

Tippawan Saengthong 2012: Productivity and Cost of Logging Operation in Eucalypt Plantation in Central Thailand. Master of Science (Forest Engineering), Major Field: Forest Engineering, Department of Forest Engineering. Thesis Advisor: Mr. Piyawat Diloksumpun, Ph.D. 76 pages.

The study of logging operation in eucalyptus plantation was conducted in central part of Thailand with purpose to evaluate the productivity and cost of each phase of the operation. The details of felling, bucking as well as delimiting and piling operations were recorded by a video camcorder and a digital camera and were analyzed using continuous time study technique. Regression model was formed to estimate the total time consumption of each work phase as a function of the most influential factors. The model calculated time values would be used to further calculate the productivity and cost of the eucalyptus logging operation.

The productivity and cost of eucalyptus logging operation differed according to the tools used in the operation. The average productivity and unit cost of felling with powersaw was 12.45 m³/hour and 8.54 baht/m³ while that of felling with circular saw was 28.43 m³ and 3.35 baht/m³. The average productivity and unit cost of bucking with powersaw was 19.77 m³/hour and 5.38 baht/m³ and that of circular saw was 9.88 m³/hour and 9.65 baht/m³. The average productivity and unit cost of delimiting and piling was 3.57 m³/hour and 17.53 baht/m³.

Circular saw should be used to increase the productivity of the eucalyptus felling but bucking operation should be done with powersaw. Delimiting and piling should be carried out with big knife. The knowledge gained from this study could be used in planning logging operation in other eucalyptus plantations with similar terrain condition for the optimum return of the investment.

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