



CHAPTER 6 - ESTABLISHMENT

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To create a successful plantation redwood must be well sited, robust planting stock used and key establishment measures taken. Apart from one trial, little published research has been conducted on establishment techniques in New Zealand. However with over 1,000 ha established in the last few years, plenty of operational experience is accumulating.

The key to successful establishment is weed control, especially over the first two growing seasons after planting. Fertiliser may also be required, depending on location.

A standard establishment regime could be:

- Pre-planting spray (Roundup or Gallant)
- Planting 800 stems/ha. A seedling clonal row by row planting pattern is suggested to provide thinning options to favour either row in the future.
- Fertilisation (if required)
- Release immediately after planting to control weed germination if required
- A second release at 18 months (or earlier if required). Generally no chemical should

be sprayed over the top of seedlings, but a shield can be used in combination with a single fan nozzle.

Alternately, establish 500 stems/ha of elite clones (that have been formally tested) to achieve a final crop of up to 400 stems/ha. Elite clones selected for fine branching and stem form (among other characteristics) do not need higher initial stocking to control branch size or encourage form. Because redwoods coppice vigorously once felled, thinning must be delayed to prevent the coppice competing with the final crop. Delaying thinning to control coppice is likely to suppress the growth of the crop trees.

An establishment trial in the East Coast region showed that the best growth was achieved by applying a combination of fertiliser and weed control. Of the two treatments on that site fertiliser was the most important (Table 3).

Table 3: Growth of Coast Redwood, initial 3 years (from Bowles, 1980)

Treatment	Mean height increment (cm)			End 3 rd year diameter (mm) at ground level
	1 st year	2 nd year	3 rd year	
Fertiliser, grass controlled	42	67	89	68
No fertiliser, grass controlled	30	49	75	49
No fertiliser, no weed control	14	24	58	31

Although they grow to a magnificent size, and can make very high current stem-volume increment, giant sequoia is slow to become fully established, and will require excellent weed control to hasten the process.

Key Points

- Correct siting, robust seedlings and weed control will ensure successful establishment.
- Redwood requires weed control for at least 18 months and possibly fertiliser to promote early growth.
- Giant sequoia is a slow starter and will require prolonged weed control.

Suggested reading:

Bowles, 1980

Cornell, 2002

