

This series on Blackwood has five parts. Each part can be read individually or as part of the series.

1. Overview
2. Establishment
3. Pruning Regime
4. Thinning Regime
5. **Labour Estimates**

LABOUR ESTIMATES

The following labour estimates are based upon establishment and management of a 1 hectare site with the following group planting regime: 200 blackwood groups/ha with 4 trees/group (800 blackwood/ha) High nurse crop density of 600 *E.nitens*/ha.

Activity	Year	Month(s)	Labour (hrs)
Order Seedlings ¹	-1	Spring	-
Weed Control (1) ²	-1	Summer	0-5
Plantation Layout ³	-1	Autumn	1-3
Weed Control (2) ⁴	-1	Autumn	8-12
Fencing (browsing control) ⁵	-1	Autumn	10-20
Planting ⁶	0	Winter	20-25
Fertilising ⁷	0	Spring	4-5
Weed Control (3) ⁸	0	Summer	12-18
TOTAL - Establishment			63 - 88
Management (Pruning, Thinning)			
Form Pruning ⁹	2-8	Spring	45-60
Clearwood Pruning ¹⁰	4-10		30-40
Thinning (Blackwood) ¹¹	4-10		9-12
Thinning (nurse crop) ¹²	4-10		18-24
TOTAL - Management			102-136
TOTAL - Establishment & Management			161-219

Virtually all operations can be undertaken by landowners with basic training in establishment and management of farm forestry.

Important Note: Estimates are a guide only and may vary depending upon a number of factors. Time required for silvicultural operations will vary between landowners, depending upon experience and site conditions. Browsing control (fencing) is the greatest cost associated with establishment.

1. 800 Blackwood and 600 *E.nitens*.
2. Conducted 6-12 months prior to planting to control woody weeds (not required on all sites).
3. Marking of planting lines/groups (where cultivation is not undertaken).
4. Knockdown and residual herbicides applied to planting areas using strip or spot application, depending upon location and conditions.
5. Cost and labour requirements associated with fencing can vary considerably, depending upon browsing animals to be excluded, fence construction, terrain and perimeter to area ratio.
6. Small areas planted without cultivation with a planting rate based upon 60 seedlings planted/hour.
7. Fertilising the Blackwood only @ ~180 seedlings/hour.
8. Post-planting release spraying ~9 months after weed control (2). Labour rate based upon ~90 seedlings released/hour.
9. Estimate from age 2-8.
10. Estimate from age 2-10.
11. Thinning estimates based upon the following:

<u>1st Thinning</u>	200 nurse crop trees stem injected (3-4 hours labour)
<u>2nd Thinning</u>	400 nurse crop trees felled manually (8-10 hours labour) 200 Blackwood felled manually (3-4 hours labour)
<u>3rd Thinning</u>	100 nurse crop trees stem injected (2-3 hours labour) 200 Blackwood felled manually (3-4 hours labour)
<u>4th Thinning</u>	200 nurse crop trees felled manually (5-7 hours labour) 200 Blackwood felled manually (3-4 hours labour)
<u>Thinning (Total)</u>	Nurse crop (18-24 hours labour) Blackwood (9-12 hours labour)

NB - Cost and labour estimates for other regimes are likely to be less than group planting with a high density nurse crop, particularly when established without a nurse crop. At this stage, it is unknown what regime is most appropriate. Other regimes, while incurring lower costs for activities such as planting and thinning, may incur higher costs associated with form pruning. Further research is required to determine the most appropriate regime relative to inputs and final tree quality.

Contractors can be contracted to undertake silvicultural work, costs will vary from site to site and quotes should be obtained and job specifications agreed before any work commencing. Costs such as Forest Practice Plans tend to have fixed costs rather than being dependent upon the area established.

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