

Hedgerow establishment and restoration

November 2022



Benefits of hedgerows: Wildlife habitat, stockproof barrier, help prevent spread of disease between livestock, shelter, shade, landscape, carbon capture and storage

If you are planting a new hedgerow in an agri-environmental scheme, eg Environmental Farming Scheme (EFS), please follow the Scheme rules, not the general information below.

Hedge planting

Most Northern Ireland hedges were planted between 1750 and 1850. Despite some removal to make fields sufficiently large to accommodate modern farm machinery, Northern Ireland retains a significant hedgerow resource (approx. 115,000 km).

Site of planting: Aim to link existing habitats, for example hedges, woodland, ponds so the new hedge can act as a wildlife corridor between habitats.

Time of planting: November-March (when the woody hedge plants are dormant). If planting on a dry bank, it is recommended that you plant early (November/December) to allow adequate root establishment before bud burst.

Site preparation: Spray a 1 metre wide strip with a systemic herbicide in the autumn. Planting is much easier if a 0.5 m wide trench is dug to a depth of 0.3 m with a small excavator. The top 'scraw' should be inverted and placed at the bottom of the trench with the subsoil placed on top of the inverted 'scraw'. On poorish soils, add some well rotted farmyard manure into the bottom of the trench.

Species: Planting a monospecific hedge, eg hawthorn, is a missed opportunity. A variety of species will attract a wider range of biodiversity and provide resilience against pests and diseases. In addition, a mix of woody species will flower at different times, providing pollinators with more resource over a longer season. Furthermore, a mix of species will mean that the berries mature over a broader time range.

Use native species (recommended 75% hawthorn, 25% other species, eg, blackthorn, hazel, holly, dog rose, whin, guelder rose, spindle, dogwood, wild privet). It is strongly recommended to use plants of native provenance as these are adapted to our climate and soil conditions. Plant native tree whips in the hedge. Suitable tree species include rowan, crab apple, wild cherry, oak, Scot's pine, alder, willow and birch. Again, the use of native provenance is strongly recommended.

Density of planting: For a more stockproof hedge, it is preferable to plant a double staggered row with 300 mm (30 cm) between the rows and 250 mm (25 cm) between plants in a row. This works out at about 7-9 plants/metre. This planting arrangement is shown in Figure 1.

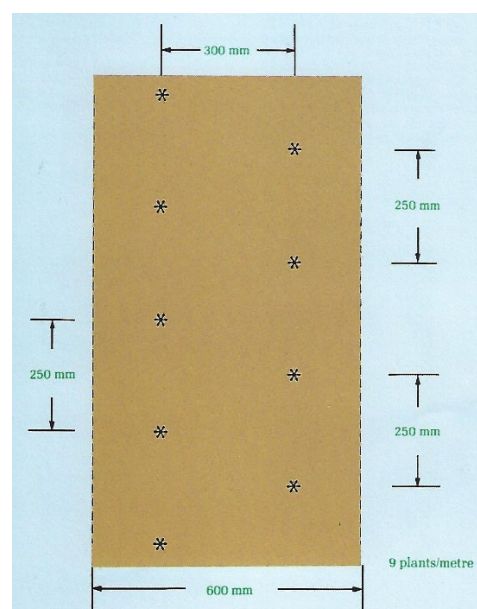


Figure 1: Double staggered row hedge planting

Alternatively, a single row can be planted – at 200-250 mm (20-25 cm) spacing, roughly 5 plants/m. Avoid regular spacing when planting trees in the new hedge. The frequency of trees will depend on future management, but 4 trees in a 100 m length is suggested. It is advised that each tree is protected with a tree guard supported by a stake – this will allow identification of the position of the tree so it is not trimmed off during hedge cutting in the coming years.

Care of quicks: If there is a delay between purchasing the plants and planting, heel the bundles of plants separately into a spare piece of ground or

the vegetable garden to protect the roots from frost and drying out. Never store the roots of the plants in water! Avoid planting in very wet or frosty weather. During planting, keep the plant roots moist at all times by keeping the bundle of plants in a plastic bag or covering the roots with moist soil or dipping the roots into water occasionally.

Planting: It is much easier to plant when the soil has been cultivated. Make a notch in the soil with a spade and insert the roots of the plant into the notch, gently pushing the plant roots into the notch with the base of the spade. Firm the plant into the soil with the heel of your boot. The plants should be placed in the ground at the same depth as they were in the nursery, to the depth of the root collar (marked by a light coloured ring around the bark). Ball-rooted holly should be planted by digging a pit in the soil and plant when there is no risk of a hard frost. On fertile soils where weeds are likely to be a problem, do not cut back those species that can be cut back, otherwise weeds are likely to smother the hedge plants.

Aftercare: It is very important to look after a newly planted hedge for the first few years to ensure successful establishment. The hedge may need fenced on one or both sides to protect it from grazing livestock. It is recommended that the fence is kept 1 metre away from the centre of the hedge, so leave two metres between two fences. If rabbits are a problem, rabbit proof fencing may be needed.

Effective weed control is important as weeds will compete with hedgerow plants for light, nutrients and moisture. There are a range of weed control strategies. You can use one or a combination of the strategies listed below.

- Hand weed and scuffle the soil in the cultivated strip as often as needed.
- Trample and flatten weeds out to each side and very carefully apply a systemic herbicide to the weeds using a hand-held weed wiper.
- Composted bark chipping mulch – the mulch may need topped up as required.
- Place a strip of landscape fabric/black polythene along both sides of the newly planted hedge, the mulch held down by stones/gravel (see top photo opposite),

scuffle the soil in the cultivated strip. Strips of waste silo cover or biodegradable plastic can be used. Remove the polythene mulch/landscape fabric once the hedge is established to allow the leaf litter to decompose and improve soil health.

- Cut back hedge plants (except holly and the hedgerow trees) to 100 mm (10 cm) and push a 1-1.5 m wide strip of landscape fabric/black polythene over the top of the cut stumps (see bottom photo immediately below). Waste silo cover or biodegradable plastic can be used. Weigh down the mulch with stones/gravel. Scuffle the soil on both sides of the mulch. Remove the polythene mulch/landscape fabric once the hedge is established to allow the leaf litter to decompose and improve soil health.



New hedge – black polythene mulch on both sides



New hedge – quicks cut back and pushed through black polythene

Future management of a newly planted hedgerow:

If you intend to lay the hedge once it has established, you should not cut the plants back to 10 cm after planting. Cutting back encourages a number of side shoots to develop from just below the cut. It is easier to lay a hedge where there is just a single leading stem on each plant. In the new (now established) hedge, whether it is planted double or single row, you will have the luxury of plenty of natural stakes to support the laid pleachers (the laid over stems). Prior to mechanical trimming of the hedge, the trees should be marked to ensure that they are not damaged.

If you do not intend to lay the newly planted hedge (once it has established), the stems of the woody plants can be cut back soon after planting (before bud burst) to 10 cm. This will encourage more shoots to emerge from just below where the cut has been made. Over the coming years, the new hedge can be trimmed to produce an 'A' shaped hedgerow. This shape allows more light into the base. Trimming should be carried out once every three years in late winter (January/February) as this allows more flowers and berries to be produced.

Causes of failure: There are three main causes of a planted hedge failing to establish:

1. Poor weed control.
2. Drought – this occurs with late planting particularly after a dry Spring and/or on raised banks. The hedge plants are unable to develop a good enough root system before the high demand for water by leaf emergence.
3. Poor care of the hedge plants before and during planting.

Conclusion: Careful preparation and aftercare are important to ensure successful establishment of a new hedge. It is very rewarding to establish a new hedgerow which, if properly managed, can live for hundreds of years. Don't be too ambitious by planting long lengths of hedgerow in one season – aftercare takes time. It is good practice to either plant, coppice or lay one hedge each winter as aftercare will be needed for the following two seasons.

Hedge laying

Laying involves partially cutting through the stem (about half way) close to ground level, on the opposite side to where the laid stem (called a pleacher) will lie and bending the stem over uphill at an angle of about 30°. The laid stems continue to live as there is a continuous bark and woody stem as the cut was only partial. Food products made in the leaves are carried down the plant in the bark and water and mineral salts are carried up in the woody part of the stem.

Hedges can be laid between November and February. Do not lay during periods of hard frost. When the stems of a new hedge are approximately 2.5-3 m high and 5-10 cm wide at the base, the hedge can be laid. However, it is possible to lay thicker stems. As discussed above, you will have the luxury of an abundance of natural stakes in a recently planted hedge. In a mature, established hedge, where the plant density is less, it will be necessary to drive vertical stakes into the ground through the side branches along the length of the hedge to hold the pleachers in place and prevent them being blown away.

New shoots will emerge from below where the partial cut in the stem was made and from the laid pleachers. Laying will keep the hedge youthful and stockproof and should be carried out every 15-20 years. During these years the hedge will need to be trimmed on the sides to keep it in shape. Trimming should be carried out once every three years in late winter (January/February) as this allows more flowers and berries to be produced. Leave some young and mature trees untouched.

Planting gaps in the laid hedge: Gaps longer than one metre in the laid hedge should be planted with a mixture of native woody species. If the hedge is predominantly hawthorn, it is recommended that you plant other species eg, blackthorn, hazel, holly, dog rose, whin, guelder rose, spindle, dogwood, wild privet. Use plants of native provenance. It is preferable to plant a double staggered row with 300 mm (30 cm) between the rows and 250 mm (25 cm) between the plants in a row (see Figure 1 above).

Leave existing trees, include hawthorn, during laying. If additional trees are planted, use native species such as oak, rowan, birch and alder. It is very important to look after the laid hedge with interplanted gaps for the first few years. The hedge may need fenced on one or both sides to protect it from grazing livestock. Make sure to control weeds in the gaps which have been planted. Weeds will compete with the new hedge plants for water, light and nutrients. Hand weeding and mulching will be sufficient for short planted up gaps.

Conclusion: If a hedge is left unmanaged, it will develop into a 'line of trees' and become gappy at the base. A hedge can be maintained with a thick base by laying on a 15 year cycle. Don't be too ambitious by laying and interplanting the gaps in long lengths of hedgerow in one season – aftercare takes time. It is good practice to either plant, lay or coppice one hedge per winter as aftercare will be needed for the following two seasons.



Laid hedge – stakes to hold pleachers in place



Laid hedge – hazel binders along top to stabilise hedge

Hedge coppicing

A hedgerow where the stems are too thick at the base for laying can be restored by coppicing (cutting down to ground level). The hedge should be cut to within 10-15 cm of the ground and cut at a slope to shed rain.

Hedgerows can be coppiced between November and February. Do not coppice in periods of hard frost. Leave some young and mature trees untouched.

Planting gaps in the coppiced hedge: Gaps longer than one metre in the coppiced hedge should be planted with a mixture of native woody species. If the hedge is predominantly hawthorn, it is recommended that you plant other species eg, blackthorn, hazel, holly, dog rose, whin, guelder rose, spindle, dogwood, wild privet. Use plants of native provenance if possible. It is preferable to plant a double staggered row with 300 mm (30 cm) between the rows and 250 mm (25 cm) between the plants in a row (see Figure 1 above).

Leave existing trees, include hawthorn, during hedge coppicing. If additional trees are planted, use native species such as oak, rowan, birch and alder. It is very important to look after the coppiced hedge with interplanted gaps for the first few years. The hedge may need fenced on one or both sides to protect it from grazing livestock. Make sure to control weeds in the gaps which have been planted. Weeds will compete with the new hedge plants for

water, light and nutrients. Hand weeding and mulching will be sufficient for short planted up gaps.

Conclusion: Hedge coppicing is recommended for hedgerows that are too thick for laying. Don't be too ambitious by coppicing and interplanting long lengths of hedgerow in one season – aftercare takes time. It is good practice to either plant, coppice or lay one hedge per winter as aftercare will be needed for the following two seasons.



Coppiced hedge – stumps too thick for laying



One year's regrowth from coppiced stumps

Further reading

British Trust for Conservation Volunteers (1988) *Hedging: a practical handbook*. Wembley Press, Reading.

Department of the Environment (NI) & Department of Agriculture (NI) (1987) *Hedges on the Farm*. HMSO, Belfast.

Networks for Nature (2004) *Irish Hedgerows*. (edited and compiled by David Hickie). Networks for Nature, Dublin.

Robinson, P (1977) The spread of hedged enclosure in Ulster. *Ulster Folklife*, 23:57-69.

Video – *Hedge planting for Environmental Farming Scheme (EFS)*

https://www.youtube.com/watch?v=qZKazos6_mE