Fitting tree protection to prevent deer damage

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The effectiveness of a mesh tree guard in protecting individual trees from wildlife damage depends not only on careful selection of the device itself and the stakes supporting it, but also on the care taken during installation.

Some simple rules need to be followed to install a tree guard properly, and to ensure that it does its job until it wears out and has to be removed.

Some supplies needed to protect a young tree against roe deer damage

Protect the seedlings when they are planted: after that it will be too late

Three essential steps

Three steps are required to protect trees from wildlife damage.

Before planting, the farmer must choose the right type of protection. The required specifications will depend on identification of the animal species responsible the damage observed on nearby trees or in neighbouring plant populations.

The height, the diameter and the weight of UV-treated, high-density polyethylene (HDPE) mesh tree guards are key factors to consider (cf. Leaflet n°5). For protecting hardwoods from deer damage in agroforestry plantations, heavyweight (≥ 400-450 g/m^2) reinforced double mesh (25 x 25 m /2.5 x 2.5 mm) and ultra-heavyweight (> 700 g/m^2) wide-meshed (5 x 5 mm) guard are the most suitable solutions.

During planting, it is essential to protect the trees on the day they are planted. If the installation of tree guards is postponed, there is an immediate risk of animal damage to some of the newly planted trees. Particular care must be taken when positioning the stakes to ensure that they will remain upright (a point which is all too often neglected).

After planting, regular inspections of the trees are essential to check the stability and effectiveness of plastic mesh tree guards.

Positioning a mesh tree guard

For roe deer

To install a heavyweight (≥400 - 450 g/m^2) reinforced double mesh deer guard, the farmer will need a wooden stake, a lump hammer or sledge-hammer, a staple gun, staples and possibly, a pair of gloves.

The stake (split, pointed chestnut stake - L 150 cm - C 18-22 cm or Ø 5.5/7 cm) must be driven in straight, and to a depth of 30 cm to prevent it from leaning, and deeper if the soil is gravelly or was ploughed with a subsoiler.

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Drive the post in straight with a lump hammer or sledgehammer to a sufficient depth to keep it upright

Press down on the outer folds of a tree guard (that has been delivered flat before installing it) to open it into an oval section

Pressing on the outer folds places them in a central position, with the centre folds on the outside. The mesh can now be rolled up lengthways

Rolling a reinforced double-mesh tree guard lengthways before opening it up will help to maintain an oval section

After pressing and rolling, open up the tree guard to form an oval section

When positioning the stake, the following must be checked.

- Diameter of the tree guard (Ø 15 cm, or better 20 cm): the distance from the stake to the tree must be equal to half the diameter of the tree guard (on average 7 cm for a deer guard protecting a broadleaved tree) to ensure that the sapling is centred and will grow properly inside the guard.

- Slope of the planting site: the stake should be placed on the uphill side of the tree and driven in 10 to 20 cm deeper than usual.

- The pre-folded (2-4 folds) mesh should be pressed by hand to form an oval section so that it will slip easily over the plant. This is done by pressing on the outer folds of mesh guards that have been delivered flat. Reinforced double mesh tree guards may also need to be rolled lengthways to help maintain an oval section once they are opened and installed.

- Slide the mesh down around both plant and wooden stake. This must be done gently so as not to damage the terminal and lateral buds by rubbing or tearing. To keep rodents out, always make sure that the base of the tree guard is in close contact with the ground.

- Staple the mesh to the stake with three wide, 10 - or 12 mm staples placed at an equal distance along the length of the guard (in the middle and at each end). Position the guard so that one of its folds is in contact with the stake. Stapling along one of the outer (main) folds will help to keep the guard open.

Slide the mesh sleeve gently down around both tree and wooden stake

The stake must be driven in at a distance from the tree equal to half the diameter of the tree guard, so that the tree is at the centre and will grow properly inside the mesh

Staple the mesh to the wooden stake

For red deer

For red deer mesh tree guards are fixed to 2 sawn pointed round chestnut or treated pine posts (L 250 cm - Ø 6/8, or better 8/10 cm) to support an ultra-heavyweight (>700 g/m^2) wide-meshed (H 180 cm, Ø 20-30 cm). Avoid ultra-wide mesh guards.

The trickiest phase when installing a mesh tree guard for protection against red deer damage is the positioning of the wooden posts.

- The posts must be equidistant from either side of the sapling. The distance between them will correspond to the diameter of the tree guard.

- Using a crowbar or an auger, make starter holes (at least as deep as a quarter of the length of the wooden posts) to ensure better long- term stability. A simpler method would be to drive the posts directly into the ground using a front-end bucket on a farm tractor. However, this is not recommended as there is a much greater risk of damaging the wood.

- Drive each post into its starter hole to a depth of 40 to 50 cm. A high (H 180 cm) wide-diameter (Ø 20-30 cm) mesh tree guard is placed by sliding it gently down around the tree and the wooden supports.

- Attach the tree guard to its wooden support with fence staples 20 to 30 cm apart.

After planting

Regular maintenance

It would be a mistake to think that mesh tree guards will last for a long time without any maintenance. After planting, the farmers are strongly advised to make regular site inspections in order to straighten, repair or replace tree guards damaged by animals or high winds.

During the winter following the first growing season, all the stakes should be reinforced. In sites ploughed with a subsoiler, stakes will often sink by a further 10 to 15 cm. Stapling should also be reinforced at the same time, if necessary.

The top edges of heavyweight reinforced double-mesh tree guards can be abrasive and should be folded over, like a sock, or slit around the top, to prevent damage to trees with thin bark in windy sites especially.

Preventing health problems

Some health problems affecting young trees are directly attributable to mesh tree guards. The main potential problem is overheating of the trunks. The trunks of thin-barked species, such as beech, cherry, maple and poplars, are particularly susceptible to overheating when the plastic mesh is too tight. Black plastic mesh will cause the most severe damage. High temperatures and exposure to sunlight will promote bark lesions inside the mesh guard, which consistently develop on the southwest side. 3 to 8 year-old plantings are often the most affected.

Other symptoms of damage are peeling bark and calluses forming around the lesions. The wood becomes exposed and these fragile areas may be colonised by wood-rotting fungi.

Mesh tree guards must be removed when they become tight against the trunks because the risk of overheating is greatest at this point. If they are not removed in time, the stake to which the mesh is attached can become embedded in the trunk.

The edges of heavy reinforced double-mesh tree guards are potentially abrasive and should be folded over like a sock