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Comparison of harvester time consumption and productivity in *Eucalyptus globulus* planted and second rotation coppiced plantations in south west Western Australia

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Regeneration of eucalypt plantations from coppice is increasingly being used in Australia to reduce the costs of re-establishment in subsequent rotations. However, little is known on whether there are differences between the performance of a cut-to-length harvester felling coppiced and planted eucalypt plantations in Australia.

The study compared single-grip harvester cycle times, time elements and post-harvest stump dimensions between first rotation planted and second rotation coppiced *Eucalyptus globulus* stands with similar sized trees on two comparable sites in the south-west of Western Australia.

Cycle times were significantly lower at the coppiced site compared with those at the planted site. At the mean pooled tree volume, harvester productivity at the planted site was 19.1 Green Metric tonne(GMt)/ productive machine hour (PMH0) and 23.4GMt/PMH0 at the coppiced site. The difference in harvester productivity was believed to be caused by reduced bark adhesion at the coppiced site following 51mm of rain immediately prior to the study after an extended dry period.

Felling time was significantly longer at the coppiced site (8% more time than at the planted site) because the operator had to spend more time manoeuvring the harvester head to avoid or remove small shoots at the base of many coppiced trees.

Stump height and volume were significantly greater at the coppiced site (7.7m³/ha) compared with those at the planted site (4m³/ha) because the shape of the coppiced stumps and the design of the harvester head did not allow the stumps to be cut shorter.