

'Worst case scenario' – planting for light touch orcharding

Introduction

Fruit trees are generally a very low-input, low 'work', option for growing food; once the roots are established, there is little to do over the year in comparison to the amount of effort that goes into annual crops which must be grown from seed in one year, and the whole cycle repeated again the next. This makes them a sustainable option; both in terms of the ecological (less fossil fuel energy, less chemicals) and human workload (less energy and time required).

Once the roots are established, a fruit tree has the potential to produce a good yield of fresh fruit each year, for many years to come, and will go on producing even if the annual orcharding tasks are neglected for some years. However, the important work of getting the tree established is weighted towards the first few years after planting, with the first year being perhaps the most crucial.

In some cases, after the excitement of designing and planting an orchard has subsided, the important aftercare gets neglected! Many people sign up to water the trees, but on those long, sweaty summer days, carrying around 20l of water to each tree can seem a hard deal!

Watering & maintenance

Water, or lack of it, is the biggest limiting factor to growth. Roots can only grow where there is sufficient water. The orchardist's efforts in the first 3 years after planting are largely spent on ensuring the tree gets sufficient water for a good root system to develop, through both the application of weekly watering and the elimination of competition from other plants near the tree.



It must be emphasised that sufficient watering is vital during the growing season (March-September) in the first three years, the first being the most important. However, where we are working with a group and we're unsure about their commitment (or concerned that there may be a frequent turn-over of residents), it may be prudent to plan for the 'worst case scenario' where the trees may not get sufficient attention.

In order to prepare for the worst, a good strategy can be to 'top-load' the maintenance work into the initial planting day where you have some control over what happens, and hopefully plenty of help to get the work done. Putting in extra effort at this point can go a long way to ensuring the trees make it through their most vulnerable initial phase.

Mulching

Mulch is a layer of bulky, organic matter added on top of the ground around the tree to suppress weed growth (and therefore competition) and retain moisture by reducing evaporation. It is vital

for the establishment of young trees, particularly when planted into grass turf.

Wood chip from hard wood tree species makes a good, long-lasting mulch which adds humus to the soil and attracts beneficial fungi. Both humus and the presence of fungal mycelium help to retain moisture in the soil. It is readily available in urban environments, from tree surgeons. Good compost can also be used, as can well-rotted horse manure, but wood chip is best to begin with as it is long lasting, fosters a fungal soil, and doesn't provide lots of nutrition (manure may provide too much nitrogen for a newly planted tree and should be saved for later in the tree's life, once it has begun to bear fruit). Any mulch is better than no mulch however, as grass/weed competition will stunt growth. Should you plant two identical varieties side by side, one mulched, the other without, the difference in growth will be visible by the end of the first growing season.



If you think that the group may not get round to mulching again the following year, try to ensure you give each tree a generous offering. This should equate to at least one full barrow of mulch per tree, ideally one and a half – 6 inches deep and 1m diameter, as long as you don't allow it to rest against the bark (make a 'doughnut shape').

An additional barrier should be added in the form of a 'mulch mat' or 'weed membrane', with the mulch being placed on top of it. This will ensure no sunlight reaches any grass/plants underneath, and will help to kill off any more vigorous plants such as bramble. The mulch mat can be as simple as a couple of layers of thick cardboard, although this will not last as long as some of the commercially available materials. For the sake of this resource, it would be wise to focus on longer lasting materials. Biodegradable mulch mats can last up to 3 years, which will be sufficient to get the tree off to the best start. At the time of writing these can be tricky to buy in smaller quantities. They can be found at English Woodlands but there is a minimum order of 100, so grouping together with other Project Managers/local planting groups may be required. Ask for '**1m x 1m PLA bio-mat**' (at the point of writing there was no available link for these at English Woodlands but they are available).

If these cannot be found, woven Polypropylene mats can be used and are more easily found at most good gardening retailers. These may need to be removed at some point in the future (as not all of them degrade) and their presence will slow down the beneficial action of the mulch as nutrients and organic matter may be slower to pass through, but they will ensure that the tree gets the 'lion's share' of available water and nutrients. Any mulch mat/weed membrane used needs to be at least 1m x 1m.

See 'Planting your Orchard' resource on the Fruit-full Communities website for more info on mulching. Also see The Orchard Project's blog 'Mulch ado about nothing?'

<http://www.theorchardproject.org.uk/blog/mulch-ado-about-nothing>

Rootstock choice

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Selecting a hardier rootstock can help to counter poor soil conditions and drought stress which may help the trees survive through periods of neglect. As a general rule of thumb, the more dwarfing the rootstock, the smaller the root system and therefore the more prone it is to stress factors. Unless you are 100% sure that the group will attentively care for the trees for years to come, then you should 'err' on the side of caution and plant more vigorous stock. For this reason, and the fact that it is hardier and can put up with poorer soil, The Orchard Project plants MM106 as a minimum for apples, and the non-apple equivalents for other fruits (see any rootstock table/chart online). MM111, like MM106 is also noted for its drought tolerance.

There may be a case for planting a more vigorous rootstock if you really think that they won't be cared for sufficiently as the extra vigour may counter the stunting caused by poor conditions with a weaker rootstock (lack of water & nutrition, weed competition etc). For example, using an MM111 or M25 rootstock in poor soil with no care may result in a tree size you'd expect of a MM106 in good conditions with sufficient care. This however would be by no means an 'exact science' (in reality neither is predicting the ultimate size of tree on any rootstock!) and the result may be a much larger tree than planned! **Therefore, this strategy should be reserved for sites where a larger tree would not be problematic.**

Tree guards

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A robust guard may make the difference between life and death for young fruit trees! As well as protecting against tree predators and pests, a tree left alone with no replacement mulch in subsequent years will be vulnerable to the indiscriminate lashings of the strimmer. Repeated hits throughout the growing season can at best allow disease in and stunt growth, and at worst result in girdling and death. Even on sites where

there may be no deer, rabbits or dog walkers, the grass will likely be managed by contractors and a strimmer is a frequently used piece of equipment, so a strimmer guard should be a bare minimum. The usual wrap around rabbit coils are no match for a strimmer so use heavy duty ones like these: <http://www.ewburrownursery.co.uk/planting-accessories/tree-protection/strimmer-guards/strimmer-guard-heavy-duty-329.html>



For more info on different guard types see the fruit-full Community resource 'Planting your orchard' and the Natural England 'Traditional Orchards: planting and Establishing Fruit Trees' [file:///C:/Users/user/Downloads/TIN014%20edition%20%20\(1\).pdf](file:///C:/Users/user/Downloads/TIN014%20edition%20%20(1).pdf) resource for a range of guarding ideas for different situations.

Tags and tree ties

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Anything tied or looped around branches or the stem of the tree should be taken off so that they won't constrict growth – this is especially important if there is the possibility that no one will be keeping an eye on the trees. Any tags with useful information on such as variety and rootstock can instead be attached to the guard itself. Any tree tie used to hold the tree to its stake must be able to expand as the girth of the tree increases. Old bicycle inner tubes are a good option and can be obtained in large numbers for free.

Increasing soil water retention

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Adding organic matter to the soil will help to retain moisture. Mulch is one way of doing this, but the use of biochar may increase the water retention additionally. Biochar is charcoal made from plant matter that is added to the soil where it can persist for a long time. *Biochar is a desirable soil material in many locations due to its ability to attract and retain water. This is possible because of its porous structure and high surface area. As a result, nutrients, phosphorus, and agrochemicals are retained for the plants benefit.* (Wikipedia). The Orchard Project has yet to experiment with biochar but we will do so during the next planting season.

Make watering easy!

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It is crucial to make the task of watering as easy as possible so that people are more likely to carry it out! Thinking about a water source for the orchard should be a key part of the planning. Ideally, there would be access to an outside tap for hose attachment. Roof surface area should also be taken advantage of – harvesting rain water from roofs is simple, low cost, sustainable and better for the soil (and therefore tree) than tap water. The ideal situation would be some decent sized water butts close to the trees with a well-placed outside tap for back up during the summer months when the butts run low.



It may be worth speaking with the local council to see if they are willing to create a new stand pipe if there is no current outside tap.

For sites where there the water needs transporting from a tap to the orchard we recommend the purchase of a couple of 'H2Go' water carriers. These are designed to fit in a wheelbarrow and can take up to 80l of water. They can be bought for less than £10 each online

http://www.waterirrigation.co.uk/h2go-water-carrier.html?utm_campaign=ShoppingFeed&utm_source=google&utm_medium=merchantcenter&utm_content=Hort%20%3E%20Irrigation%20%3E%20Watering%20Aids&gclid=CNGAo9LTmdMCFcLGGwodMpcLUg

When talking about hardiness in terms of drought tolerance it is really the rootstock that makes a difference, not the fruit variety itself. However, there are certain varieties, which are often the more vigorous, that may fair better in terms of poor aftercare. Vigorous cookers like Bramley's Seedling can tolerate poor soil conditions, competition and deal less sunlight. It is recommended to select varieties that are considered 'easy to grow' which usually means they have good disease and pest resistance like many modern varieties. This is particularly important when managing the trees organically.

For warm, sunny sites in regions where drought may be a factor it is worth considering more exotic fruits. There are apricots, almonds and fig varieties that grow in the UK. Tomcot, for example is a good choice for apricots, whereas fig varieties such as brown turkey perform well with the right conditions. A good place to find out more info about these fruits is the Agroforestry Research Trust in Devon <https://www.agroforestry.co.uk/>

Here are some good guides for easy to grow fruit trees.

- <https://www.orangeppintrees.co.uk/search.aspx?ps=40>
- <https://www.orangeppintrees.co.uk/recommendations.aspx>
- <https://www.rhs.org.uk/advice/profile?pid=330>