Planting an Orchard

Planting an orchard is the first step to ensuring the safety of the orchard habitat. Anyone can plant an orchard, or keep fruit trees, it really does not matter how much space you have!

Planting a traditional orchard

This is the ideal scenario; planting five or more widely spaced fruit trees on vigorous rootstocks. Five trees as a minimum means the orchard would ‘qualify’ as an orchard under the current habitat definition. Vigorous rootstocks lead to the largest trees, sometimes 30ft high, meaning lots of fruit (with plenty of excess for wildlife) and lots of deadwood and cavities which are good for several animals. Wide spacing allows lots of light into the grassland beneath the trees to allow a high diversity of ground flora.

HOWEVER, not everyone has the space for this kind of orchard, but this is the wonderful thing about fruit trees - their versatility!

If you are limited on space, try growing dwarf trees in pots on the patio. Or train an espalier up a south facing wall. You could even try creating 'step over' apples. There's always space for some kind of fruit tree in a garden.
It is worth spending some time planning where you want to plant your orchard, as this could save you trouble later on. Some things worth considering when selecting your site include:

**Grassland biodiversity**

Sometimes, the grassland where you want to plant your trees might be of very high wildlife value. This will be particularly evident in grasslands where a hay cut is regularly taken, or where there are ant hills present (indicating the ground has not been ploughed for a long time). If the grassland has a high diversity of flowers in it, consider planting your orchard on another site. Flower rich meadows are becoming very rare and many important plant species such as orchids are found in them. GWT can advise on the value of grasslands within Gwent, let us know if you would like to arrange a survey.

**Aspect**

Ideally, an orchard should be planted on a south or south-west facing slope. This aspect ensures the trees will get plenty of sunlight throughout the year and that there will be adequate drainage. Other aspects may be considered however if a south or south-west slope is not available. Depending on other factors such as exposure and shading (see below) more hardy fruit varieties should be chosen to cope with the slightly cooler conditions on these slopes.

**Exposure**

Fruit tree blossom is extremely susceptible to wind blow, particularly the earlier blossoming varieties. In exposed places, a wind break, such as a hedgerow, can help protect the fruit trees from harsh winds, so you could try planting one before your fruit trees go in (or at the same time). Another danger to fruit tree blossom is frost. A late frost can completely destroy all of the blossom in an orchard; again early blossoms are particularly at risk. To avoid the risk of frost as much as possible, plant later blossoming varieties. If you have your heart set on early varieties, plant these at the top of the slope. Trees at the top of the slope will receive most sunshine for the longest part of the day; therefore frost will melt quickly from them.

**Drainage**

Fruit trees generally hate having wet feet, so the ideal location for them would be on a freely draining soil. This is partly why slopes are good for fruit trees. A good test to find out how well your ground drains is to dig a hole in the ground, around a foot deep, and leave it for a week. If you can see water pooling in the hole after this time, the location is probably too wet for healthy fruit trees and it may be worth considering somewhere else.

If your drainage is OK but your soil still has a very high clay content, it may be worth digging in some well-rotted manure at each location where you will plant the trees. This will help improve the localised soil structure for the tree while it establishes. Do the same if your soil is extremely sandy.

**Boundaries**

It is also worth thinking about the types of boundary you have around your orchard site. Fruit trees need a lot of sun light and will not do well if planted very closely to other tall trees (such as a hedge boundary or neighbouring woodland) because they will be over shaded. Trees grown in shade will have crooked growth (as they reach for sunlight) and may be more susceptible to some diseases (particularly fungal diseases) as the microclimate around them will be cooler and wetter.

**Tree selection**

As much as it is worth considering your location, it is equally as important to choose your trees wisely. The following hints should help you make the correct decision. Remember to talk to your tree supplier to confirm your choices, they are there to help.

**Rootstock**

Fruit trees are supplied on different rootstocks. Rootstocks give a predictable growth rate and structure and mean that fruit trees can be planted in most situations if the appropriate rootstock is selected.
Rootstocks vary from extremely dwarfing to extremely vigorous, and so the resulting mature tree will be a predicted height; very small ranging to very large. There are advantages and disadvantages of the uses of different rootstocks. Dwarfing ones are easy to prune and harvest from but have a poor root system meaning they require staking all of the time. Vigorous rootstocks can lead to large unwieldy trees which are difficult to harvest from and prune, however they will develop strong roots and will be more hardy to adverse weather conditions.

The rootstock chosen will obviously influence how widely the trees need to be planted apart as a reflection of how large the trees will eventually become. The table below gives examples of different rootstocks, however many more are available. It is worth consulting with your supplier.

More information on rootstocks can be found on the [RHS](https://www.rhs.org.uk) website.

<table>
<thead>
<tr>
<th>Fruit type</th>
<th>Rootstock name</th>
<th>Final tree height</th>
<th>Spacing</th>
<th>Time until good crop produced</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>M25 (extremely vigorous)</td>
<td>6m+</td>
<td>10m</td>
<td>5 - 7 years</td>
<td>Favoured in traditional orchards to produce large standard trees. Staking required only in first few years.</td>
</tr>
<tr>
<td>Apple</td>
<td>MM106 (semi-dwarfing)</td>
<td>4m</td>
<td>4m</td>
<td>3 - 4 years</td>
<td>Good all rounder, favoured for the 'garden orchard'. Staking required only in the first few years, but permanently if on poorer soil.</td>
</tr>
<tr>
<td>Apple</td>
<td>M27 (extremely dwarfing)</td>
<td>2m</td>
<td>1.5m</td>
<td>2 years</td>
<td>A dwarf tree suitable for small spaces and containers. Will need permanent staking.</td>
</tr>
<tr>
<td>Pear</td>
<td>Quince A (semi vigorous)</td>
<td>5m</td>
<td>5m</td>
<td>4 years</td>
<td>Suitable for most garden soils. Will need permanent staking.</td>
</tr>
<tr>
<td>Plum</td>
<td>Pixy (semi dwarfing)</td>
<td>4m</td>
<td>4m</td>
<td>3 years</td>
<td>A dwarf tree suitable for small spaces. Will need permanent staking.</td>
</tr>
<tr>
<td>Cherry</td>
<td>Colt (semi-vigorous)</td>
<td>6m</td>
<td>6m</td>
<td>3 years</td>
<td>Suitable for most garden soils. Will need permanent staking.</td>
</tr>
</tbody>
</table>
Varieties

Which varieties you go for entirely depend on what you want to get out of your orchard, whether it is for cider or for kitchen use. The only constricting factor with varieties is whether you need to choose later blossoming ones if your site is very exposed (see above). Whenever possible plant at least some traditional, local varieties to your area. Traditional varieties are in danger of being lost as more modern ones are chosen in preference. The following suppliers specialise in Welsh varieties:

- Dolau Hirion
- Ian Sturrock and Sons

Pollination

Many fruit trees are what we call ‘self-sterile’ that is they require another variety to be present for pollination to occur so fruit is produced. The other option is ‘self-fertile’ trees, i.e. those trees which produce fruit with or without any pollination from another tree. Even self-fertile trees benefit from some pollination as this can improve yields. Fruit trees are categorised into ‘pollination groups’ based on when they come into flower. Fruit trees can only be pollinated by varieties in the same group as them, or the next one up or down. In other words, group 2 trees can be pollinated by groups 1, 2 and 3 but not 4.

Most self-sterile trees are ‘diploid’ that is, they only require one other variety for pollination. Some however, are trickier and are called ‘triploid’. Triploid trees require at least two other varieties in the same pollination group to ensure a crop of fruit.

The pollination requirements of a fruit tree should be on the tree label. If it is not, ask your supplier to tell you.

Planting

After making all of your important decisions on where to plant your trees and which ones to plant, there is then the task of actually planting them.

Time of year and tree storage

Fruits trees come in one of two ways: bare rooted or containerised. Bare rooted trees are available in the winter, when the trees are dormant. These trees must be planted in the winter months between November and March, ideally December. They come with their roots wrapped up in plastic or something similar but cannot be stored like this for any length of time. To store bare rooted trees it is necessary to ‘heel’ them in to a trench in the ground. This involves burying the roots with soil. Containerised trees are available all year round and come in a pot with compost or soil protecting the roots. Because the roots are well protected they can be stored like this in a sheltered position until ready for planting, which can be at any time of year. There are disadvantages and advantages to bare rooted or containerised trees. While containerised have the flexibility of being able to be planted at any time of year, they are twice as expensive as bare rooted alternatives. Trees in pots may also be root bound, making it more difficult for them to establish when planted. They also require more watering than bare rooted trees, especially if planted during the spring and summer.

Stakes and guards

All fruit trees will require staking for some amount of time after planting. The type of stake required and also the guards you use to protect the tree will depend upon what else you will use the orchard space for. If you intend to graze the orchard, heavy duty stakes and guards will have to be used as most sheep, cattle and horses will destroy an
orchard of young fruit trees within minutes, if the trees are not protected. If no grazing is expected, a rabbit guard and small stake will be sufficient while the tree establishes itself.

Planting the trees

The tree should not have its roots exposed (either from the plastic wrapping or planting pot) until the very last minute before they go into the hole. Tree roots are damaged within seconds of being exposed to the air as they dry out so quickly.

A hole should be dug which is deep enough so that the soil level will be reach the same point on the tree as where it was at in the nursery (or in the pot). You will be able to see the old soil line on the tree itself and should be a few centimetres below the graft line (where the rootstock and variety have been joined).

The stake should be driven into the ground before the tree goes in so that the tree roots may be arranged around the stake, minimising damage to the roots. It should project at least 30cm out of the ground, vertically, and should sit around 15cm away from the tree trunk.

Once the tree has been placed in the hole the soil should be carefully placed in whilst the tree is kept vertical. You can jiggle the tree slightly whilst the soil is going into help distribute the soil around the roots.

Finally the tree should be loosely fixed with a flexible tie to the stake, above the graft line. The tree should be able to sway slightly in the wind as this strengthens the trunk.

Aftercare

Once the trees are planted there are a few things that need to be done to look after them.

Weeds

Newly planted fruit trees suffer if they have to compete for water and nutrients from weeds and grasses growing around their roots. It is therefore advisable to remove all vegetation from the base of the tree and suppress further growth for the first few years after planting. This may be done by covering the area with mulch, such as grass clippings, to smother any future growth. Weed suppressing membranes and mats can also be used. Finally a non-residual herbicide could be used. Of all the options, mulching is preferable.

Watering

Trees will need to be well watered straight after planting. A lot of water should be poured on to ensure the water reaches the trees roots. Water may be required during the summer months for a few years after planting, depending on how hot the weather gets.

Formative pruning

For information on formative pruning young trees, see the pruning page.

Sources of advice

Some extremely comprehensive free guides on fruit tree planting are available from Natural England:

- Site selection
- Planting

Are you short on space? See these links for inspiration on how to fit an orchard into even the smallest of spaces: