



GROWING EUCALYPTS FOR TIMBER

Establishing eucalypts

Information Note **2**

The initial challenge growers face is to choose a species that matches your site and meets your objectives for growing timber – most likely to be growing either (i) sawlogs, and/or (ii) ground-durable posts and poles.

Once this has been accomplished, site preparation should include the following:

- 1. Fence out livestock:** grazing livestock and young eucalypts trees don't mix. Pugging by heavy cattle before the site is planted may also make for problematic soil conditions, especially if has taken place in wet periods or on poorly drained sites.
- 2. Drainage:** in general eucalypts prefer good drainage. Consider localised drainage of wet areas, or plant a species more suited to poorly drained areas (e.g. *E. botryoides*).
- 3. Control damaging wildlife:** pests such as goats, deer, rabbits, hares and possums will all damage young trees, so aim to minimise these before planting. Continue control after planting and monitor young trees for damage.
- 4. Spot-spray to establish clean planting sites:** eucalypts can be quite susceptible to herbicides, so if using residual herbicides it is better to spot-spray several weeks before the trees are planted to create clean planting sites. Glyphosate is a non-residual broad spectrum herbicide for pre-spraying which, with care, can be applied immediately prior to planting. Do not use triazine group chemicals (e.g. terbuthylazine etc.) on light soils such as sands.



Planting in a pre-sprayed spot.

WHERE TO PLANT EUCALYPTS

The best thing would-be eucalypt growers can do when deciding what species to plant where is to talk to local experienced farm foresters. Some eucalypt species will only thrive on a limited range of sites, so, if time allows, plant some on-site trials a year or two in advance of any large planting programme to test survival rates in the critical first few winters.

WHEN TO PLANT?

Young eucalypt seedlings are susceptible to frost damage. Unless the planting site is frost free, the best time to plant eucalypts

is in the spring (September-October) after the worst frosts have passed. The first few weeks after planting are the most important for successful establishment; if you are in a low rainfall area, one option is to use wetted water-absorbing gel in the planting holes to ensure the seedlings don't dry out before they establish roots. Severe equinox winds can desiccate freshly planted seedlings.



Planting gang at work, with newly planted trees in the foreground.

BUYING PLANTS

Eucalypts are available from tree nurseries throughout New Zealand. Take time to find a nursery with stock that is best suited to your site and objectives. Seed source is important: there can be considerable variability within species, depending on where the seed originated. Most eucalypt seedlings are grown from seed sourced from wild populations; only a few species have had any genetic improvement. Improved seed is available from Proseed (e.g. the “Farm Forestry” seedlots); in future improved seed and planting stock will be available from the NZ Dryland Forests Initiative breeding programme.

Containerised stock is generally recommended for eucalypts, although good quality bare-rooted planting stock of hardy species planted in good conditions may establish successfully. Extra care is needed when planting bare-rooted stock.

Order the right number of trees for the job.

HOW MANY SHOULD I PLANT?

For a sawlog or post and pole crops, at least 1100 stems per hectare (3m x 3m spacing) is an adequate planting rate. Because most seedlines are unimproved, a higher initial stocking (e.g. 2000 stems per hectare) will give a greater choice of final crop trees, and will produce a better outcome in terms of well-formed fast-growing trees.

Stems per hectare: examples at different spacing

Spacing between trees (metres)	2.0	3.0	4.0
2.0	2500	1666	1250
3.0	1666	1111	833
4.0	1250	833	625

Aim to plant as soon as possible after you receive plants from the nursery. Store plants in cool conditions, and always handle bags and boxes of trees gently. Make sure root plugs are moist when you plant the seedlings.



Well-established eucalypt in sprayed spot a few months after planting.

PLANTING

A variety of preparation techniques can be used to ensure roots get the chance to develop without impediment. The 'three-cut' method is a standard forestry planting technique and is suitable for eucalypts in pumice, sand and very free soils. This technique involves making three cuts either in parallel or in the form of an 'H'. The two external cuts are to loosen the soil around the root zone, the middle cut is for the tree. If planting containerised stock, cut off the bottom 10-20% of the root mass if it is at all root bound.



Well-established trees on a pine cut-over site.

In soils that are very tight such as clays, compacted soils, or where there is a competing root mat of grass, more cultivation than just three cuts into the soil will be needed. In a site with a tight vegetative root mat the pre-plant spray could be extended by up to a year to allow for adequate decomposition of the roots, but note germination of other competing weed species will occur if the site is bare for too long.



The aim – a well-established site.

Photos: James Powrie, Paul Millen/NZ Dryland Forests Initiative, Harriet Palmer.

FERTILISING

Eucalypts respond well to fertiliser applied at planting. Drop a fertiliser tab in the planting hole before the tree is inserted or apply a fertiliser containing phosphorous and nitrogen to the surface post-planting. DAP is one such fertiliser.

POST-PLANTING SITE MAINTENANCE

Trees need to be 'released' in the first season of growth if competing vegetation threatens to swamp them. This can either be done manually, by pushing competing vegetation away from the trees (which may be needed at least twice during the first summer), or by carefully spray-releasing the young trees once with a residual herbicide. Do not use triazine group chemicals (terbuthylazine, etc.) on light soils such as sands. On sandy soils a post-plant release with glyphosate, avoiding any contact with foliage, can be undertaken after the bulk of spring weed germination has occurred. Releasing with glyphosate needs very careful application under calm conditions.

Manually released trees will grow much more slowly than spray-released trees, but are more robust to severe weather conditions. Spray-released trees will grow faster and be more drought resistant during that first summer.

Spray-releasing can also be used during the second season to increase rate of growth.

MORE INFORMATION

The best source of information on growing eucalypts for timber is the NZFFA Eucalypt Action group. We recommend you join this group.

This information note is one of a series produced by the NZ Farm Forestry Association with funding from the MPI Sustainable Farming Fund. A series of videos is also available.

www.nzffa.org.nz

