



## Plant trees without plastic protective tubes, scientists suggest

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Reforestation projects in the UK should consider planting new [trees](#) without the common plastic guards designed to protect saplings, a new study suggests.

The polypropylene tubes help young trees survive their first five years by keeping animals at bay, but plans to markedly increase Britain's forest cover to combat the [climate crisis](#) could mean vast quantities of plastic filling the countryside.

Comparing plastic and bio-material sleeves with unprotected planting, scientists from [University College London](#) found reforestation without the tubes was preferable.

Their study is published in [Science of The Total Environment](#).

It analysed scenarios including planting unprotected trees, planting them with plastic tubes that were fully recovered and recycled, and planting them with guards made from polylactic acid-starch blends (PLA) and bio-polypropylene (bio-PP), which are not fossil fuel-based.

Scenarios that involved leaving the plastic and bio-based sleeves to break down were also investigated.

Even though someone would have to plant two unprotected trees to ensure one made it to the five-year mark – compared to 1.18 with plastic sleeves – this approach came out on top, and not just because of its low carbon emissions.

In fact, the difference in carbon emissions between the various planting methods was deemed negligible when considering the amount of CO<sub>2</sub> a tree can sequester over 25 years.

The key is that plastic tree shelters become brittle over time, meaning that when removed they can shatter and leave small particles. And, given the scale of reforestation efforts, fully recycling millions of plastic tubes is impracticable.

Researchers wrote: "It should be noted that the recovery and recycling of plastic tree shelters are not straightforward and may never be. After five years of growth of vegetation around the trees, species such as grasses and brambles, often get entangled with the tree shelters.

"This occurs concurrently with the embrittling of the plastic, which means that removal after five years often results in the cracking and shattering of the tree shelter as it is pulled out of the entangled vegetation.

"Currently, this embrittled plastic, even if all the small pieces can be collected, has a negative value for recyclers and is only suitable for incineration.

"The monetary cost of such a collection in terms of manpower for a site with hundreds or thousands of 5-year-old tree shelters ... further adds to the practical difficulties."

Polypropylene tubes were, however, found to perform better than ones made from bio-material. The environmental impacts associated with manufacturing the latter further contributed to the researchers' decision not to endorse their use.

Last month, the Woodland Trust said it planned to stop using new plastic tree protectors by the end of 2021. The charity aims to plant 10 million trees per year until 2025.

Source: <https://www.independent.co.uk/climate-change/news/tree-planting-plastic-carbon-reforestation-b1907811.html>