

Formative Pruning of Apple Trees

Why Prune Fruit Trees?

There are lots of ways to shape fruit trees depending on the priorities of the grower and the space available but pruning is not just about pretty forms. Pruning can help trees to fight off infections by allowing for good ventilation and should encourage your trees to produce more fruit.

In a community orchard there are many factors that influence how we manage the trees, such as highlighting the beauty of fresh, local fruit; bringing life and vitality to parks and streets; and creating habitat for urban wildlife.

The open-centred bush tree meets our requirements, as it is relatively straightforward to prune, low enough to be accessible for fruit harvest and encourages trees to develop habitat features such as hollows when they are older.

If you have a smaller space, trained forms such as cordons, espaliers, or fan-shaped trees are perfect and you can even plant your trees in containers if you don't have open ground.

Pruning Basics for Apple Trees

In natural growth a tree will have a central leader –the branch that grows tallest through the middle of the tree and a structure of lateral or side branches that form the rest of the tree. In an open centred tree the central leader is removed and four to five scaffold branches, the main limbs that support the fruit-bearing lateral shoots, are developed through formative pruning.

The point where a branch forks or where a main limb joins the trunk is called the crotch. Strong crotches have a minimum 45° degree angle. Narrower joins than this may form a weak union that can result in splitting once the weight of fruit is added.

Trees have two types of buds, the flat, scale-like buds that may develop into a leaf or new branch (extension growth) and the rounded, furry buds growing on offshoots, or 'spurs', that will develop into blossom, followed by fruit.

It is important to make a good, clean pruning cut about 1/2cm above a bud facing in the direction of desired growth. The cut should slant away from the bud to prevent water run-off collecting around the bud, leading to rot.

Formative Pruning

First year: the ideal start to the formative pruning is with a maiden tree, or single one-year stem where no side branching has begun. Immediately after planting cut back the maiden by one third to promote branching. This works for bush or maybe half standard trees – if you need the tree to branch at head height or above then grow on for another year and cut above a bud at about 1.8m

Second year: Select 4-5 well-spaced laterals (you may be lucky to get this many laterals – 3 is quite common) with wide crotch angles to be the scaffold branches. Prune back remaining new growth and any growing from the main stem below the scaffold branches. Cut back primary (scaffold) shoots by one third to just above an outward facing bud. This will produce one or two new lateral shoots that will grow away from the centre of the tree. At this stage it is fine to leave any lateral shoots less than 6 inches long, that will grow

extra leaves to help the young tree establish. Any shoots growing strongly into or across the centre of the tree should be removed.

Third year: Leaving the previous year's growth, once again cut back the new side shoots by one third to an outward facing bud. By this point the new tree will be developing fruit buds.

Fourth and following years: by this stage the formative pruning work should be complete. Pruning should focus on keeping the centre of the tree clear of growth, removing branches that compete or rub against each other and getting rid of any diseased or weak growth. The key at this point is to limit pruning to no more than 20% of the tree's mass as any more will promote stem growth over fruit.

Pruning Principles

Ensure you have sharp, clean tools. A pair of secateurs and a small pruning saw should be all you need for most jobs – unless you're carrying out restoration pruning on an older tree where you may need extension poles and larger saws and tripod ladders. North Cumbria Orchard Group will be running restoration workshops get in touch or keep an eye on our website to find out when!

Take your time and step back to assess your work regularly – it's best not to take more than 20% of the timber out of the tree in one year. Leave the pile of your cuttings on the ground beside the tree as you work so you can gauge your progress. In older trees heavy pruning will result in a good deal of strong upright growth (water shoots) from below large cuts, these must be removed and it is best to do this during the growing season – rub them out in May and June as they are just beginning to develop and grow.

Never leave a stub at the end of a cut that will just rot away and be a target for disease. Always cut a branch back to the base or to a side shoot or fruiting bud, but leave the rough ring of bark where the side branch meets the main framework of the tree. This will help the tree to heal and protect itself.

Don't be afraid to have a go! If you stick with the basic rule to prune out dead, damaged or diseased wood and follow the principles above you can't go far wrong. Remember each tree is different – feel free to let it express its character.

When to Prune

Generally prune pip fruits (apples and pears) in the winter and stone fruits (plums, cherries) in the summer. However, there are times when you prune apples in the summer.

A commonly used adage is that we winter prune to promote growth and shape and summer prune to promote fruit. So once the tree has grown to the size you want, begin summer pruning this will reduce the vigour of the tree and since you should only be removing young growth and no fruit bearing wood you also allow sunlight to reach and ripen the fruit. NCOG will be organising workshops around summer pruning during August.