



GROWING CYPRESSES FOR TIMBER

Establishing cypresses

Information Note **2**

The right cypress species grown on the right site and well-managed throughout the rotation will produce high-quality timber with many potential end uses.

BEFORE YOU PLANT:

- **Select the cypress species to suit your site:** talk to experienced local growers or nursery staff before you buy.
- **Fence out livestock:** grazing livestock and young trees don't mix. Fence sheep out for several years, fence cattle and horses out for at least 15 years.
- **Cypresses can cause abortion in pregnant cattle:** keep trees well back from fence lines if cattle may graze adjacent land.
- **Drainage:** cypresses are more prone to toppling in poorly drained sites. Plant a different species altogether in these zones.
- **Ripping:** consider on compacted sites to enhance root growth. Only rip where soil drainage is good.
- **Control damaging wildlife:** deer, goats, rabbits, hares and possums will all damage young trees so aim to minimise numbers of these pests before planting, and keep numbers under control thereafter.

WHEN TO PLANT?

June through to August is traditional bare-root tree-planting time in New Zealand; if using containerised stock the planting season can be extended through September. Cypresses are generally frost-tolerant so can be planted whatever the winter conditions. Avoid planting in very wet or very dry conditions.

BUYING PLANTS

Cypresses are widely available; we recommend you buy from a nursery recommended by experienced farm foresters. Planting stock may be seedlings, or clonal stock grown from cuttings. Clonal stock is likely to be more expensive but will produce a more uniform crop. Ask about the provenance (seedlot or genetic origin) of the stock available, and its canker resistance. Plants should be healthy and sturdy, with shoots 25-40cm and well-developed roots. Plants may be supplied bare-rooted or in containers. Bear in mind that containerised stock:

- allows more flexibility with planting date
- can be held on-farm for longer before planting
- is more expensive than bare-rooted stock.



Containerised and bare-rooted cypress planting stock.

HOW MANY TREES TO PLANT?

For a timber crop, planting density can range from less than 800 to as many as 2000 stems per hectare. Fewer stems per hectare (e.g. 800 sph) will suffice if you are planting clonal stock on a productive site and plan to prune the trees; a poorer site planted with seedlings justifies higher stocking. Take advice specific to your site from experienced growers. Cypress has not undergone significant genetic improvement like radiata pine, which along with the trees' tendency to topple means stocking on the high side is prudent to ensure adequate selection of good trees at final stocking.

Examples of numbers of stems per hectare 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

PLANTING

Plant trees as soon as possible after you receive them from the nursery, especially bare-rooted stock. Store trees in cool conditions, keep roots moist, and handle bags and boxes of trees gently. Try to keep the plug intact with containerised stock.

The 'three-cut' method is a standard forestry planting technique suitable for both bare-rooted and container-grown cypresses. This 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 bare-rooted stock, distribute roots evenly in the planting hole. Gently heel in the soil around the tree, and give the tree a gentle upward pull to ensure all roots are pointing downwards and the tree is vertical. Firm the soil gently round the tree.

WEED CONTROL BEFORE AND AFTER PLANTING

Like all young trees, cypresses will survive best and grow fastest if not competing for light and water with other vegetation.

If planting into grassland, planting sites or 'spots' can be sprayed before planting, or the young trees can be 'release-sprayed' after planting. Pre-planting spraying is best done at least 4-6 weeks before planting. This ensures chemical residues are out of the soil, vegetation has died back and the spots are clearly visible and easy to plant into. You may need to allow longer between spraying and planting if vegetation is rank or woody. Allow newly planted trees 3-4 weeks to settle before post-planting spraying. Sprayed spots should be at least one metre diameter.

If planting on a freshly cut-over harvested site, preparation may not be necessary. Where weedy vegetation has taken a foothold, blanket spraying before planting may be most effective. It is better not to spray over the top of flushing trees; there have been reports of damage to *C. lusitanica* in some cases.



Make at least three spade-deep cuts.



Cultivate the soil well.



Insert the tree deeply into the planting hole, ensure roots are evenly distributed and pointing down, and gently heel in soil.



Pull the tree upwards to straighten its roots. Ensure it is vertical.



Gently firm in soil around the tree.

MANAGING YOUNG PLANTATIONS

It is important to monitor young plantations for several years after planting. Possible problems include (i) pest damage, (ii) trees being swamped by competing vegetation and (iii) toppling.

(i) **Pests** need to be controlled before young trees are damaged. This is of paramount importance to establishing plantations well. Regular monitoring of establishing trees should also take place.

(ii) **If competing vegetation** – for example long grass on an ex-pasture site - threatens to overwhelm the young trees, then the trees need to be 'released' to ensure their survival. This can be done:

- by release spraying – the choice of chemicals and application rate should depend on the predominant weed species competing with the trees.
- by simply pushing back the vegetation away from the young trees. The trees will not grow as fast compared with spray released trees because their roots compete with the surrounding vegetation; this may reduce the risk of toppling. Manual releasing may need repeating more than once in the first season and timing is important because trees are very difficult to find once smothered. Leaving some vegetation around young trees can provide shelter and reduce the risk of toppling.

(iii) **Toppling risk** is highest when young cypresses grow fast and become top heavy. Spray-released trees have no competition for nutrient and moisture so produce little root growth, but very rapid top growth. Toppling risk is worst on fertile sites and those with wet soils, where even moderate winds can leave young cypress trees at an angle of 45 degrees or worse.

Manual releasing is one way of reducing toppling risk; another technique is sail-pruning. This is the removal or shortening of branches to reduce the sail area of the trees (see Information Note 3 in this series).

Photos: John Milne.

MORE INFORMATION

The best source of information and expertise about growing cypresses is the NZFFA Cypress Development 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



CHEMICAL WEED CONTROL

Chemical weed control is common forestry practice.

Get it right, and your trees will stand a good chance of establishing well; get it wrong and the consequences can range from poor establishment to wiping out your newly planted trees.

Chemical types and mixes

Chemicals can either be (i) 'residual' – they remain in the soil and can minimise weed growth for several months, or (ii) 'contact' or 'knock-down' – i.e. they act immediately on contact with vegetation.

Chemicals can also be (i) broad spectrum – i.e. they kill most species they come into contact with, or (ii) selective – formulated to kill certain species but not others.

Residual and knock-down chemicals can be combined in the same application, as can selective chemicals.

Chemical application

Application in forestry is generally either by:

(i) **Spot-spraying** using a back-pack sprayer – only spraying the area around each individual tree. A spot of at least one metre diameter around each tree is recommended. Spot-spraying can be done either pre-planting and/or post planting.

(ii) **Blanket spraying** – the whole area to be planted is sprayed. This can be done by a ground-based operator or by helicopter. Post-planting spraying with selective chemicals is also possible.

The choice of chemical/chemical mix, application rate, and the application technique all need to take into account a number of factors, including tree species, main weed species, soil type, and time of year.

Spot spraying is a straightforward job but does require some knowledge and operator training. Err on the side of caution! Seek professional advice, and employ an experienced, certified contractor to do the work if uncertain.

Storage, handling, and use of chemicals are all subject to health and safety legislation.