



GROWING CYPRESSES FOR TIMBER

Pruning cypresses

Information Note **3**

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.

WHY PRUNE?

Pruning – the removal of whole branches from trees – enables the tree to produce clearwood (knot-free wood). Once the branches are removed, the pruning wounds heal and clearwood grows over the wounds until the tree is harvested. Clearwood is the most valuable timber. Most farm foresters growing cypresses for timber aim to produce a high-value clearwood butt log of around 4-6.5 metres in height, with lower-value knotty timber above that.

UNDERSTANDING DOS

DOS is the 'diameter over stubs' of a pruned stem, conventionally measured with a diameter tape around the lowest, or fattest, whorl after pruning. DOS is an important measure because it determines the size of the 'knotty core' of the stem. The knotty core is of low or zero value when a log is milled. Controlling the size of the knotty core is done by pruning while the stem diameter of the tree is within certain size limits. The skill in pruning cypresses comes in removing enough branches to keep the DOS small whilst leaving enough branches, ('green crown'), for the tree to maintain a good growth rate.



Ovens cypress log showing pruning stubs (the knotty core) and clearwood laid down outside this. The small knotty core confirms that this tree was pruned on time.

PRUNING TOOLS

The standard cypress pruner's kit comprises secateurs, small or medium loppers, and a small hand saw. All tools should be a comfortable size for the user, be sharp and in good condition.

As the trees grow, you will need pruning ladders. Pruning ladders are lightweight, designed for the job, and available in a range of sizes to suit different pruning heights.

A top-handled pruning chainsaw is a useful additional tool in the hands of an experienced user. Approved safety gear is essential for chainsaw users. Generally if a chainsaw is required the trees shouldn't be pruned anyway. Once knots and DOS get away the grower is not going to generate improved value in the logs by pruning.



WHEN TO PRUNE CYPRESSES?

There are variations on the theme, but some guidelines include:

- **Cypresses can be pruned little and often** (e.g. annually) – this is a good option as it reduces the risk of large, heavy branches developing and if practiced well is cost-effective. Heavy branches are much more costly to remove than light branches because of the time involved.
- **Cypresses can be pruned quite hard** – in contrast to (i) above, some commercial growers achieve 5.5-6.5 metres pruned height in just two pruning lifts, removing 50% of the green crown at each lift. The trade-off is that, while costs are reduced by having fewer pruning lifts, timber value may be diminished because the trees will have a larger DOS.
- **There is no golden rule on when to start cypress pruning** – while commercial growers would recommend waiting until maximum stem diameters over pruned stubs (DOS) approach 10-12 cm (usually around age 4-6 years on productive sites), farm foresters may wish to start earlier.
- **The golden rule, however, is not to remove too much green crown** – remove 50-60% at most, down to stem diameters of 10cm or less.
- **Cypresses are prone to toppling**, particularly on wet, fertile sites, especially heavy clays. These sites may well be better planted with a different species. Early 'sail pruning' in the first 1-3 years following planting can reduce the immediate risk of toppling but the risk that trees will topple later anyway is high.

HOW MANY TREES TO PRUNE

There is no need to prune every tree. Common final crop stocking for clearwood regimes is between 200 and 400 stems per hectare, depending on regime. For example, if you have planted 1000-1100 stems per hectare, initially select the best 40-50% of trees to prune (allowing for some mortality and later rejects), aiming for fairly regular spacing between pruned trees. From here, the number of trees pruned in further lifts can be reduced to around the target final stocking. Eventually the stand will be thinned to leave only pruned trees. Small diameter cypress logs mill well, so production thinning (i.e. extracting and utilising thinnings, rather than 'thinning to waste') is an attractive option on many sites.

PRUNING TECHNIQUE AND TIMING

All branches, however small, and including dead branches, should be removed cleanly, without tearing or otherwise damaging the bark. Cypress bark is thinner than pine bark, so extra care must be taken. Pruning cuts need to be just at the branch collar, as this encourages rapid healing of pruning wounds. Pruning can be done at any time of year. There is no hard evidence that pruning in wet conditions increases the risk of canker, but many growers prefer not to prune in wet weather for this reason.



C. lusitanica ready for a low (first) pruning lift.



Carrying out a first pruning lift.



Correct placement of loppers.



Pruning cuts cleanly made at the branch collar.



Medium lift to around 4 metres.



After (left) and before (right) a medium lift.



The desired result – occluded stubs.

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



HOW OFTEN AND HOW HIGH SHOULD I PRUNE?

Commercial cypress growers generally prune in two to three lifts to a height of around 5.5-6.5 metres. Farm foresters doing their own pruning can prune little and often – for example annually.

Do not remove more than 50-60% of the green crown present before pruning. Prune less hard on poorer sites. Large rogue branches above the pruned height should be removed.

DO I HAVE TO PRUNE?

Although clearwood is generally the highest value timber, cypresses will produce good-quality timber with small knots as long as stands are carefully managed to keep branches alive and branch diameters small. If branches die but stay on the tree, black knots will persist within the timber. These are undesirable because they fall out of sawn timber which ruins its utility, for example in cladding.

HOW MUCH WILL IT COST?

Cypresses have a lot of branches! Pruning cypresses can be more time-consuming than radiata pine and hence more expensive if contractors are employed. Contractors will often charge by the metre or by the hour for pruning cypresses, rather than by the 'lift' as they do for radiata pine.

SAIL PRUNING

Young cypress trees are prone to toppling in at least the first three years after planting, especially on fertile sites when soils are wet. Once trees have toppled it is almost impossible to stand them back up effectively, so prevention is better than cure.

Sail pruning from the first year after planting onwards reduces the risk of topple. This involves removing some of 'sail area' of the tree. There is no 'right' way to do this, but methods used successfully by experienced growers include (i) pruning all branches above half tree height to half length, and (ii) using motorised hedging shears or even a scrub cutter to trim back foliage.

Poodle pruning is a technique used by some growers to enable early sheep (never cattle!) grazing of cypress plantations. Lower branches are left to protect the stem of the tree; clearwood pruning begins above sheep browsing height – 1-1.5 metres. In time the tree stems will be big enough to be unpalatable to sheep, and the lower branches can be removed.