



Llywodraeth Cymru  
Welsh Government

# Small Grants – Environment

## Capital Works Technical Guidance Booklet Hedgerow Creation

Small Grants – Environment is a programme of capital works available to farming businesses across Wales to carry out projects that will help to improve and maintain traditional landscape features, improving biodiversity, sequestering carbon and provide habitat linkages for pollinating insects.

Capital Works items will be identified as ‘Main’ and ‘Supportive’ Work(s), which together form a ‘Project’.

The Project will be:

- The Main Capital Work, which will address the theme objectives.
- The Supportive Capital Work(s), which will allow the Main Capital Work to be undertaken, for example, Plant New Hedges (Option 922) is the Main Capital Work, while Post and Wire Fencing (Option 594), to protect the new hedge from damage, would be a Mandatory Supportive Capital Work, and Hardwood Timber Field Gates (Option 599) would be an Optional Supportive Capital Work.

The Hedgerow Creation Theme offers Capital Works have been chosen to deliver the Welsh Government’s ambitions to provide multiple benefits for environmental outcomes.

## Contents

Main Capital Works.....	4
E900 New Hedge Planting.....	4
Supportive Capital Works .....	6
E516 Timber Bridle Gate and Posts .....	6
E517 Timber Kissing Gate and Posts.....	7
E519 Wooden Stiles.....	8
E533 Badger Gate.....	9
E563 Piped Water Supply.....	10
E574 Water Troughs .....	11
E931 Post and Wire Fencing with Stock Netting .....	12
E599 Timber Field Gates (Hardwood).....	14
E600 Timber Field Gates (Softwood) .....	14
E608 Tree Shelter (60cm With Stake).....	15
E610 Trees Standards.....	16
E647 Spiral Rabbit Guards.....	19

A Small Grants - Environment Project will be made up of the Main Capital Work underwritten with one or multiple Supporting Capital Works. **See table below:**

		Code	E516	E517	E519	E533	E563	E574	E931	E599	E600	E608	E610	E647
		Title	Timber Bridle Gate and Posts	Timber Kissing Gate and Posts	Wooden Stiles	Badger Gate	Piped Water Supply	Water Troughs	Post and Wire Fencing with Stock Netting	Timber Field Gates – Hardwood	Timber Field Gates – Softwood	Tree Shelter - 60cm with stake*	Tree - Standard	Spiral Rabbit Guard*
Code														
Main Capital Work	E900	Plant new hedge	2	2	2	2	2	2	1	2	2	2	2	2

\* Select **one** mandatory capital work from the two individual tree protection choices

0 Not applicable

1 Mandatory

2 Optional

# Main Capital Works

## E900 New Hedge Planting

This technical note describes the minimum standard of work required in order to receive payments for 'New Hedge Planting'.

Any variation must be approved by the Welsh Government prior to starting the work.

### You must adhere to the following:

- Plant native trees and shrubs in a mix of at least three hedging species. No one component of the mix should comprise more than 75% of the total.
- Plant hedge plants that are at least 45-60cm high which should have a strong leader shoot.
- Plant new hedgerows at a density of 7 plants per metre in a staggered double row, with 20cm – 40cm between each row.
- Prevent new plants from being killed by shading out from excessive weed growth.
- Protect newly planted hedges from livestock.
- Replace any dead plants.
- Ensure there is at least 1m between new planting and protective fencing.
- Ensure that the hedge is able to grow to a 3m width. There must be a gap of at least 3m between double fences.
- Establish at least 1–2 hedgerow trees per 100m. Either plant new saplings (at least 1m tall) or identify existing plants that can develop into trees. It is sensible to tag the tree to avoid accidental damage when hedge trimming. Choose native tree species that grow well in local hedges, as they will contribute to an attractive landscape and can increase the wildlife value of the hedge.

### Do not:

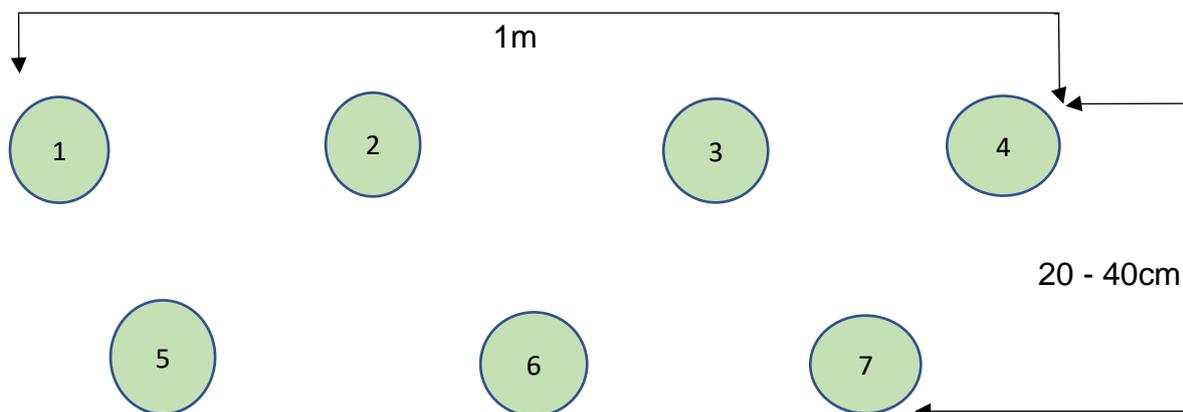
- Plant any ash trees as part of any planting mix due to ash dieback disease (*Hymenoscyphus fraxinea*).
- Cause damage to any existing historic hedge banks during ground preparation, planting or fencing.
- Use trees and shrubs as strainers or fencing posts, or use them to support fencing wire, staples or netting.

### Requirements and guidance in addition to the specifications above:

- Ensure that you have the appropriate Flood Risk Activity Permit if you are planting or fencing near a main river, flood plain or flood defence structure. Alternatively, ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent, or confirmation that a permit/consent is not needed, should be retained and made available on request.**
- If undertaking any spraying as part of this activity ensure you have obtained any consents that may be necessary.
- Where Small Grants - Environment activities include the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Ensure the best chances of survival, by planting new hedgerow plants in the winter months from November to March. Keep root balls damp during planting, and water liberally in dry spells until established.
- Select plants with well-developed root systems. Plants which are 3–4 years old are recommended.

- Prepare the ground for planting by either rotovating, ploughing or digging over during the previous summer. Avoid damaging historic banks during ground preparation by digging manually.
- You may incorporate some well-rotted manure if planting hedge plants on poor soils.
- Plant locally common native species where possible. Plants should be derived from locally collected seeds or cuttings if possible as these are likely to survive better and support more species of native wildlife.
- Control weeds by using a mulch of wood chippings or by securely pegging down a 500-gauge black polythene sheet, 1-2m wide at the base of the transplants. Chemical control of grasses, thistles, docks and ragwort may be undertaken. Any chemical used must have a label recommendation for use on the listed species and for the intended method of application. All manufacturers label recommendations regarding application of the herbicide must be strictly adhered to.
- Encourage new growth by trimming the transplant back.
- 
- Spiral guards can be used to protect the hedge from rabbits, although in certain areas rabbit fencing may be a more effective deterrent.

Example of hedge plant spacings per 1m:



# Supportive Capital Works

## E516 Timber Bridle Gate and Posts

This technical note describes the minimum standard of work required in order to receive payments for 'Timber Bridle Gate and Posts'. Any variation must be approved by the Welsh Government prior to starting the work.

Bridle gates are used to allow access for walkers and horse riders.

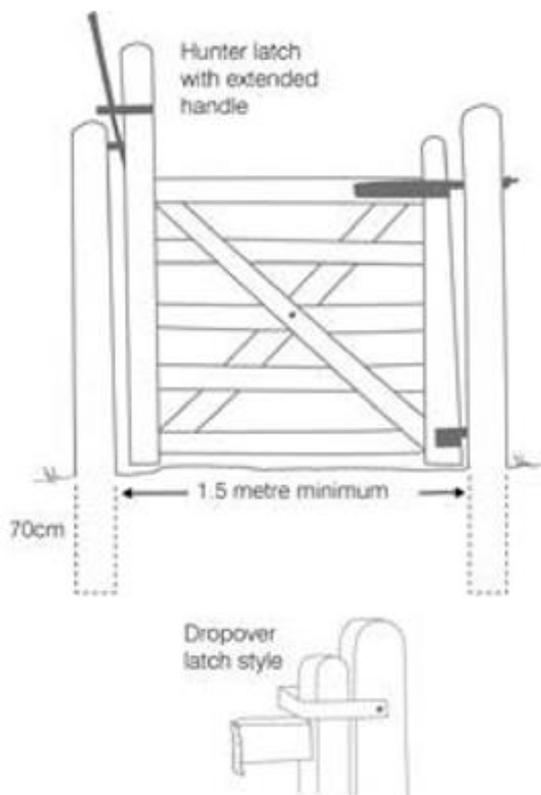
### You must adhere to the following:

- Install Timber Bridle Gates and Posts constructed from either pressure treated softwood or hardwood.
- Install gates that are at least 1.5m wide and 1.3m high. Ensure there is sufficient space on one side of the gate for the horse to stand while the gate is being opened.
- Use a ready-made gate or construct a gate. All gate timbers must meet the following dimensions:
  - Uprights should be at least 10cm x 7.5cm in cross section.
  - All rails should be 7.5cm x 2.5cm in cross section except the top rail which should be 10cm x 7.5cm.
- Hang the gate so that it can be opened from both directions.
- Fit latches that allow the gate to be opened without the rider dismounting.
- Ensure that all post timbers must meet the following dimensions:
  - Hanging posts must be at least 15cm diameter
  - Shutting posts must be at least 12cm in diameter
  - Posts must be set into the ground to a sufficient depth to ensure stability.

### Do not:

- Install bridle gates and posts on Public Rights of Way (PRoW) unless approved by the Welsh Government.
- Use concrete to secure posts in the ground, as it can lead to rotting of the posts at ground level.
- Requirements and guidance in addition to the specifications above:
- Use an 'extended' or a 'drop over' latch to allow the gate to be opened without the rider dismounting.
- In areas prone to vandalism, the top hook can be reversed to prevent the gate being lifted off.
- Best practice is to set the posts at least 70cm into the ground to ensure stability.

### Example of a timber bride gate



## E517 Timber Kissing Gate and Posts

This technical note describes the minimum standard of work required in order to receive payments for 'Timber Kissing Gate and Posts'. Any variation must be approved by the Welsh Government prior to starting the work.

Kissing gates are used to allow walkers to cross field boundaries.

### You must adhere to the following:

- Install Timber Kissing Gates and Posts constructed from either pressure treated softwood or hardwood.
- Install a kissing gate that is stock-proof, with the gate in any position, but allowing free passage for pedestrians.
- Ensure that the kissing gate is an effective barrier against motorcycles and horses.
- Use a ready-made gate or construct a gate. All gates must meet the following dimensions:
  - The gate must be 1.2m wide and 1.2m high.
  - A 1m cylinder, must be able to pass through. Note that the 'throat' dimension (the narrowest space to pass through when the gate is opened) must be at least 1m.
- Ensure that post and rails meet the following dimensions:
  - Uprights should be at least 10cm x 7.5cm in cross section.
  - Rails should be 7.5cm x 2.5cm in cross section except the top rail which should be 10cm x 7.5cm.
  - Hanging posts must be at least 15cm diameter.
  - Shutting posts must be at least 12cm in diameter.
  - Posts must be set into the ground to a sufficient depth to ensure stability.

- Hang the gate so that the gate hooks are 'offset' by 3cm. This will cause the gate to close against one of the side posts when released.
- Ensure the gate is compliant with BS5709:2006, as amended. The least restrictive furniture must be used as possible e.g. a gate is less restrictive than a stile.

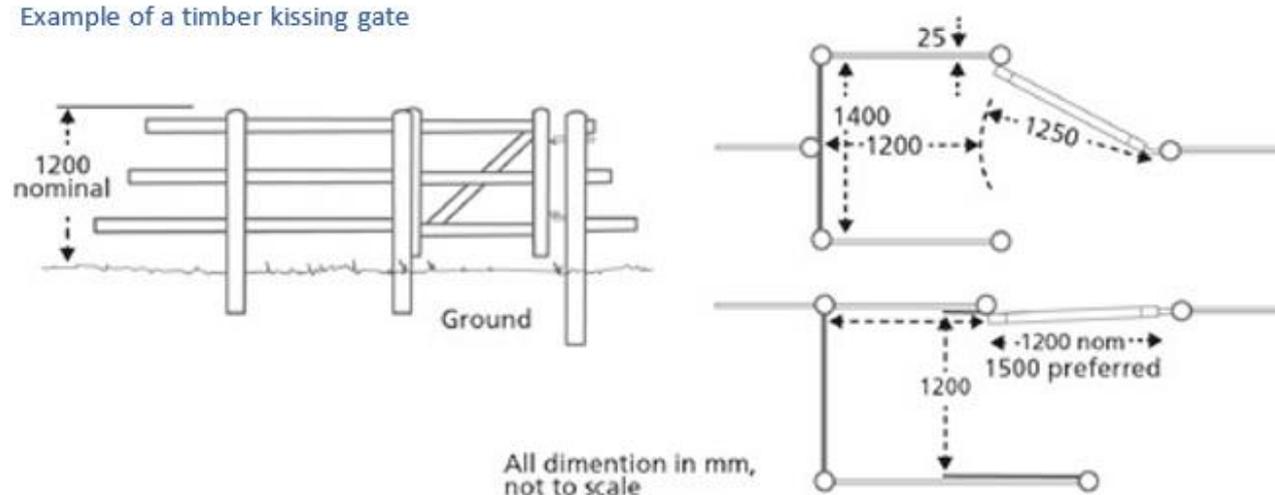
**Do not:**

- Use concrete to secure posts in the ground, as it can lead to rotting of the posts at ground level.
- Use any barbed wire on the kissing gate.

**Requirements and guidance in addition to the specifications above:**

- For added protection against stock, a self-closing latch can be fitted.
- In areas prone to vandalism, the top hook can be reversed to prevent the gate being lifted off.
- Best practice is to set the posts at least 70cm into the ground to ensure stability.

Example of a timber kissing gate



**E519 Wooden Stiles**

This technical note describes the minimum standard of work required in order to receive payments for 'Wooden Stiles'. Any variation must be approved by the Welsh Government prior to starting the work.

Wooden stiles are used to allow walkers to cross field boundaries.

**You must adhere to the following:**

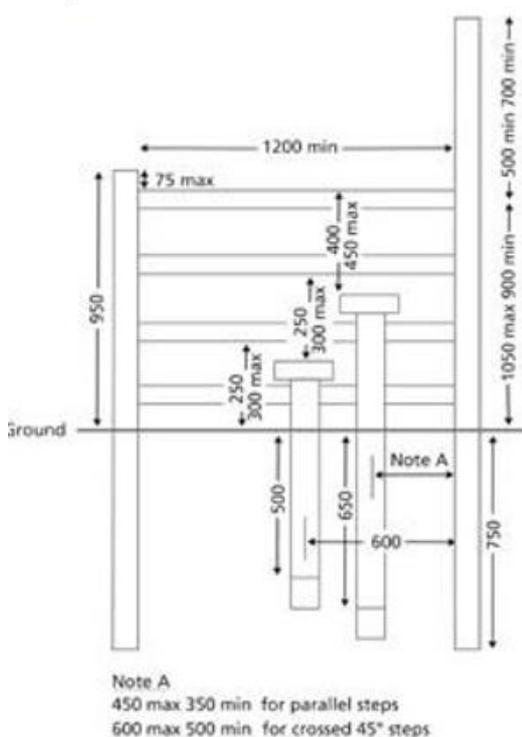
- Install wooden stiles constructed from either pressure treated softwood or hardwood.
- Use a ready-made stile kit or construct a stile. For both narrow and wide stiles, they must meet the following dimensions:
  - Step width should be 200mm
  - Hand posts should be 70 to 100mm diameter or across faces
  - Posts should be vertical to 1 in 30
  - Steps should level in all directions to 1 in 30.
- Install a third step on the downhill side on a steep slope if needed. This step must be twice the width of a standard step and the 300mm step height rule applies.

- Ensure the stile is compliant with BS5709:2006, as amended. The least restrictive furniture must be used as possible e.g. a gate is less restrictive than a stile.

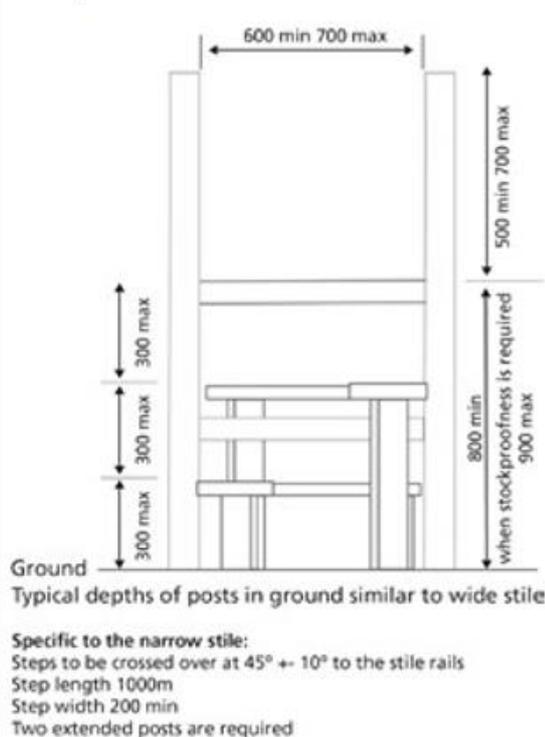
**Do not:**

- Allow the step tread boards to touch the cross-rails of the stile as a see-saw effect may develop, making the stile unsafe to use.
- Use posts as straining posts for fencing.

Example of wide stile



Example of narrow stile



**E533 Badger Gate**

This technical note describes the minimum standard of work required in order to receive payments for ‘Badger Gates’. Any variation must be approved by the Welsh Government prior to starting the work.

Badgers normally follow the same route when moving around their territory. Fencing to manage an area of habitat should take into account established badger runs. Badger gates can be used to allow badgers to cross stock proof boundaries without damaging the fences.

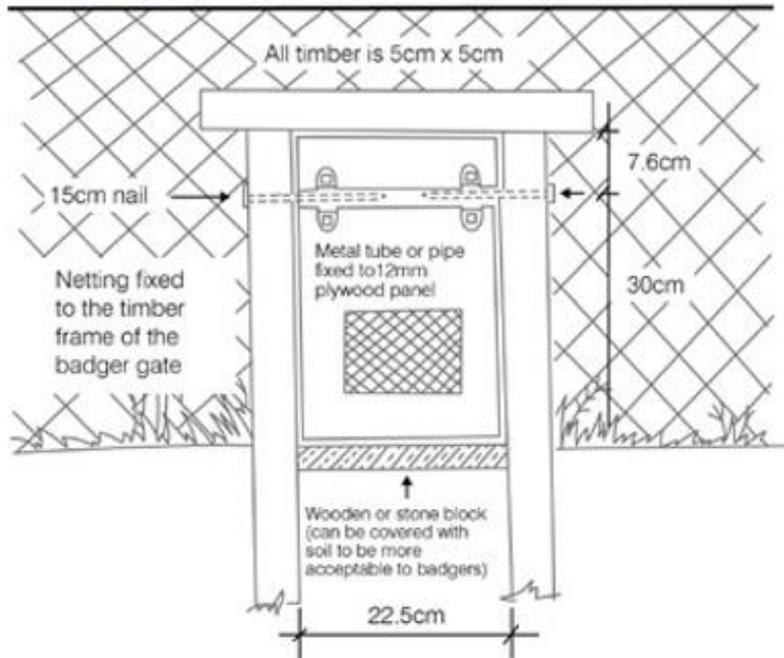
**You must adhere to the following:**

- Install a badger gate using the same dimensions as shown in the diagram below.
- Gates must be located directly on existing badger runs in order to encourage the use of the gate by badgers.
- Bury the fence on either side of the gate to a sufficient depth into the ground to prevent badgers burrowing around the gate.
- Position a wooden or stone base under the gate to prevent erosion of the ground.

**Requirements and guidance in addition to the specifications above:**

- Best practice is to bury the fence to a depth of at least 15cm either side of the gate.
- Treat all timbers with a non-toxic, odourless preservative.

Example of a badger gate



## E563 Piped Water Supply

This technical note describes the minimum standard of work required in order to receive payments for 'Piped Water Supply'. Any variation must be approved by the Welsh Government prior to starting the work.

Piping can be used to supply drinking water to water troughs where stock have been prevented from accessing other water sources by Small Grants - Environment activities.

### You must adhere to the following:

- Install piping made from medium density blue polyethylene with a minimum external diameter of 2.5 cm.
- Use watertight joints made of brass or plastic.
- Bury pipework to a sufficient depth to prevent damage from surface activities.
- Reinstall disturbed ground to match the surrounding ground once pipework has been completed.
- Protect any pipework above ground from animal or frost damage.
- Ensure any pipes crossing open ditches or tracks are suitably protected. The pipe must be covered by a tubular steel guard or sleeve pipe, laid sufficiently below the ditch to allow space for ditch cleaning. When crossing farm tracks, ensure the pipe is sufficiently protected below the track.
- Control water supply at the point of supply and at each trough by isolating valves/stop cocks. The isolating valves/stop cocks must be protected against frost and damage from stock and must be easily accessible.
- Where valve/stop cocks are buried, this must be at a minimum of 60cm and access should be available through a covered inspection chamber.

- Ensure that the water is able to supply sufficient cold potable water to continuously refill all the water troughs along its length throughout the year within 10 minutes.
- Ensure all water supply works are compliant with British Standards Codes of Practice BS 6572, as amended.

**Do not:**

- Damage other services such as water supply, waste, gas, electricity or telephone.

**Requirements and guidance in addition to the specifications above:**

- Consider combining access to valve positions with field drains to make inspection access easier.
- Consider a range of factors when determining pipe diameter. These include: water pressure, water capacity, variable flow, length of pipe, changes in altitude, volume of water required, number of troughs, number and type of stock using each trough.
- Where joints are buried underground, it is advisable to mark their locations, on fence posts for example, to assist with future maintenance.
- Bury pipework to a minimum depth of 60cm although this may need to be deeper if future deep ploughing or sub-soiling is envisaged.
- Lay pipes by trenching, mole plough or sub-soiler, depending on soil type and machinery available.
- Best practice when laying pipes under a ditch is that it is laid 60cm below the ditch to allow space for ditch cleaning.
- Best practice when laying pipes under farm tracks is to lay the pipe on a 7.5cm bed of sand and then covered by a further 10cm of sand before being overlaid by backfill.

## **E574 Water Troughs**

This technical note describes the minimum standard of work required in order to receive payments for 'Water Troughs'. Any variation must be approved by the Welsh Government prior to starting the work.

Water troughs can be used to supply drinking water to livestock where they have been prevented from accessing other water sources by Small Grants - Environment activities.

**You must adhere to the following:**

- Use water troughs made of galvanised steel, plastic or concrete.
- Install a trough at least 1.8m length. They must either be connected to a water supply or supplied from a bowser on a regular basis, in order to provide sufficient potable water. The standard payment includes the cost of fittings such as ball cocks etc.
- Use water troughs that have been specifically designed for the purpose.
- Install the trough so that it does not spill or leak water – the payment rate includes an allowance for base supports.
- Ensure that water troughs conform to current British Standard Codes of Practice.

**Do not:**

- Locate water troughs in gateways or near footpaths.
- Locate water troughs in wet ground due to the risk of poaching.

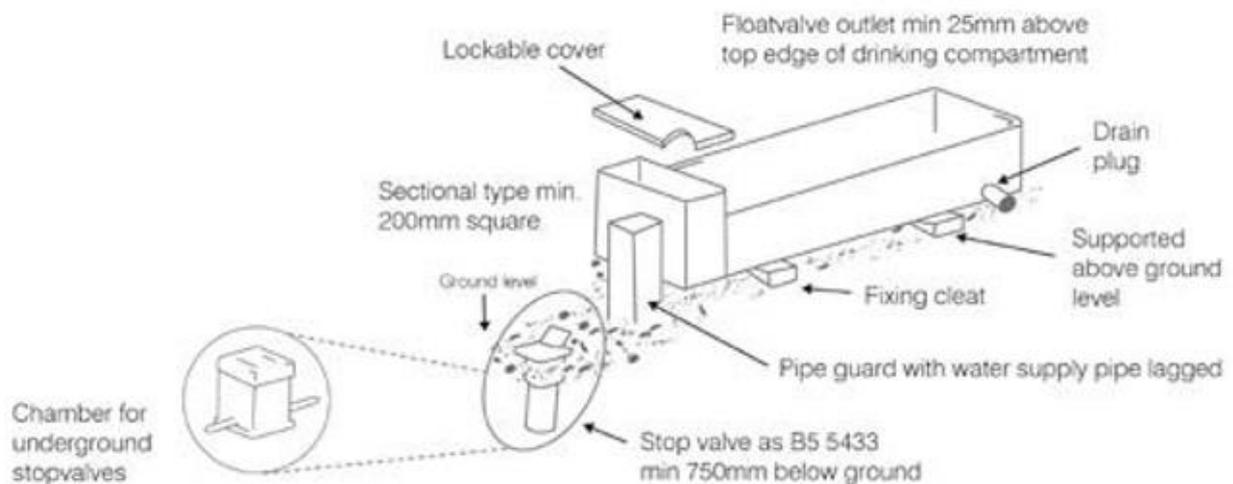
**Requirements and guidance in addition to the specifications above:**

- Do not locate water troughs in known areas of botanical or wildlife interest.
- Aim to cause least landscape impact by locating the trough at the edge of fields and choose a material that has the minimum impact when viewed as part of the

surrounding landscape.

- Install troughs of sufficient size to supply the type and number of livestock in the field with their water requirements.

#### Example of a water trough



## E931 Post and Wire Fencing with Stock Netting

This technical note describes the minimum standard of work required in order to receive payment for 'Post and Wire Fencing with Stock Netting'. Any variation must be approved by the Welsh Government prior to starting the work.

### You must adhere to the following:

- Ensure that you have obtained, and adhere to any licences, consents or permissions that are needed.
- Use fencing timber comprising either hardwood or pressure treated softwood.
- Ensure that timbers, wire, netting and galvanised staples consist of new materials.
- Use straining posts that are a minimum of 12.5cm cross section and at least 2m long. Straining posts must be set into the ground at a sufficient depth to ensure stability. Straining posts must be placed at either end of the fence line and at centres of 100m or less, as well as at every horizontal or vertical change of direction.
- Attach struts at each end of the fence line and at all changes of slope and direction. Struts must have a top diameter of at least 6.5cm and must be supported to prevent them splaying outwards.
- Use intermediate posts that are at least 6.5cm diameter (round posts and sawn timber) and at least 1.7m long. Half round posts are acceptable provided they measure at least 6.5cm from the midpoint of the sawn side to the midpoint of the round side. Intermediate posts must be set at centres of 3m or less.
- Attach netting to posts with galvanised staples.
- Attach wire to posts with galvanised staples with the distance from the ground to the top wire no less than 1.05m. In cases where there is heavy pressure from sheep or cattle, a second line wire on top of the netting as well as an additional wire at the bottom should be added.
- The top wires of any fencing erected next to public access routes must consist of plain wire or an additional line of plain wire must be affixed to the outside of the posts closest to the route in question.

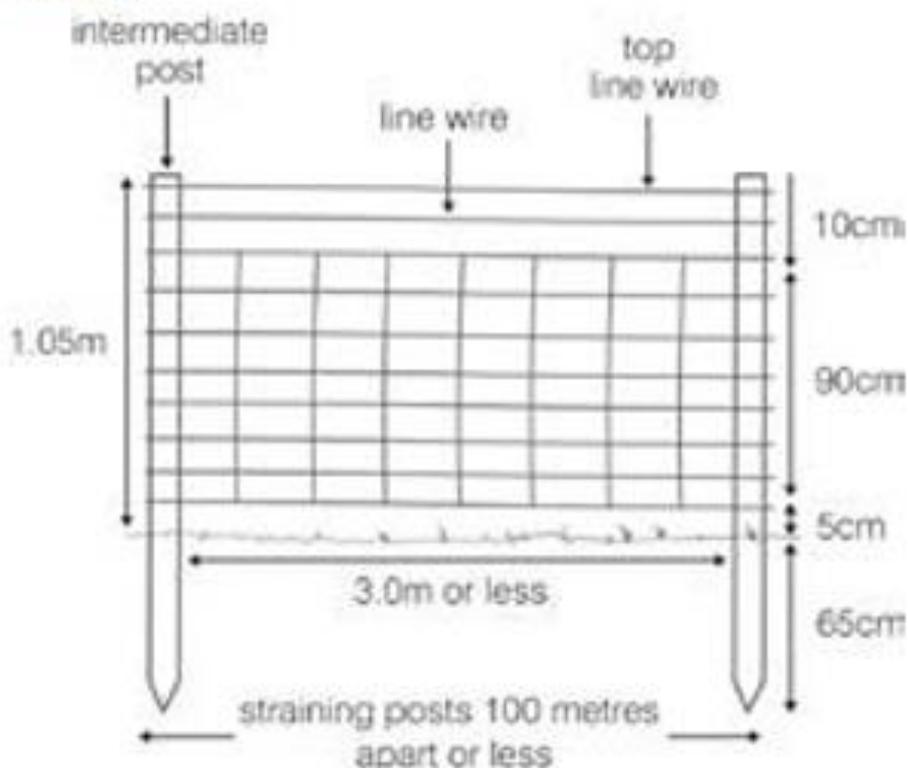
- Ensure that the new fencing conforms to British Standards 1722 and 4102, as amended.

#### Do Not:

- Use trees and shrubs as strainers or fencing posts, or attach wire, staples or netting to them.

### Example Diagram of Post and Wire with Stock

#### Netting



#### Requirements and guidance in addition to the specifications above:

- Best practice is to set the straining posts at least 1m into the ground to ensure stability.
- Diagonal struts must be supported with either a base plate or a suitably positioned intermediate post to prevent them splaying outwards.
- Ensure that you have the appropriate Flood Risk Activity Permit if you are planting or fencing near a main river, flood plain or flood defence structure. Alternatively, ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.** See General Rules for more details.
- Where Small Grants - Environment activities include the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.

## E599 Timber Field Gates (Hardwood)

This technical note describes the minimum standard of work required in order to receive payments for 'Timber Field Gates (Hardwood)'. Any variation must be approved by the Welsh Government prior to starting the work.

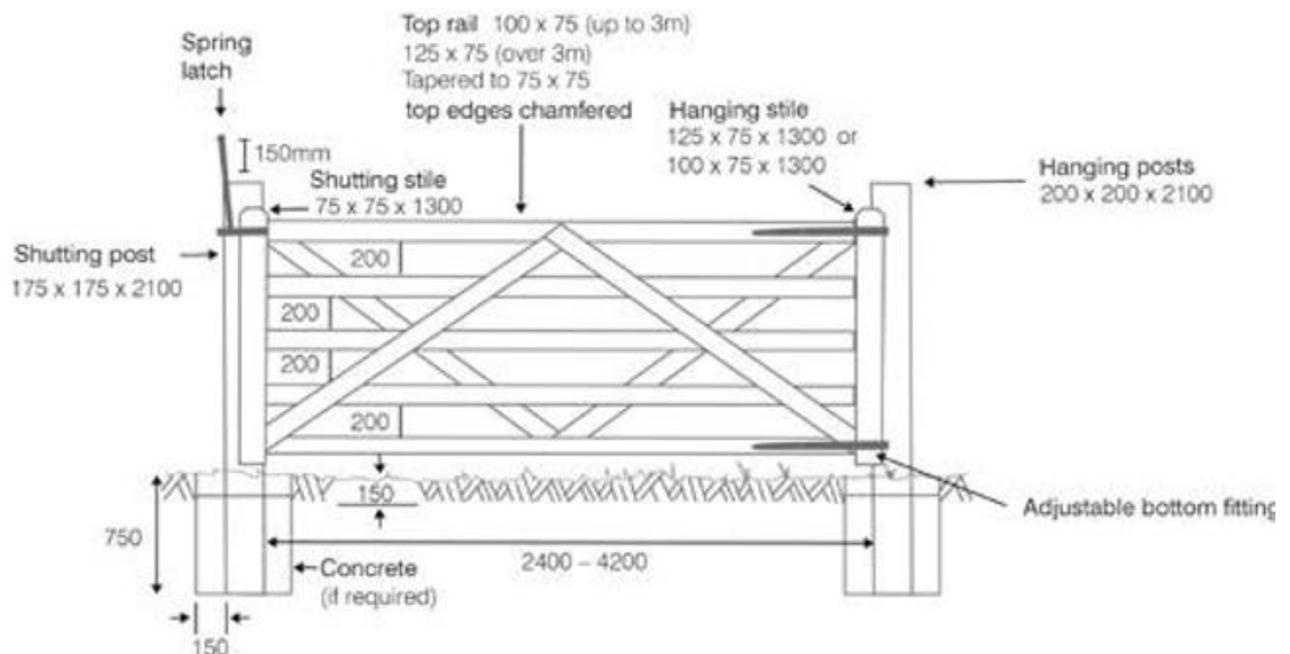
### You must adhere to the following:

- Install timber field gates that are at least 2.4m wide, but no more than 4.2m wide. Any openings greater than 4.2m must have two leaves.
- Use timber field gates constructed from hardwood only, which complies with the dimensions set out in the diagram below.
- Use timber field gates that conform to the specifications set out in the diagram below as well as those of British Standard 3470, as amended.
- Hang gates on timber gate posts at least 2.1m long. Hanging posts must be at least 200mm x 200mm in cross section. Shutting posts must be at least 175mm x 175mm in cross section.
- Set gateposts correctly into the ground, using concrete if necessary and fit with appropriate hangings and latches.

### Do not:

- Use hanging or shutting posts as straining posts for fencing. A short length of split timber should be used to form a horizontal strut between the gate post and adjacent straining post.
- Use second hand material for constructing gates unless approved in advance by the Welsh Government.

Example of Timber Field Gate (Hardwood)



## E600 Timber Field Gates (Softwood)

This technical note describes the minimum standard of work required in order to receive payments for 'Timber Field Gates (Softwood)'. Any variation must be approved by the Welsh Government prior to starting the work.

If any of the work claimed is found to have been carried out to a different standard, without the prior approval by Welsh Government, the project may be considered ineligible. This will result in claims being withheld (or recovered) with penalties applied in line with the scheme rules, unless work is assessed to have been delivered to an equivalent standard.

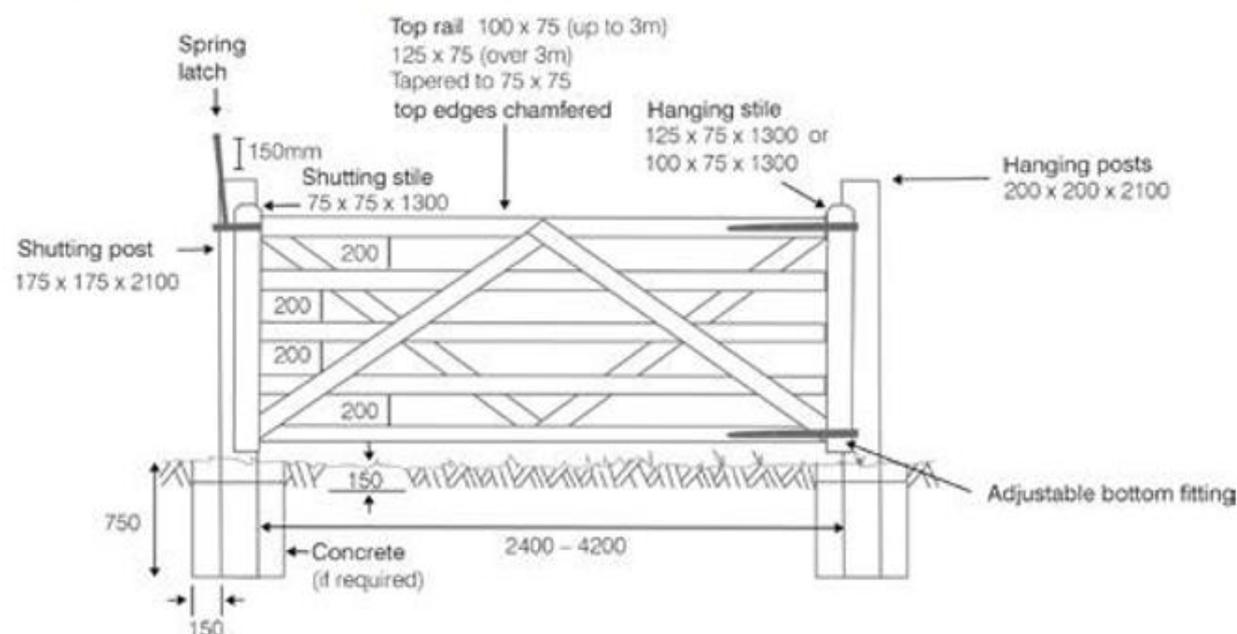
#### **You must adhere to the following:**

- Install timber field gates that are at least 2.4m wide, but no more than 4.2m wide. Any openings greater than 4.2m must have two leaves.
- Use timber field gates constructed from hardwood or pressure treated softwood, which complies with the dimensions set out in the diagram below.
- Use timber field gates that conform to the specifications set out in the diagram below as well as those of British Standard 3470, as amended posts must be at least 175mm x 175mm in cross section.
- Set gateposts correctly into the ground, using concrete if necessary and fit with appropriate hangings and latches.

#### **Do not:**

- Use hanging posts or shutting posts as straining posts for fencing. A short length of split timber should be used to form a horizontal strut between the gate post and adjacent straining post.
- Use second hand material for constructing gates unless approved in advance by the Welsh Government.

#### **Example of Timber Field Gate (Softwood)**



#### **E608 Tree Shelter (60cm With Stake)**

This technical note describes the minimum standard of work required in order to receive payments for 'Tree Shelter (60cm with stake)'. Any variation must be

approved by the Welsh Government prior to starting the work. Newly planted trees and shrubs only need protection where animals or machinery might damage them. Fencing will usually provide more economic protection for groups of trees and shrubs against machinery or large browsing animals, in combination with spiral rabbit guards to protect against rabbits and hares. Individual tree shelters and stakes can also be used where lengths of fencing would be unsightly, for example in parklands.

**You must adhere to the following:**

- Insert a stake vertically into the ground next to each newly planted tree. The stake should have a diameter of 2.5cm x 2.5cm on sheltered sites and 3cm x 3cm on more exposed sites.
- Fix all tree shelters to the stake with wire or plastic cable clips.
- Ensure that the stake is no taller than the shelter.

**Do not:**

- Allow weeds to grow inside the shelters.

**Requirements and guidance in addition to the specifications above:**

- Tree shelters to protect young trees are translucent plastic tubes up to 2m in height, with a diameter of up to 12cm. They are constructed of twin wall polypropylene.
- Each shelter should provide support and protection for some 5 -10 years before it bio-degrades.
- Although shelters come in a range of colours, there is little difference between them in terms of tree growth. When planting under established trees, where light intensity is likely to be low, it is generally better to use clear translucent tubes.
- Tree shelters need to be above the browse height of the animal. This can vary from 60cm for rabbits and hares, to 2m for Roe deer. Sheep can browse at 1.2m- 1.5m high.
- The removal of weeds around trees and in shelters is crucial as the weeds can compete for nutrients and light. Trees in tree shelters must be weeded for the first 2-3 years of life. Weeds growing inside the tree shelter must also be removed. This can be done by lifting the shelter slightly and carefully pulling the weeds out from the tube by hand.
- Any plants that have been loosened or partly lifted by winds and winter frosts should be trodden back in carefully. Regularly inspect fencing, tree guards, stakes and tree ties (loosen tight ties as these will constrict tree growth) and prevent trees growing through or chafing against tree guards.

## **E610 Trees Standards**

This technical note describes the minimum standard of work required in order to receive payments for 'Trees Standards (no fencing)'. Any variation must be approved by the Welsh Government.

Growing trees remove carbon dioxide from the atmosphere (which has a positive impact on climate change) and absorb a lot of water, reducing the amount of water running off farmland. Standard trees in hedgerows are also standout features in the landscape and provide many benefits for our native biodiversity.

**You must adhere to the following:**

- Plant sturdy plants, which are at least 1.8m in height.
- Plant only native species as shown on the table below.
- Trees and shrubs need to be UK grown and ideally from Plant Healthy stock for biosecurity reasons

**Do not:**

- Plant ash trees as part of any planting mix due to ash dieback disease (*Hymenoscyphus fraxinea*).
- Allow damage from machinery or browsing animals (including wild animals).
- Plant standard trees where ground nesting birds are known to nest and/or raise chicks.
- Plant standard trees within 15 metres of a pond.

**Requirements and guidance in addition to the specifications above:**

- Standard trees in new hedgerows should be established individually, ideally at approximately 50m – 100m spacings..  
You must protect the standard trees from browsing using a tree shelter (see E608 Tree Shelter (60cm With Stake)) and the tree planting must be carried out within the newly created hedgerow.
- Ensure you have the appropriate Flood Risk Activity Permit if you are planting or fencing near a main river, flood plain or flood defence structure. Also, ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent, or confirmation that a permit/consent is not needed, should be retained and made available on request.** See General Rules for more details.
- If undertaking any spraying as part of this activity ensure you have obtained any consents that may be necessary.
- Where Small Grants - Environment activities include the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority. This will ensure that when the trees are grown, they will not shade the surface of the pond.
- Consideration should also be given when establishing scrub and tree cover to avoid any impact on water supply for ponds or the likelihood of damaging any pond lining.
- The planting season normally runs from 1 October to 30 April. In practice, frost and snow usually divides this period into two planting spells: October to December; and during March. At higher altitudes, planting can be extended into early April.
- Autumn planting is preferred for broadleaved trees and shrubs, as roots will grow in warm spells and lessen the effect of any subsequent spring drought. In exposed sites or areas where winter storms are likely, spring planting may be preferable.
- Order as far in advance as possible to ensure the correct trees are available. Request that plants are delivered as close as possible to the planting date. It is best to choose an established local nursery, because they will usually have a reputation to maintain the trees and your transport costs should be lower. In addition, the plants will be out of the ground for the minimum length of time.
- Wherever possible, try to obtain plants grown from locally obtained seeds or cuttings (native provenance), since these will do better under local conditions and are more valuable for wildlife than imported stock.
- Try to be on hand when plants arrive so you can ensure they are in good physical condition. Keep the roots covered at all times before planting to prevent damage

and drying out. Whilst cold is unlikely to be harmful, hot sun and any form of drying, such as wind, can very quickly cause damage or kill the plants.

- If immediate planting is not possible, dig a trench before delivery and store plants in this with the roots covered so they are kept moist and cool. Protect the plants from animals, including small mammals.
- There are four main methods of planting using a spade, which are illustrated at the end of the tree planting notes. More specialised tools are available for use on large scale plantings.
- Annual maintenance is essential to ensure both survival and healthy growth. Plants should be watered both regularly and liberally during prolonged dry spells. It is advisable to apply water slowly, so it has time to soak into the ground adjacent to the tree. A mulch may serve to reduce the frequency with which watering is needed.
- Plants should be kept clear of competing weeds and grasses (weeding will also reduce mouse and vole damage). Control can be achieved with a thick mulch of bark chippings or by using a 500-gauge black polythene sheet and pegging down securely. Alternatively, carefully cut back grass and other vegetation in the area above the tree roots.
- Weeding is advisable twice in the first year after planting and once a year thereafter, until the tree is clear of surrounding vegetation. Cut weeds by hand or use herbicides to control grasses, docks, thistles and ragwort. If using a strimmer, take care to protect the tree stem from damage. Any chemicals used must have a label recommendation for use on the target species and for the intended method of application. All manufacturers label recommendations regarding method of application must be strictly adhered to.
- Any plants that have been loosened or partly lifted by winds and winter frosts should be trodden back in carefully. Regularly inspect fencing, tree guards, stakes and tree ties (loosen tight ties as these will constrict tree growth) and prevent trees growing through or chafing against tree guards.

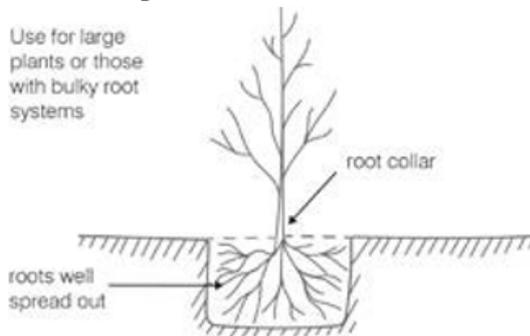
Suggested Native Trees and Shrubs Suitable for Planting			
Alder	Cherry (Wild & Bird)	Guelder Rose	Rowan (Mountain Ash)
Aspen	Crab Apple	Hawthorn	Scots Pine
Beech	Dog Rose	Hazel	Spindle
Birch (Silver & Downy)	Elder	Holly	Willow (Crack, Goat & Grey)
Blackthorn	Field Maple	Lime (Small & large leaved)	White Poplar
Black Poplar		Oak (Sessile & Pedunculate)	Yew

For an extensive list of trees native to Wales, see Forest Research's [Using Local Stock for Planting Native Trees and Shrubs](#) (zones 303 and 304 apply).

## Example of the four main methods of planting using a spade

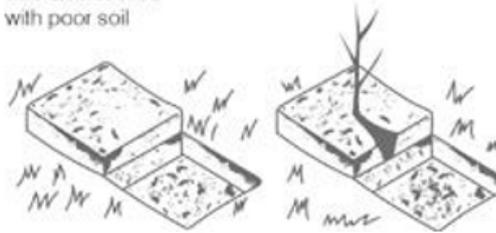
### 1. Pit Planting

Use for large plants or those with bulky root systems



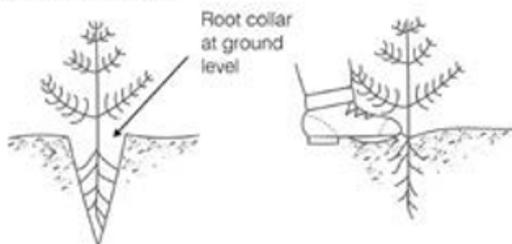
### 2. Turf Planting

Use on wet sites with poor soil

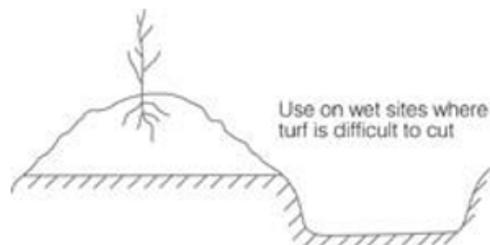


### 3. Notch or Slit Planting

Use for smaller plants with compact root systems



### 4. Ridge or Mount Planting



## E647 Spiral Rabbit Guards

This technical note describes the minimum standard of work required in order to receive payments for 'Spiral Rabbit Guards'.

Any variation must be approved by the Welsh Government prior to starting the work. Spiral rabbit guards are the most widely used form of tree protection against rabbits and voles.

### You must adhere to the following:

- Ensure each spiral rabbit guard is supported by a bamboo cane.

### Do not:

- Use guards that are taller than the tree it is to protect at the time of planting.
- Requirements and guidance in addition to the specifications above:
- Spiral rabbit guards are made from a plastic material and are available in three sizes, (45cm, 60cm and 75cm).
- Ideally the bamboo cane should be pushed into the ground next to the newly planted tree. The guard is then wound or spiralled around both tree and cane so that small mammals are excluded.