

Formative Pruning Young Broadleaf Woodland Trees Guidance Note

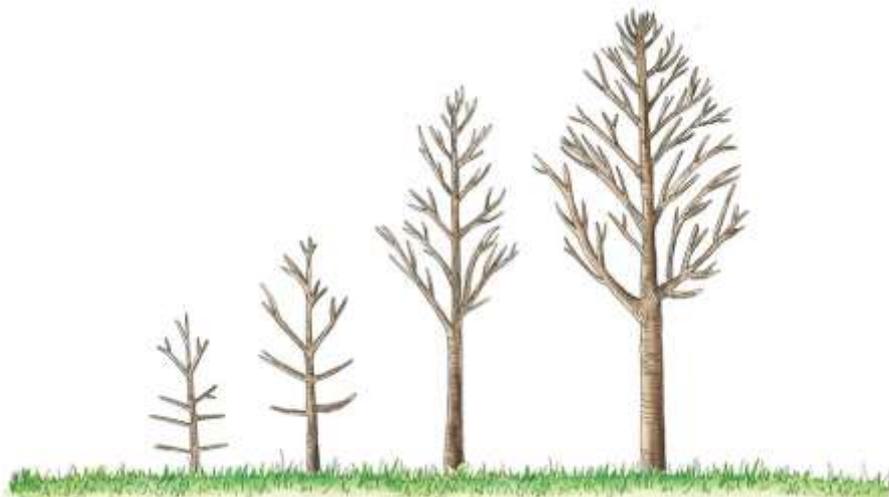
The following are good reasons for pruning broadleaf trees in your woodland:

- to clear rides and tracks
- for safety reasons
- to improve appearance
- to improve the form of the trees for timber and therefore value purposes – formative pruning

This guidance note covers the last 2.

What is Formative Pruning?

Formative pruning is an operation carried out on young trees with the objective of ultimately producing a single straight stem of at least 3 m in height with small branches that will die quickly at the onset of canopy closure leaving the bole virtually defect free. This pruning also removes crossing limbs; suppresses secondary leaders; singles paired leaders from unions with included bark and lifts the crown (if required) towards its final desired height. This pruning prevents some defects from worsening and resulting in partial tree failure and ultimately improves timber quality and therefore potential future value. Suppression and shedding of branches occurs naturally in well stocked stands and generally only a little pruning will be required, but such pruning is more important in wider spaced crops (3m x 3m – 110 trees/ha) as lack of tree competition allows trees to grow out rather than upwards.



Illustrative benefits of formative pruning.



After formative pruning, **high pruning** can be implemented if your objective is to grow the highest quality timber trees. See our separate guidance note on this operation.

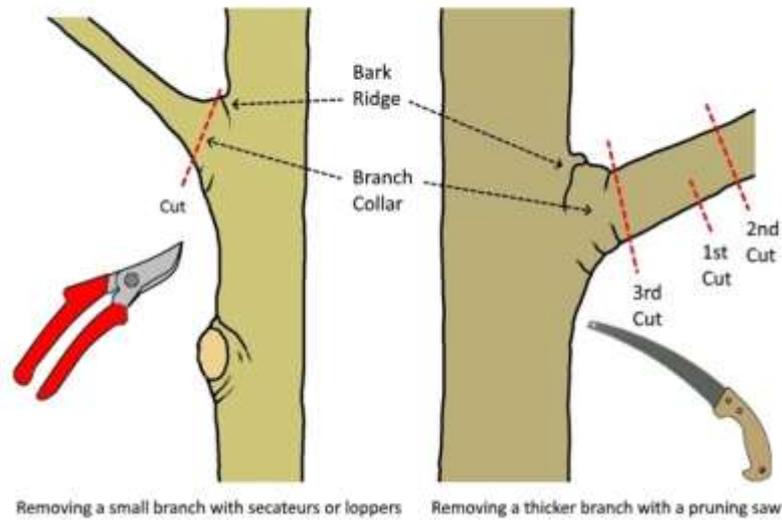
Branch removal - The main priority is to remove forks and therefore favour the best, straight and usually dominant leader. This will reduce the chances of a low weak fork developing. The second priority is to remove disproportionately large branches from the tree crown. A large branch is one that has a diameter >50 % of the main stem diameter at the point of union with the main stem. Ideally, branches removed in formative pruning should not be allowed to become too large to cut with a knife or a pair of secateurs and early intervention will prevent large wounds which can allow defects and decay to develop. In the case of oak, special care is required to avoid exposing heartwood by pruning very thick branches as this may provide an entry point for wood decay fungi. Pruning should be started soon after establishment, and ideally continued annually until the objective of a single straight stem of at least 3 m in height is satisfied. To ensure no adverse effects on individual tree growth and vitality, at least one-third of the total height of the tree should always be left as full crown. If the cost of treating all trees is prohibitive, efforts should be directed on trees that are likely to become your final crop.

Target Pruning

Target pruning is where cuts are made near to the main stem but not so near that you cut into the "branch bark ridge" or "bark collar" and therefore leave a large scar for the tree to seal; an angled cut will minimise the surface area that the tree needs to repair. Ensure a clean, precise cut so that you do not tear the bark down the stem and you should try to avoid leaving "stubs", therefore ensure your secateurs or saw are sharp!

With larger branches you should use a pruning saw and make your first cuts about 150mm away from final cut to take the weight off so that the final cut does not tear and is as neat as possible – see diagram below.

Pruning Off Branches Correctly - Don't Cut into the Branch Collar



You don't need to collect up the branches you've cut off as they can be left to decay on the woodland floor, ideally in habitat piles.



Correctly completed pruning cut.

Tree Species

All species will benefit from some formative pruning but some more so than others. In general, oak and beech lack apical dominance and are most likely to require formative pruning. Ash, alder, sweet chestnut, birch and sycamore are more apically dominant and may occasionally require intervention especially if damage from frost or leader breakage is experienced. Wild cherry has strong apical dominance but at low densities will form low heavy branches which usually need removing.



When to prune

Generally, it is not preferable to take any leaf of a tree. Therefore, the best time to prune a deciduous tree is when it is dormant, after leaf fall in the autumn and before new leaves flush in the spring. However, there are some exceptions as some species such as Birch, Walnut and Maples, will 'bleed' sap which risks the tree losing valuable sugars whilst not being able to actively seal, therefore the pruning of these trees should be carried out when this risk is lower i.e. in the summer. Similarly, cherry trees rely on the production of a resin in the defence against wound related pathogens, therefore pruning should also occur in the summer.

And one final reason to prune your trees..

Pruning can be great fun, therapeutic and at the very least, very satisfying to go around your woodland improving the future shape and value of your trees.