

# Tubex Nature Introduction

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**Tubex Nature is a new tree shelter that enjoys all the benefits of the original Tubex tree shelter design, whilst introducing biodegradability\* in its composition.**

Made from bio-based materials that are non-toxic\*\* to the soil, they are ideal for protecting planting schemes where collection and recycling of plant protection at end of life is not practical.

Tubex Nature can be left in situ to biodegrade, mulched into the soil or removed for industrial composting.

The estimated lifespan ranges from 3 to 5 years, depending on climatic conditions. This enables your plants to establish themselves before the guard begins to biodegrade.

## Benefits

- Non-toxic\*\*, bio-based materials, designed to be soil biodegradable – meaning no end of life costs for removal or recycling.
- Protects from browsing animals.
- Creates microclimate to promote healthy growth.
- Easy installation – comes with pre-fitted releasable cable ties.

## Installation

- Plant bare root or cell grown plant.
- Insert stake next to plant and install tube over plant and stake, gently pushing into ground.
- Tighten pre-fitted cable tie around stake.
- Leave in situ to bio-degrade. Alternatively, to speed up the process, remove and either mulch or industrially compost once the tree is established.
- See installation diagrams (pg 4) for more information.

## Specifications:

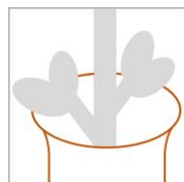
Dimensions	Tubex Nature Range		Material	For All Sizes
Height m <sup>A</sup>	0.6	1.2	Tube	Bio based (plant based) blend
Diameter mm	73-105	73-105	Cable tie	Nylon (not bio-degradable)
Number of cable ties	1	2	Tube colour	Natural / biscuit colour
Type of cable ties	Releasable	Releasable	Service life (tube)	Estimated 3-5 years
Length of cable tie mm (inch)	250 (10)	250 (10)	Biodegradable	Yes
Height of top cable tie from ground mm <sup>AA</sup>	450	825	End of life	Remove and industrially compost, or mulch into soil - non toxic, or allow to biodegrade in situ.
Height of bottom cable tie from ground mm <sup>AA</sup>	na	250	Recyclable	Yes.
Average weight/tube g	72	146.5	Recycling options	Use a local Recycling Centre and the bin for 'Plastic' (Code 5 PP). Or contact Tubex for details of their Collection & Recycling scheme. Or use a similar agricultural recycling service.
Packaging	Tubex Nature Range		Recommended support	Stake
Nest	5	5		
Bundle	60	60		
Bag or strap banded	Bag	Strap banded		

\* All components of TUBEX Nature have been externally tested against ISO17556 to show soil degradability.

\*\* Tested against OECD 207 for Earth-worm ecotoxicity and OECD 208 for Plant ecotoxicity - no acute toxicity detected.

## Tubex Nature Features & Benefits

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**Flared rim** to minimise stem abrasion



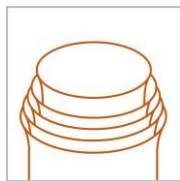
**Strengthening rods** to prevent tearing at stake area



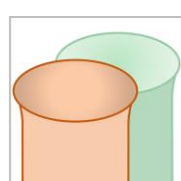
**Light transmission**, encouraging photosynthesis



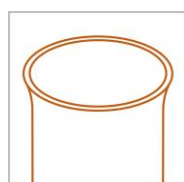
**Laser-line** to allow the tree to break free



**Nested** for ease of movement around site



**Natural colour**, merging into the environment, plus differentiates bio from standard



**Twin walled** for best strength to weight ratio



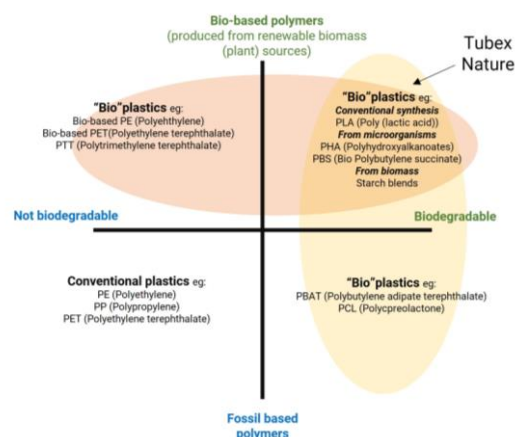
**Pre-fitted**, thumb-releasable **cable ties** for easy installation & maintenance



**Bio-based** (made from plant based materials) **AND** **bio-degradable**

### Understanding bio-based & bio-degradable plastics

- **Bio-based** is the material something is made of. **Biodegradable** is what happens to the material over time when it breaks down.
- Bio-based plastics are plastic materials produced from renewable biomass sources (plants).
- Bio-based is not the same as biodegradable.
- Some bio plastics are biodegradable and some are not (see chart below).
- Tubex Nature is both bio-based and biodegradable\*

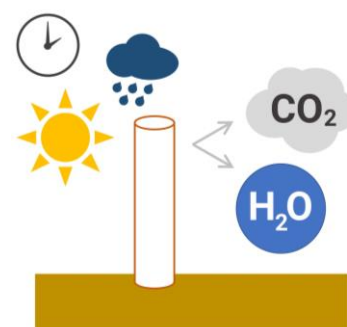


### Tubex Nature tree shelters are both bio-based (made from plant based materials) AND bio-degradable

Tubex Nature is manufactured from a blend of bio-based polymers. All polymers used to manufacture Tubex Nature have been tested to be biodegradable and bio-based.

Designed to biodegrade over time through contact with soil, sun and rain the guards break down into CO<sub>2</sub> and H<sub>2</sub>O.

This process can be speeded up through mulching into the soil (Tubex Nature is non-toxic to soil\*\*) or by removing the guard for industrial composting.



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\*\* Tested against OECD 207 for Earth-worm ecotoxicity and OECD 208 for Plant ecotoxicity - no acute toxicity detected.

## Tubex Nature Range Choices

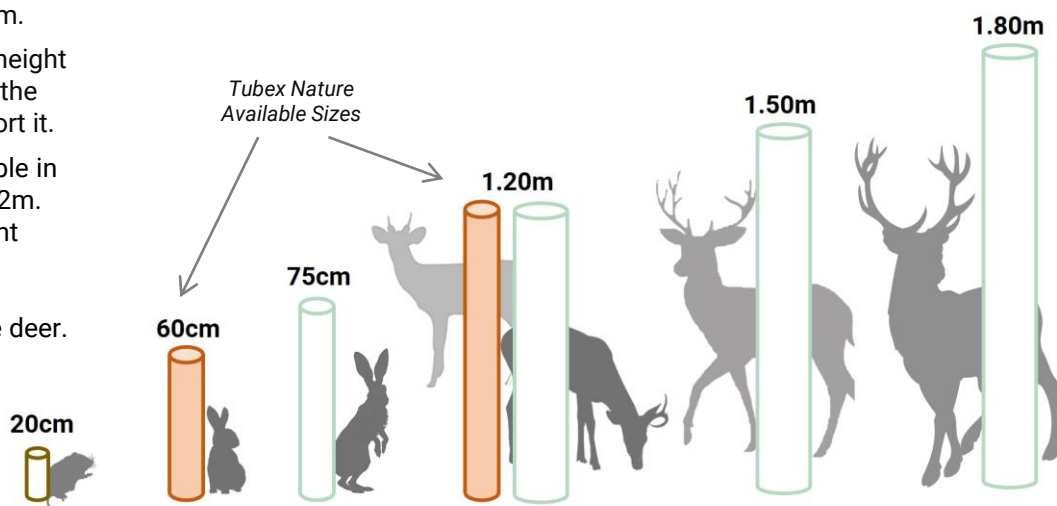
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### Height

Identify which damaging agent (animal) you wish to protect your plants from.


This will influence the height of your protection and the wooden stake to support it.

Tubex Nature is available in heights of 0.6m and 1.2m. Depending on the height selected, they can help protect against voles, rabbits, hare and some deer.



Protecting against	Vole	Rabbit	Hare	Muntjac / Roe Deer	Fallow Deer	Red Deer
Minimum height of tube for protection	20cm	60cm	75cm	1.20m	1.50m	1.80m
Height of supporting stake*	Not required	75cm	90cm	1.20m or 1.35m	1.50m	1.80m
Diameter Type	NA	Standard	Standard	Standard or Standard plus	Standard Plus	Standard Plus

\* It is advisable to use a longer stake for sandier, lighter soils.

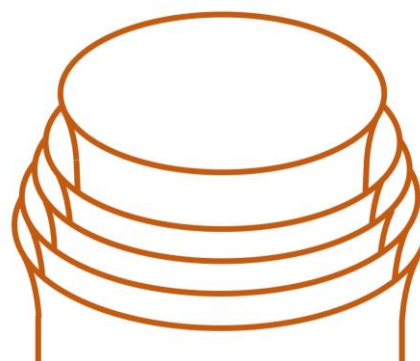
Tubex Nature  
Available Sizes 

### Diameter

Tubes are nested (one inside the other), to save space and time when moving plant protection around a site.

Diameters describe the range of diameters you will find in a nest of tubes, from the smallest to the largest.

Tubex Nature comes in nests of 5 tubes, with a 'standard' diameter range of 73mm to 105mm.



# Tubex Nature Installation

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## PLANT

Planting bare root or cell grown plants is a straightforward task, however, do not attempt to plant if the ground is frozen or waterlogged. Find a suitable position for your plants, bearing in mind future growth and potential height and spread at maturity.

Bare rooted or cell grown plants can be 'notch' planted in 3 steps (Fig A):

1. Begin by inserting the blade of a spade into the ground. Push the spade handle away from you and then bring it back towards you. Once you remove the spade, you will see that you have created a cavity or 'notch' in the ground.
2. **For bare root** - place the plant roots within the cavity and shake to ensure that all of the roots are in the cavity and pointing downwards.  
**For cell grown** - place the cell gently into the ground. Ensure the top of the plug (the soil surrounding the roots) is positioned at 2 to 4cm below the surface to avoid drying out.
3. Fill the cavity with soil. Use your heel to firm the soil around the plant to remove any air pockets. Once planted, give them a good water if practical to do so.

You are now ready to install your support and protection.

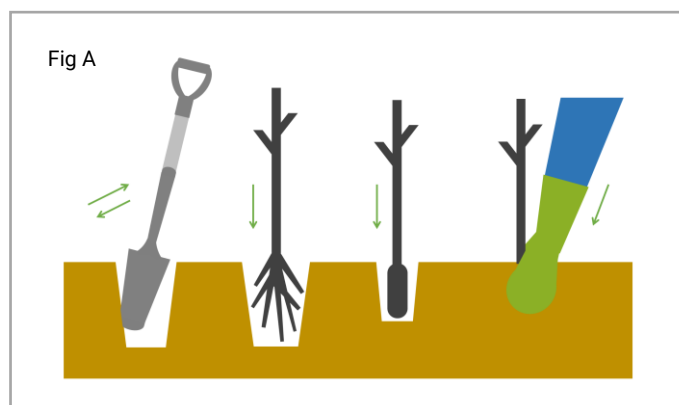
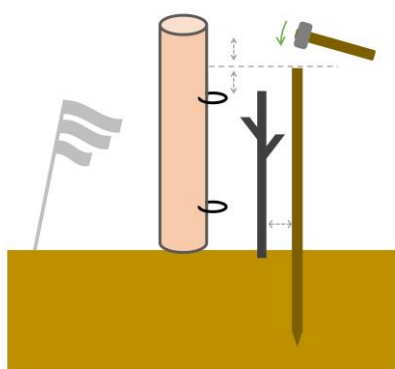


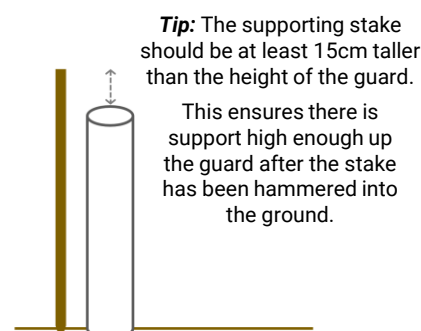
Fig B



**Tip:** Stand the shelter next to the plant whilst you are knocking in the stake to see how far to insert it.

## SUPPORT

1. After planting, position the tube on the windward side if there are strong prevailing winds, and the stake between 2cm to 5cm from the base of the plant (Fig B).
2. Hammer the stake into the ground with a stake driver or mallet (ideally knocking 1/3 of its height into the ground). Ensure it is vertical (particularly important on sloping ground). The top of the stake should be below the top rim of the shelter and above the top tie wrap.



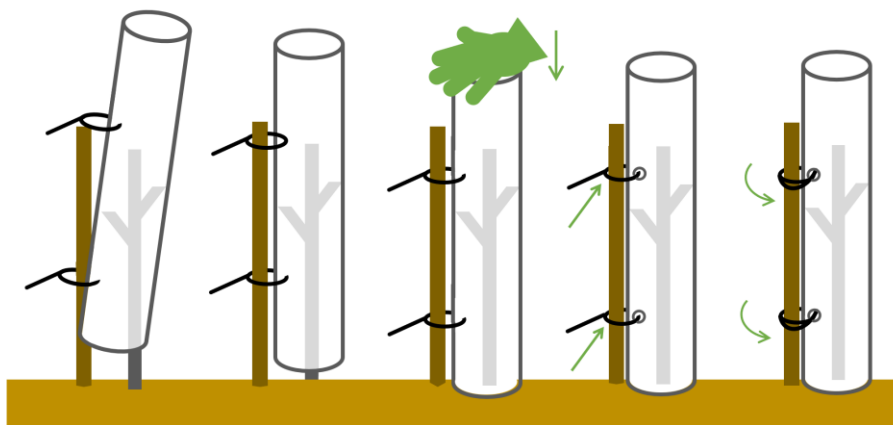
## PROTECT

1. Position the shelter over the tree (Fig C), making sure not to damage any lateral branches, sliding the releasable tie wraps over the stake at the same time.
2. Push the shelter into the ground 1-2cm. This forms a safe barrier to deter vermin from burrowing under the shelter.
3. Tighten the thumb releasable ratchet ties, ensuring the shelter is firmly positioned.
4. Tuck the tie ends into the holes in the shelter for neatness and to deter rubbing by deer or sheep.

Fig C



**Tip:** Gently gather lateral branches before installing protection to ensure no damage.



## End of life

Leave in situ to biodegrade  
OR remove and mulch into soil  
OR remove for industrial composting.



## Tubex Nature

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