

Planting your orchard

This resource outlines how The Orchard Project plants orchards. Site considerations and planning are covered in our resource 'Things to Look Out for When Planning an Orchard'.



You will need:

- Spades
- Forks (for breaking up hard pans and making drainage holes)
- Buckets/bins (to fill with water to soak bare roots)
- Pinch bars/ground breaking tools
- Mattocks
- Tree ties/old inner tubes
- Large cable ties
- Biodegradable mulch mats
- Tree stakes
- Tree guards*
- Hammers and fencing staples (if using wire mesh guards)
- Secateurs (pruning any branches damaged in transit and heading cut at planting)
- Mycorrhizal root dip
- Organic chicken manure or compost**
- Mulch (deciduous wood chip, one barrow per tree)

- Wheel barrows
- Shovels
- Gloves
- Mallet/lump hammer for stakes
- Safety goggles and hard hats (only if using tall (above head height) stakes for guarding)
- Stake driver (only needed if using big stakes)
- First Aid Kit

* This guarding system is used by The Orchard Project as we've found it to protect trees against even the most determined tree vandals. You must decide what the vandalism threat is in your chosen location and guard (or not) appropriately. There are other systems available, but this works for us.

The 'pit'

We always dig a square shaped pit on the basis that there is less chance that the growing roots will reach the side then grow round the edges instead of penetrating into the surrounding soil; a square pit provides angles for the roots to get stuck into. This is particularly important with compacted and heavy clay soils. Each side of the square should be three spade widths wide, although it should be made much larger, even double this, on heavily compacted soils. The pit should be dug to at least one spade's depth and it is important to break up the underlying soil with a fork, especially if this is a layer of clay.

Dig the pit like this:

- Place your mulch mat adjacent to the square so you can pile your soil onto it without losing; it can be quite hard to collect your soil again once it crumbles into the grass.
- Use the spade to mark out the edge of the square, cutting into the top couple of inches as you go around.
- Cut your square into quarters or sixths.
- Using your spade at an almost horizontal angle, slice off the squares of turf you just created, gently shaking off the darkest, richest top soil into a pile on one side of your mulch mat, then put the turf squares somewhere out of the way.
- Dig the pit, and place the top few inches of soil you dig out onto one side of the mulch mat and the deeper soil onto the other side. Be sure to retain the sharp angles of the square as you get deeper to aid root penetration.
- Once the pit is a spade's depth, use a fork to break up the underlying soil and to create penetration holes down the sides.

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- The pit should accommodate the root ball without the roots having to be squeezed in or bent up the sides – check the tree to be planted by holding the roots in the pit.
- Any long roots can be accommodated by using the spade to make a slit from one of the corners. Ease the spade forward so that the slit can be opened and the root tucked in, before removing the spade and tamping the ground down.
- Some of the turf taken off can be placed upside down in the bottom of the pit (the grass and its roots will break down and provide nutrition to the tree).
- Have one person hold the tree in position while the other back fills. It is important that the graft union (the bulge where the rootstock has been grafted onto the scion) remains 8-10cm above the ground level (a cane or spade handle can be laid across the top of the pit to measure the tree against. This prevents the scion from forming its own roots which could overcome the dwarfing quality of the root stock).
- The person back filling should aim to first put the topsoil back in as this has more nutrients, being careful to ensure that no air spaces are left around the roots. The tree holder can gently shake the tree every few minutes to ensure soil falls into any spaces. Care should be taken to lift any roots that originate from higher up, placing soil underneath them so that the roots extend at many levels, as they did when they grew in the nursery. This helps with establishment and stability.
- The rest of the soil can then be added, until the pit has been filled and tamped down to the surrounding soil level. It is often easier (and much more satisfying!) to have both people pick up the mat and pour the remaining soil in rather than using the spade. Try to keep the spades or any tools away from the stem to prevent damage.

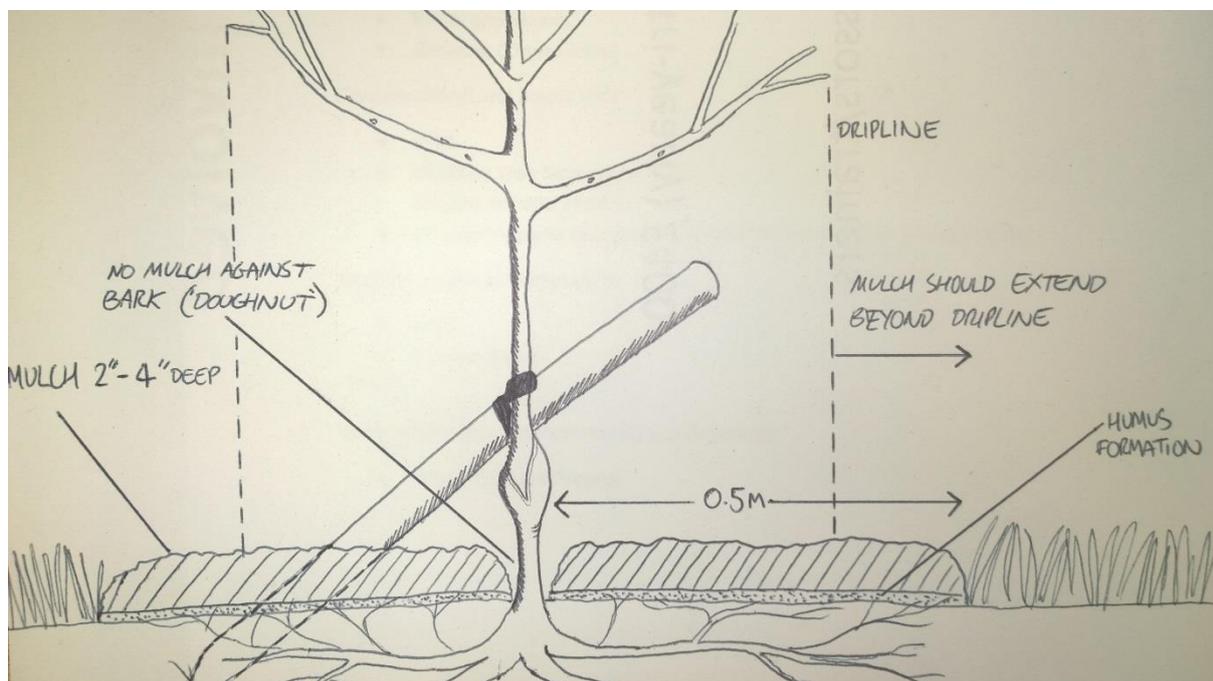


Mulching

Mulch is a layer of organic matter added on top of the ground to suppress weed growth and retain moisture. It is vital for the establishment of young trees, particularly when planted into grass.

Wood chip from hard wood tree species makes good, long-lasting mulch which adds humus to the soil and attracts beneficial fungi. It is readily available in the environments and from tree surgeons.

A mulch mat is placed on the ground around the base of the tree to block light to any plants below and prevent more vigorous weeds from growing. This should be at least 1m in diameter and be made from a biodegradable material. A couple of layers of cardboard will suffice.



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A generous layer of mulch can then be added. This should form a circle around the tree, around 1m diameter and 8-10cm thick. A hollow should be made immediately around the base of the tree's stem so that the mulch is not touching the bark, which can lead to rotting. The mulch should now resemble a 'doughnut' of sorts.

Guarding

During the first few years after planting a young tree is vulnerable to attack. The main threat will be specific to the location; it could be rabbits or deer in a more rural setting, or people and their dogs in the city. We've even had reports of London fruit trees actually being stolen around Mother's day before! To protect the trees through this vulnerable stage they'll need to be guarded to some extent; the size and robustness of the guard will depend on local threats. The Orchard Project has more than a 98% survival rate for our newly planted fruit trees. Part of this success

is down to the heavy duty guarding technique we use. Guarding is vital in the areas to stop vandalism; people damaging or stealing young fruit trees, and 'fighting' dogs (which are encouraged to girdle branches and trunks to strengthen their jaws!). Guarding also protects trees from accidental damage, from careless strimming for example. We use heavy gauge wire mesh guards and 2 sturdy 8ft stakes banged 2ft into the ground. The guards are then reduced as the trees grow to allow room for branches to spread.

Once the tree is in, the position of the two guard posts should be measured, 3 spade widths apart (approx. 54cm), with the tree in the middle. In order the guard to allow the tree sufficient space, it is vital to get this distance correct; making the holes too close or too far apart will retard the guard circumference.



Use the pinch bar to make a pilot hole for each post (some of the mulch may have to be moved slightly while making these holes and fitting the wire mesh).

Lay down each post so that the pointed end points to its hole.

Two people are needed for the next stage. Ensure both are wearing hard hats and goggles.

One person will slide the stake driver onto the end of the post (horizontally, as the post is still lying on the ground).

Then, as the person lifts the stake driver with the post in it slowly into vertical position, while the other guides the pointed end into the pilot hole.

Once vertical, both people take opposite handles of the stake driver. At this point it's useful to have a third person stand back and make sure that they're holding the post vertically, and not at an angle, to prevent a crooked guard.

Once vertical, and after the count of three, both people bash the post into the ground to a depth of two feet, with six feet left above the ground. Two pieces of wire mesh fencing are then nailed on with fencing staples, with three staples up each side (bottom, middle and top). You may have to rearrange the mulch a little to allow these to be positioned.

Some branches may need to be carefully threaded through the mesh while these are being fitted. Any good, wide angled branches that could form scaffold branches should be allowed through by cutting small holes for them using the wire cutters. These then need to be lined (see below) to prevent rubbing.

A weeding hatch should then cut low down on one side of the mesh. This should be about 4-5 squares across and 3 up. Try to cut the wire as flush as possible as the remaining edges will be razor sharp. Use cable ties to attach an old bicycle inner tube, lining the hatch to prevent injury from the sharp bits



Your trees have now been carefully planted, mulched and guarded! You've significantly increased their chances of successful establishment and survival! You'll need to keep an eye out for any rubbing branches and protect accordingly. You can reduce the height of the guard year on year as your tree develops and the threat of vandalism subsides.

