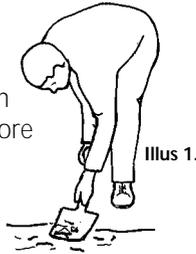


# Hedge Planting and Restoration

## STAGES IN PLANTING

### 1— Ground Preparation

**Suppress any existing vegetation to reduce competition with the planting stock.** If using herbicides, apply in late summer prior to planting. Cultivation both suppresses weeds and makes planting quicker and cheaper. Screening, the process of shaving off the ground vegetation with a spade, may be more appropriate for short sections or interplanting between coppice stools. (illus 1)

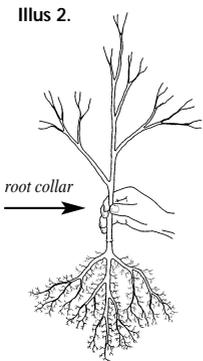


(illus 3) the root collar diameter can be a useful indicator of health. Plants 30-45cm (12-18") should have a minimum root collar diameter of 5mm (1/5"). The position of the root collar can be determined on most species by a change in stem colour. Reject spindly plants and those showing evidence of physical damage, dessication or disease.



### 2— Stock Assessment

Ensure planting stock is of the appropriate species, provenance and size. Bare root stock should have a compact fibrous root system with a good root to shoot ratio (illus 2) with the balance being in favour of the roots. Avoid plants with long single roots with little fibrous material. For all types of planting stock including cell grown,



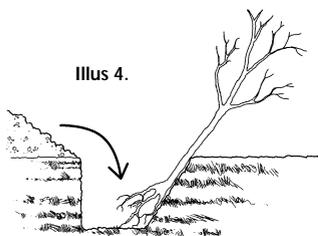
### 3— Plant handling and storage pre-planting

**Bare root** plants should be supplied in polythene bagg, usually in bundles of 25 or 50. **Handle with care!**

- Keep plants in bags during transport.
- Avoid overheating stock e.g. ensure adequate ventilation when transporting in vehicles.
- Avoid stacking bags - the plants at the bottom of the pile will be damaged.
- Plants that are to be used within 7-10 days may be kept bagged up but will require storage in a cool frost free shed or similar.
- Stored plants should be watered regularly to ensure the roots are kept damp.

If bare root plants are to be stored for longer periods they should be 'heeled in' (illus 4).

Dig a trench cutting one side at a 50° angle casting the spoil onto the opposite side. Space the plants tightly along the



trench against the angled side. The spoil is then cast back over the plant roots and lightly firmed in. **Plants can be stored for several months by this method.**

**Cell grown stock** can be stored for several months, provided that the root cells are kept damp and protected from frost. As with all planting stock, handle and transport in a way which avoids physical damage.

## 4— When to plant

Plant bare root stock between November and the end of March. Cell grown stock may be planted from September to May. Early season planting is preferable. Avoid planting on sunny, windy days. Damp overcast weather is ideal. **Never plant when snow is on the ground or during periods of hard frost.**

## 5— Plant handling during planting

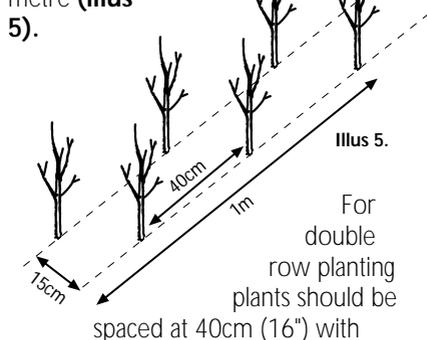
**Keep plants in the bag until they are to be planted.** Do not leave plants lying around outside of the bags as the vulnerable root systems can rapidly

dry out. If planting in sunny conditions keep bagged plants in the shade.

## 6— Planting specifications

If receiving grant aid planting spacings should be as specified.

For new hedges the Durham Hedgerow Project recommends planting 6 plants per metre (illus 5).



For double row planting plants should be spaced at 40cm (16") with 15cm (6") between rows.

For single row planting space plants 20cm (8" approx.) apart.

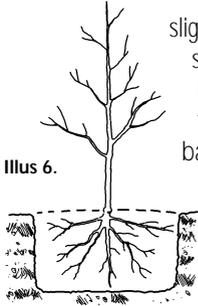
For interplanting between coppiced sections 4 plants per metre (on average) is usually sufficient, spacing being dependent upon the density of coppice stools.

## 7— Planting methods

### Pit planting

Suitable for all stock types, required for container grown and plants over 90cm.

Excavate a pit sufficiently large to accommodate the roots without constraint. Remove the plant from the bag and hold it in the centre of the pit with the root collar just below ground level. Scoop the earth back into the pit crumbling any large clods and removing any large stones. Gently pull the plant



Illus 6.

slightly to allow earth to settle around the roots. Use the ball of the foot to firm the loose earth back into the pit. Take care not to scrape the bark of the plant. Ensure the root collar finishes at ground level. (illus 6)

### Trench Planting

When planting a single row of hedge plants, excavate a trench to the appropriate depth and width allowing sufficient room for the roots. Place the spoil on one side of the trench and line the plants out on the opposite side. Replace the spoil in the trench and firm the loose soil around the plants using the ball of the foot. Take care not to damage the bark and ensure the root collar is level with the ground.

### Slit or Notch planting

Suitable for small bare root and cell grown plants. This is best undertaken where the ground has been cultivated.

**Do not use on heavy clay soils.**

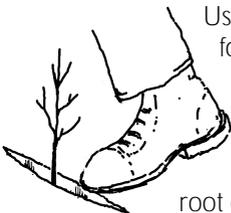
Insert a spade into the earth to the desired depth, then move it forwards and backwards to open up the notch (illus 7).

Sweep the plant into the hole from the side ensuring the roots are not constrained.



Illus 7.

Using the ball of the foot, press the edges of the notch together taking care not to scrape the bark (illus 8). Ensure the root collar finishes level with the ground and that the

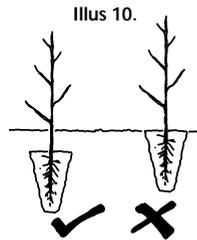


Illus 8.

plant finishes upright. Depending upon ground conditions and the extent of the root system, it may be necessary to create a larger notch by cutting at right angles to the first slit to open up a T or L shaped notch. (illus 9)



Illus 9.



Illus 10.

When planting cell grown stock, the root plug should be covered by at least 25mm (1") of soil to prevent it drying out and becoming loose in the planting hole. (illus 10)

## 8— Application of mulches

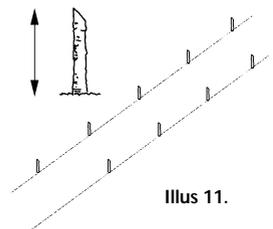
**Hedgerow mulching should ideally be at least 1m (3') wide, mulch mats 1m (3') square.**

Mulches should be applied immediately after planting, loose organic mulches will be most effective if existing vegetation has been sprayed off prior to application. They should be applied to a minimum depth of 100mm (4").

There are two options for applying sheet mulches. Both benefit from the prior suppression of existing vegetation. Cultivation is the best option.

### 1. Laying the sheet mulch after planting.

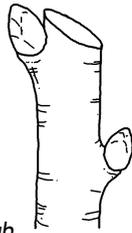
Plant in the required pattern e.g. double row hedge, prune back to a height of 100-125mm (4 -5"). (illus 11)



Illus 11.

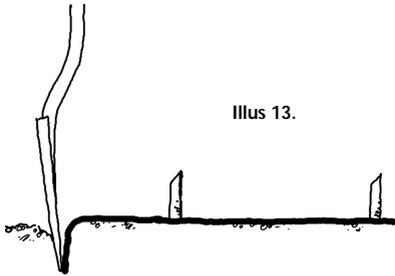
Pruning cuts are made at an angle of 45°, where possible just above a budding point (**illus 12**).

*Do not prune holly or hedgerow trees. These should be planted through the mulch.*



Illus 12.

Secure the end of the mulch, unroll 3-4m (9-13') whilst holding the roll above the stumps. Pull the mulch down over the plants, secure the windward side of the mulch in the ground either by cutting a notch and folding the material down into it or by placing the spade 75mm (3") in from the edge of the roll and pressing down with the spade to force the material into the ground (**illus 13**).

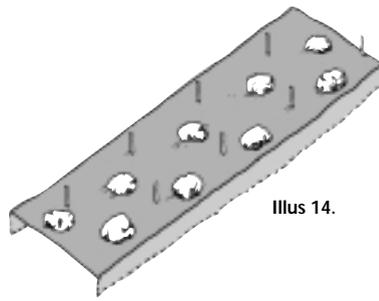


Illus 13.

The approach used depends upon the strength of the material. This process is repeated on the leeward side.

Depending upon the mulch material used, the stumps may now be protruding through, where this is not the case a small incision should be made in the mulch to allow the stump to poke through.

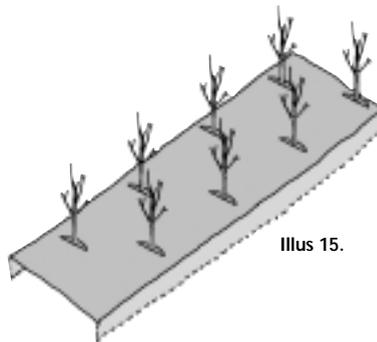
Place stones or clods of earth or other debris on the sheet to prevent it lifting up over the stumps. (**illus14**)



Illus 14.

## 2. Laying the sheet mulch prior to planting

Secure the end of the roll and unroll the mulch in manageable sections, Secure the windward side by folding 50-75mm (2-3") of the edge over into a slit as described above. Repeat the exercise for the leeward side. Notch plant the trees through slits cut as appropriate into the mulch (**illus 15**).

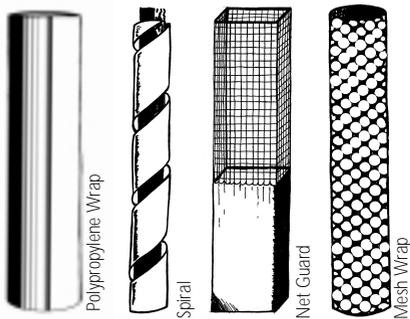


Illus 15.

## 9— Placement of tree shelters and guards

Rabbits pose a major threat to young trees. Where they are a potential problem plants must be protected by guards or rabbit fencing.

Four types of guard commonly used in hedge planting projects are shown (**Illus 16**).



Illus 16.

They can all be used with sheet mulches. An incision will need to be made into the material for all the guards except the shelters.

With the exception of meshwraps, place the guards after planting. Spirals and shelters will require support in the form of one or more canes depending upon the likely degree of exposure to the wind. Some forms of guard may require attaching to the cane. The base of a guard should be in contact with the surface. Spiral guards needs to be pushed up to 50mm into the ground; Polypropylene wraps up to 75mm into the ground. Mesh wraps are placed on the plant prior to planting and then the shrub and guard are planted together so that 100mm of the guard is in the ground. Larger shelters for hedgerow trees require the support of stakes. These should be positioned prior to planting to avoid damaging the roots. Some designs have a fluted end at the top of the shelter to reduce friction damage. Ensure the base of the shelter is in contact with the soil then attach to the stake.

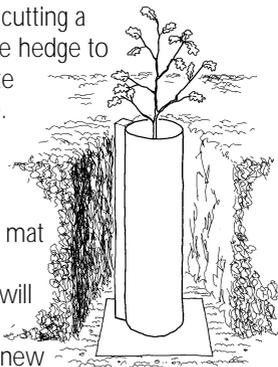
## 10— Hedgerow trees

Hedgerow trees can be planted as per other hedge plants.

To establish hedgerow trees in existing hedges, the Forestry Commission

recommend cutting a notch into the hedge to accommodate the new tree.

Using a tree shelter in conjunction with a mulch mat or section of sheet mulch will help to establish the new tree. (illus. 17)



Illus 17.

## 11— Aftercare is the most neglected aspect of hedgerow establishment and the most common cause of plant failure.

**Weed control (particularly grass) must be undertaken for at least 3 years after planting. Strimmers should not be used. Cutting stimulates a greater uptake of nutrients and water by the weeds.**

If using organic mulches renew them as required. Inspect and maintain sheet mulches. If using chemicals in preference to mulches apply residual herbicides after planting follow up as required with additional treatments, contact herbicides can most safely be applied using a form of weedwiper to avoid drift. Always follow the product instructions. Planting schemes should be regularly inspected and any dead plants should be replaced.

Regulations have been brought in concerning the use and storage of pesticides. Certificates of competence are required by any contractor who uses pesticides. Volunteer groups are classed as contractors and need to meet these requirements.

## Key Points list

Order planting stock of the correct size, species and provenance.

Inspect the condition of stock upon receipt. Reject damaged and unhealthy plants.

Ensure stock is handled and stored correctly.

Suppress existing ground vegetation. Cultivation offers many advantages but may lead to weed problems, it is best used in conjunction with sheet mulches.

The planting season runs from Oct to the end of March. Early winter plantings are the most successful. Avoid periods of hard frost, snow and windy sunny weather.

Pit planting is preferable in heavy clay soils as ground frost can cause notches to open up.

The importance of aftercare cannot be over emphasised. Effective weed control is essential if a scheme is to be successful.

Ensure new plants are protected from animal damage.

## Useful References

1. Field Boundaries Technical Advice Sheet 2: Hedge Planting and Restoration. Durham County Council 1999. Tel: 0191 383 4078.
2. Tree Planting and Aftercare. BTCV 1996.
3. New Hedges for the Countryside. Murray Maclean. Farming Press.1992.

## Useful contacts

1. Durham County Council, Hedgerow Project Officer for advice on grants, good practice and training Tel: 0191 383 4078.
2. Farming and Wildlife Advisory Group for advice on good practice and grants, Tel: 01833 630 880.
3. Rural Development Service, NE Region, DEFRA for advice on grants. Tel: 0191 229 5500.
4. LANTRA (ex- Agricultural Training Board) for advice on training. Tel: 0247 669 6996.
5. BTCV Enterprises can supply tools and handbooks. Tel: 01302 859 522.