

TREE PLANTING

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No field of domestic endeavour is so wrapped up in fuzzy nostalgia as gardening. But, as a botanist, I often wonder whether our unquestioning devotion to the “tried and tested” methods of our grandparents may be hampering our success. Despite frequently being doled out as gospel, many of the most enduring gardening “rules” were actually disproven by horticultural science decades ago. Nowhere is this clearer than in tree planting. This autumn, swap traditional advice for more scientifically valid alternatives. Not only should you get measurably better results, but potentially you’ll need to do considerably less work.

Almost every piece of gardening advice ever written instructs gardeners to incorporate large amounts of compost into the planting hole of new trees, sometimes as much as 25% to 50%. But where does this advice come from? To date there is not a single scientific trial that demonstrates that this works. In fact, only one study did not report this addition of compost to have a detrimental effect. Research consistently shows that despite promising initial results, in the long term this practice can hinder the ability of tree roots to colonise the surrounding soil, preventing proper establishment. Creating a pit of airy, free-draining planting mix within an expanse of often more compacted native soil can create a waterlogged sump in winter, while conversely causing desiccation of the root zone in summer. As the compost slowly breaks down it shrinks, potentially undermining the stability of the tree.

Sprinkling the root ball of young trees with bone-meal is often claimed to help provide them with much-needed phosphorous to stimulate root growth. In reality, most UK garden soils are not deficient in phosphorous. On the contrary, high levels of phosphorous can prevent the establishment of beneficial mycorrhizal fungi that act as a secondary root system. Instead, try sprinkling a large handful of sugar around the roots before watering in well. This practice can boost the populations of [mycorrhizal fungi](#), and according to research at the University of Reading can even directly fuel the growth of roots in newly planted bare-root trees, while simultaneously protecting them from stress.

Finally, instead of the traditional round hole, try planting trees in square ones. This may sound like a gimmick, but studies show that this subtle difference in shape prevents the roots from spiralling around the hole, acting as if they were still in a container. In these square holes, once the roots hit a corner they flare out into surrounding soil, significantly aiding their

establishment. And as spade blades are more or less flat, digging square holes also happens to be easier than perfectly round ones. **(Posted by Sally Fletcher Pemberton)**