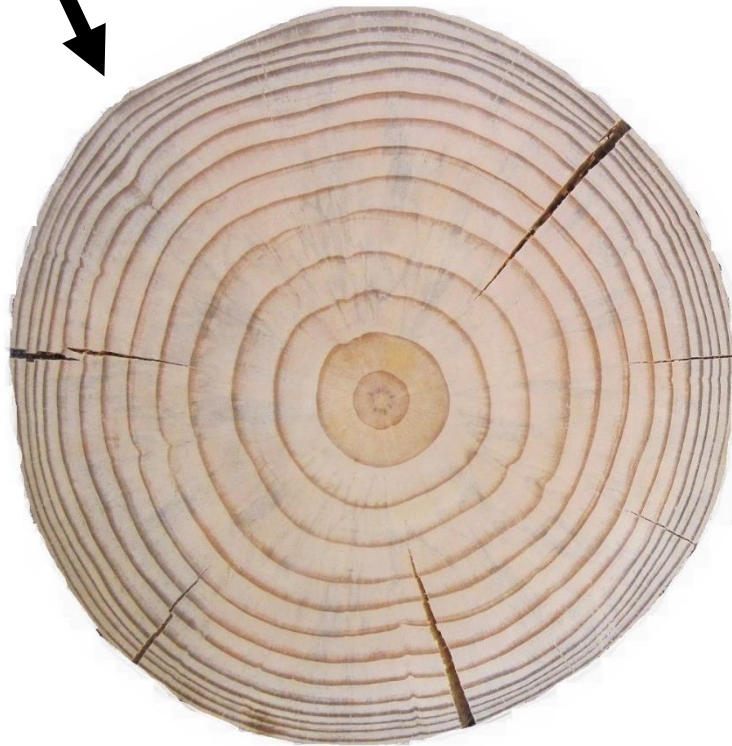
Minimum requirement for structural lumber



1. New sawlog management regimes for SA Pine plantations



Normal sawlog regime

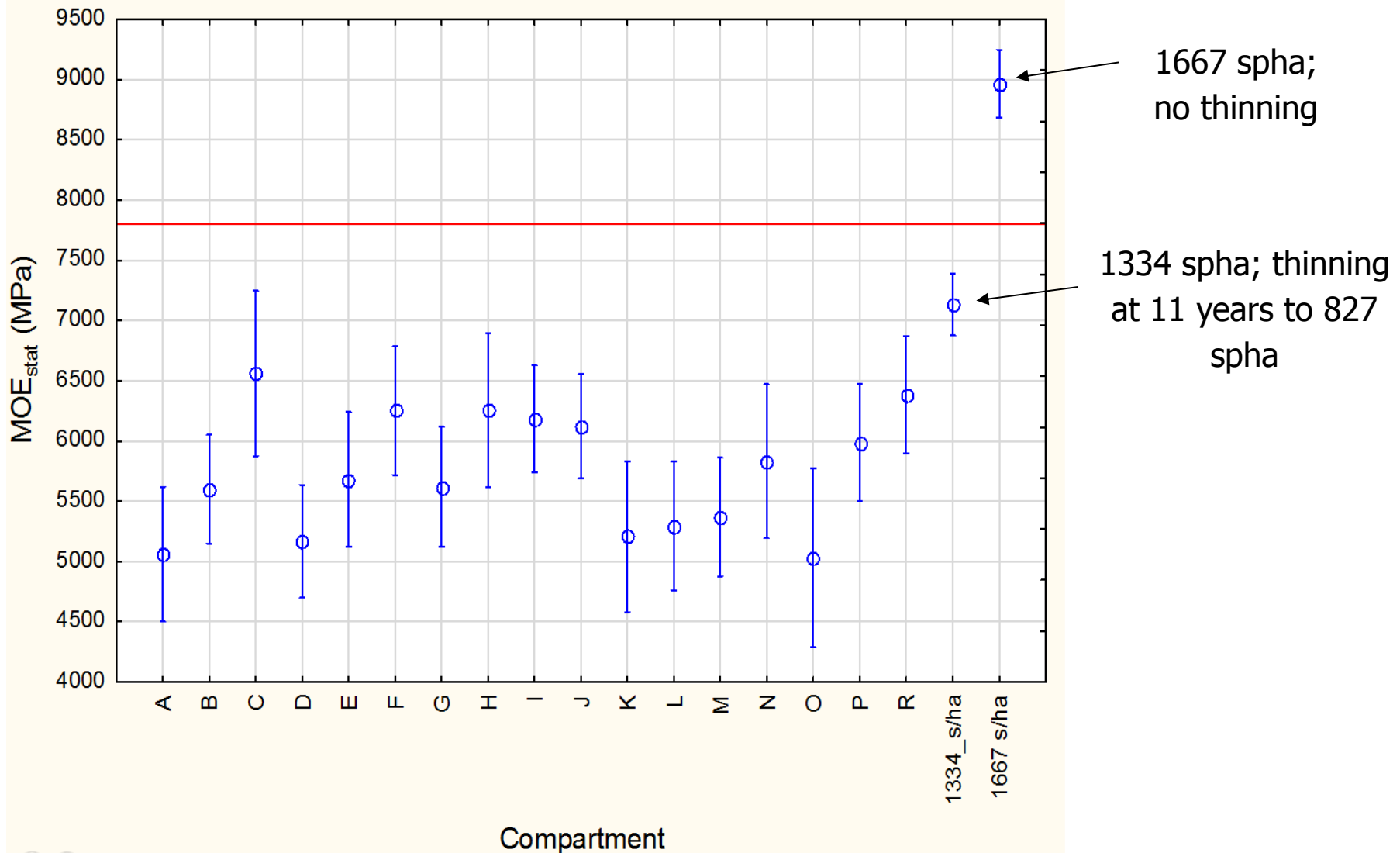


High planting density
no thinning / late thinning





1. New sawlog management regimes for SA Pine plantations





1. New sawlog management regimes for SA Pine plantations



- Fine scale wood cell property modelling
- Thinning and branching response
- Value chain economic modelling
- New spacing and thinning trials



Justin Erasmus
PhD



Ryan Charlton
MSc

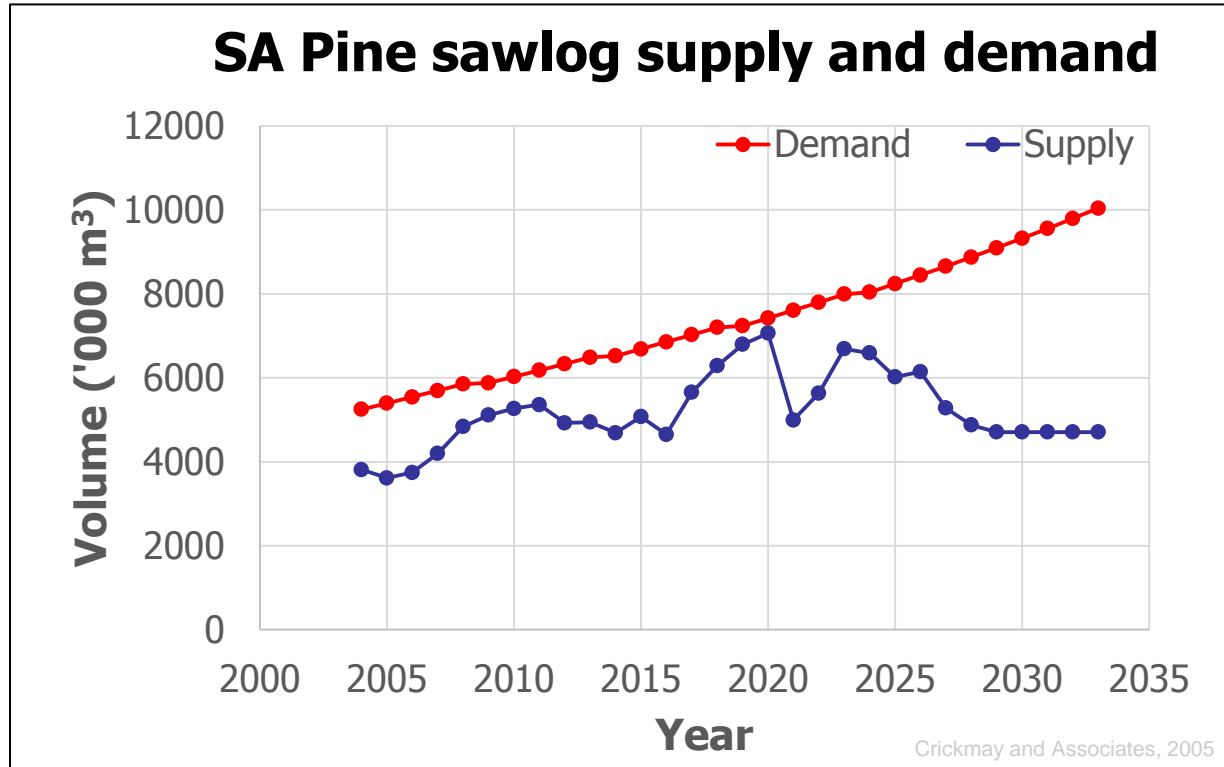


Francis Zhanngazha
MSc





2. Solid wood products from young eucalypt plantations

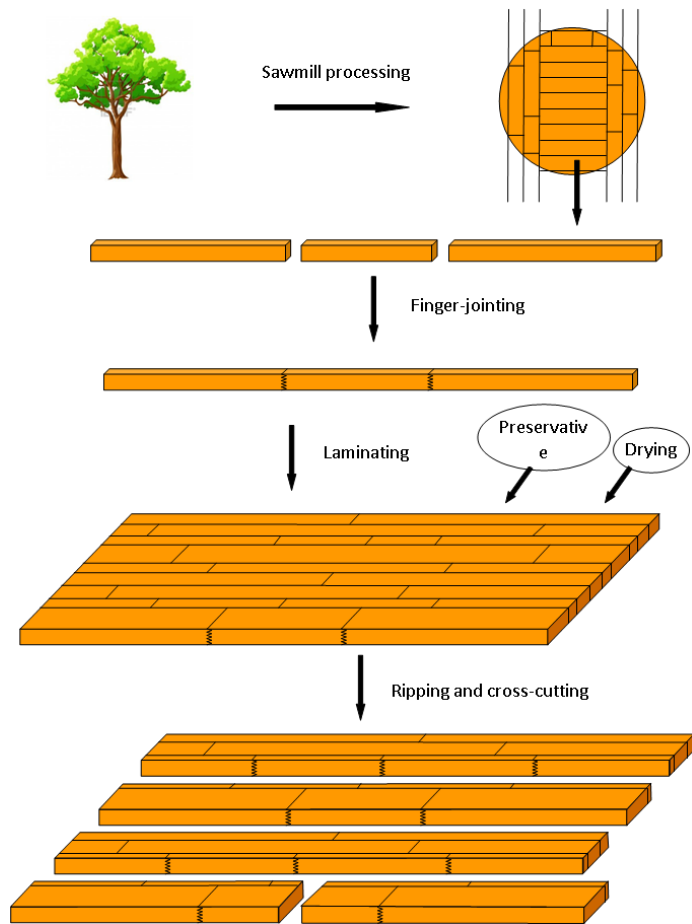


Wood chip exports

- 4.2 million tons (2012)
- 500 vs. 20 000 jobs



2. Solid wood products from young eucalypt plantations





2. Solid wood products from young eucalypt plantations



- Green gluing process parameters
- Process optimisation
- Eucalyptus CLT properties

Marco Pröller
MSc



Michael Dugmore
MSc



**IVALSA,
Italy**





3. Green building (with wood)



- Green building ratings
- Life cycle assessment (material comparisons)
- Southern Africa resource assessment



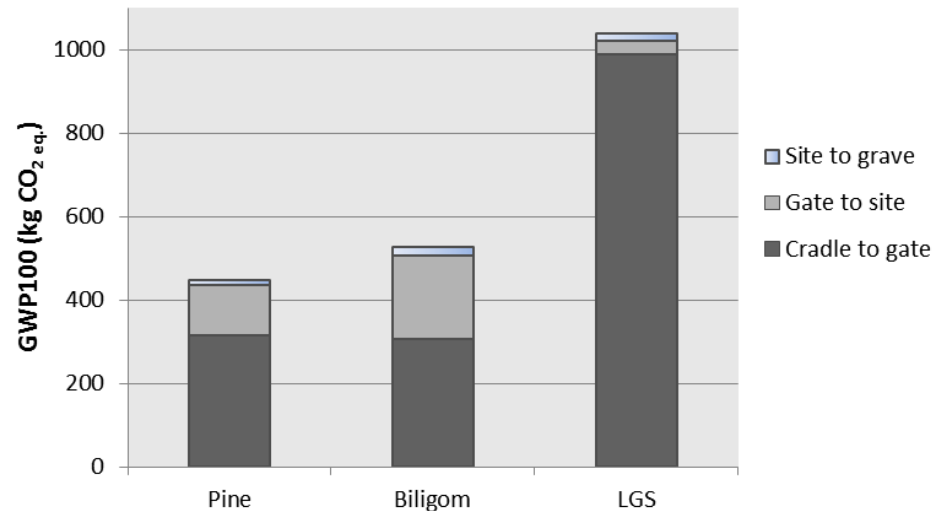
Melanie Blumentritt
Post-doc



Phillip Crafford
PhD



Anthrogenic CO₂ impact
- per life cycle stage -





Other research



- Operations research: Simulation, modelling and optimising wood manufacturing value chain processes
- Dryland forestry: Economic and product feasibility