



Oak

for timber production

Quercus petraea x robur

Oak is one of the traditional Northern Hemisphere timber trees, and is used for house and boat construction, furniture and wine barrels. Appletons have been working with a number of customers to establish plantations of oaks for timber production. *Quercus petraea x robur*, a hybrid exhibiting botanical characteristics of both European oaks, grows quickly on the clay soils of the Moutere hills of Nelson. Deciduous trees normally dislike tight, clay soils, though another exception is *Alnus cordata*, the Italian alder.

The major challenges in growing oaks for timber are providing enough inter-tree competition to keep the trunk growth apical, and controlling epicormics (watershoots) after pruning. European foresters traditionally plant oak seedlings at a close spacing of 2500 per hectare, progressively thinning over many years but a more cost-effective method was necessary for a faster-growing pruned plantation. The concept was therefore trialled of using *Alnus cordata* as an interplant tree species. This gives a degree of apical competition, denser branch habit to shade the lower trunks of the oak, helping restrict branch size, curtailing epicormics after pruning and the alders add nitrogen.

Matt Stuart of Nelson Forest Management has implemented and further refined this method of planting oaks in customers' woodlots.



Four-year-old *Quercus petraea x robur*

The heart of Appletons' success

OUR WILLINGNESS TO TRY NEW IDEAS,
LISTEN TO OUR CUSTOMERS AND RESPOND
TO THEIR NEEDS



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French x English oak hybrid

Oaks and alders are planted alternately in each row, resulting in each oak being surrounded by four alders, at a spacing of three metres by three metres. There are 1100 trees per hectare, 550 of each species. Where possible, the site is ripped in the driest part of the summer to maximise soil shatter and make it easier to plant the larger root system. Good weed control is essential for early growth and survival through the first dry summer period. An NPK fertiliser and boron on clay soils will improve early tree growth. Rabbits and hares are often a real problem, being attracted by this new and novel food source.

Oaks are progressively pruned to a set DOS (diameter over stub) in early winter. Canopy closure occurs quickly, controlling weeds and even killing gorse with a heavy layer of leaves that blanket the ground. Alders have a shallow rooting system and have the ability to fix their own nitrogen. The Alders are progressively thinned to waste or firewood.

Local craftsmen and furniture makers have commented that New Zealand-grown oak, when quarter sawn and correctly seasoned, performs as well as imported timbers. Growth rates to date have been excellent and will result in a most interesting forest.



Matt Stuart amongst three-year-old *Quercus petraea* x *robur*



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1. Matt Stuart in a light well formed by the surrounding alders.
2. Initial pruning of only the moist, vigorous branches.
3. Reducing branched length, while still shading the trunk.
4. Excellent establishment and weed control rewards with consistent, excellent growth even on upper slopes.

