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### Abstract

#### Profitability of manual brushing in young lodgepole pine plantations

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Manual brushing is an important silvicultural tool commonly used to control competing vegetation in young conifer plantations. Yet little is known about the short-term economic benefits of one versus two brushing treatments. Using forest establishment data from the Fraser Lake and Bednesti areas of the Central Interior of British Columbia, we examined the profitability of one and two applications of brushing treatments under different internal rates of return (IRR) and three brushing radii (0.75, 1.00, and 1.25 m). Our results showed that one year of brushing treatment would be profitable for almost all brushing radii since profitability required only a short reduction in cutting age and lower IRRs. Applying two consecutive years of brushing would clearly require either higher discount rates or a longer waiting period for the brushing to be profitable. We believe that the approach described in this paper will assist forest practitioners when analyzing the value of brushing in terms of return on investment over time. The economic framework will also assist forest practitioners when deciding on brush control options for young conifer plantations.

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