

# Adding value to hardwood timber

**ROBIN TRUSLOVE MSc MICFOR ON THE FORMATIVE PRUNING OF TIMBER BROADLEAVES**

The need to prune broadleaf trees has arisen from the wider spacings now used in new plantations. These aim to avoid the higher establishment costs associated with higher planting density in the cost of labour, plants and protective materials. The effect of wider spacing is to delay canopy closure and the mutual suppression of side branch growth that, in turn, can lead to poor form. These effects are widely documented. Hart (1991) summarises: "little or no pruning is required for well-stocked, dense crops which have encouraged early side branch suppression". In addition, the technique is now considered good forestry practice as shown by Seaman and Wall (2002), Hemery, Savill & Kerr (2002) and Fenton (2005).

The financial benefits are also clear. By my calculation, a mature tree forked at 2m and/or heavily branched from absence of management, is destined for firewood at £20/tonne standing. On the other hand a mature tree with a good length of clear stem (the aim of form pruning to 3m and high pruning to 6m), can fetch £175/tonne standing as a sawlog. Assuming a good timber tree can release 2.87 tonnes of timber (equivalent to 75 Hft), it will be worth c.£500, but if a tree releases the same weight of firewood it will only realise £57.40. Could put as graphic This quality/price difference is expounded by Seaman and Wall (2002) who indicate that an increase in value as a result of 3 to 5 pruning operations is between 5 and 20 fold.

The first task is to remove competing leaders and

forks at the top of the tree causing the main potential defect of reducing timber height. Any steeply ascending branches should then be removed. Finally any large branches (more than 50% of stem thickness) lower down the tree can be removed to prevent major bends in the stem. Not all trees need pruning; 1 in 3 trees is more than enough.

## SUMMARY

The increase in timber value by pruning for quality is easy to see. Increasing the number of valuable trees per hectare is part of the skill of a forester. Importantly the practical skills are present in the contracting sector and with continued sharing of information more owners will be able to carry out the work in-house.

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Lockhart Garratt Ltd has become one of England's leading independent environmental planning and forestry consultancies. The company employs over 30 staff, providing expert advice relating to arboriculture, ecology, forestry, woodland management, landscape planning and design and green infrastructure from both their Northamptonshire and Oxfordshire offices.

## PRUNING REGIMES BY SPECIES

**Ash** (*Fraxinus excelsior*) - The principle defect in ash is co-dominant leaders; which can be easily rectified by removal of a single branch. Form improvement is instantly recognisable; however, the question needs to be asked as to whether it is worth pruning ash if it is only going to die prematurely because of Chalara ash dieback.

**Oak** (*Quercus robur*) - Oak can be more technical to prune and can be split into three easily recognisable categories: good specimens with upright growth and minimum side branching (generally leave alone), pruneable examples which can be made into good trees with 2 or 3 pruning

cuts, and trees with total horizontal development of which there is no hope. In general, oak has more heavy lower branches, often requiring a sharp saw (in addition to the secateurs and long handled loppers mainly used) for removal.

**Sweet chestnut** (*Castanea sativa*) - These trees are often tall with large stems and branch diameters which also require a saw so they need to be pruned early.

**Wild cherry** (*Prunus avium*) - The work should always done in late July to prevent bacterial canker or silver leaf disease.





**Oak pre-pruning and, below, straight lengths of mixed timber**



## Stooling and singling of sweet chestnut

Sweet chestnut coppices well. By cutting at 5cm above ground level with a chainsaw or more efficiently sharp brushcutters (higher stools can dieback and are a trip hazard) good regrowth will occur. Brush can be laid low away from the stump to rot down, return the nutrient to the soil and ensure the regrowth is not physically inhibited by the dead cuttings.

## Pruning and debudding of cricket bat willow

Cricket bat willow (*Salix alba* var. *caerulea*) are usually planted as 2-4m setts at 10-15m intervals along stream banks. The aim with these fast growing trees is to manage them by pruning to produce clear timber within a short rotation of 15-18 years. The market is currently very healthy for the timber, with trees being considered for felling once they reach 44cm diameter at breast height (dbh).

It is vital to highlight the difference in value of well maintained (regularly pruned) and non-maintained cricket bat willows. These trees are paid for purely on the length of clear stem achieved. At present, a price of £40-65 per bat length (74cm) can be achieved standing (dependent on girth and quality). Therefore, with a fork or branch at 1m height each tree is worth no more than £65, whereas a tree with 3m of clear stem can be worth up to £250. This is a considerable profit increase bearing in mind it takes 5 minutes twice a year to undertake the work per tree.

The method is simple. Side branches are pruned or (preferably) stems debudded to prevent branch formation, annually in May and August. The work should focus on maintaining a maximum height of clear stem by pruning to head height in years 1 and 2 and then to 3-4m in years 3 and 4 using long handled loppers and stepladders.

## Pruning of poplar

Pruning poplar should aim to stop the growth and expansion of the branch junction, which will ultimately produce a knot and defect in the final timber butt. The stem then grows around the wound producing valuable clear wood and holding the knot in a central core.

Our experiences of the existing poplar market again confirm the returns available for regular management. Around £5 per tonne is the most that will be paid for unmanaged 'branchy' poplar as hardwood pulp where clean sawlogs can realise £18 per tonne.

### References

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- Fenton, T. (2005) Pruning for success. Quarterly Journal of Forestry, 99 (1) 55-58.
- Seaman & Wall (2002) Arboricultural Association Newsletter. Issue 117 - May 2002.