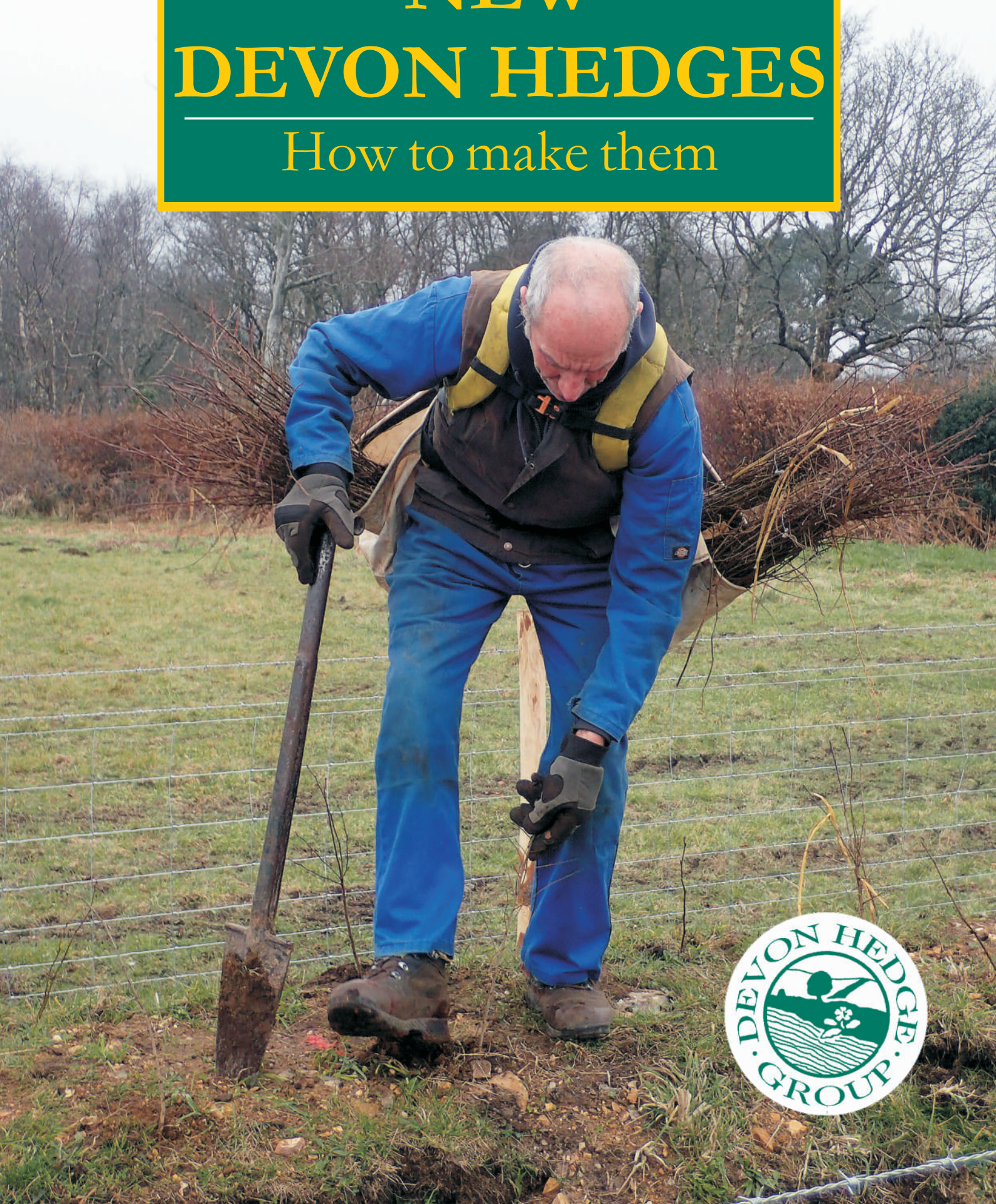


NEW DEVON HEDGES

How to make them



In memory of Paul Yells, who enjoyed being a custodian of his hedges



New hedge at Wonnacott Farm. Photo: Paul Yells.

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Admiring a new hedge planted six years beforehand – this is the same hedge as shown on page 13, freshly planted by Sally and Marcus Vergette.

Devon remains a well-hedged county, but we have lost between a third and a half of our hedges over the last 100 years or so. In places the network is broken and there are many local landscapes where the hedge density is less than the 10km per square kilometre recognised to be optimal for biodiversity. It follows that there is a great deal of scope for new hedges, both to replace those removed and to serve the new functions for which hedges are now recognised to be of great importance. These include carbon capture to help reduce climate change, retaining soil on our farmland, preventing pollutants reaching water courses and lowering the risk of land and properties flooding.

Here guidance is provided on where and how to make new hedges. The term 'make' is used rather than plant because hedges in Devon typically have a bank which has to be built before any shrubs or trees can be planted. Indeed, a true Devon hedge must have a bank – but that's not to say all hedges in Devon should have a bank, as we shall see.

Good hedges are more than just a line of shrubs, whether on a bank or not. They should normally have standard trees dotted along their length, flower-rich or tussocky grass margins, and perhaps a ditch. These features are considered too.

The guidance focuses on new hedges in the countryside, especially farmland, rather than in built-up areas. It complements, expands on and updates [Devon hedge creation: new turf-faced banks and planting](#). Advice on garden hedges can be found in [Devon hedges at home: the benefits of a garden hedge](#). However, some advice is given here on where to place hedges in villages, towns and cities to reduce the impact of traffic pollution and noise on pedestrians, to promote sustainable transport and to increase safety.

1. Why make a new hedge?



A new hedge being made along a contour to reduce flood risk further down the catchment.



Hedges can be good sources of fruit for human as well as wildlife use. Here apple trees have been planted in a new hedge. Photo Richard Steer.

It is very important to be clear about your reasons for wanting to make a new hedge. Establishing its intended roles should be the first step in deciding whether to go ahead, and if so where the best place might be, what form the hedge should take and, together with management considerations, what tree and shrubs to encourage or plant.

Do you want your new hedge to be for one or more of these?

- Wildlife
- Carbon capture
- Wood fuel
- Shelter or shade
- Screening or privacy
- Fruit or nuts
- To keep pollutants from water courses
- To improve air quality, especially in built-up areas
- To prevent soil loss
- To replace a lost hedge to restore the historic field pattern
- To enhance connectivity by linking existing hedges or habitats
- To reduce the risk of flooding further down the catchment (a type of natural flood management)
- Livestock control (keeping farm animals in or out of fields)
- Or to serve some other function?

Most hedges will happily serve several purposes, but a single hedge can't do everything well. There must be trade-offs. For example, the best hedges for wildlife will contain a wide variety of native trees and shrubs, while the best ones for carbon capture or wood fuel will be planted with just a few fast-growing species like willow or sycamore.

2. Where to put new hedges



A prime place to restore landscape connectivity by reinstating the lost hedges.



Hedges in built-up areas are better planted between the road and pavement to reduce air pollution to pedestrians from vehicle fumes as well as noise.

New hedges are best placed where they:

- Fill in gaps within an individual hedge or within a network (to restore landscape connectivity).
- Contour slopes or border water courses (to capture water pollutants and soil, and to reduce flooding).
- Create green lanes. Parallel hedges on either side of a lane or track are especially good for wildlife. Where there is public access, they also encourage sustainable travel patterns, protect walkers from traffic, and prevent inadvertent trespass.
- Where hedges once were (to restore historic field patterns and strengthen landscape character). See [Right Place Right Tree guidance](#) on how to use [historic maps on DCC Environment Viewer](#) to identify lost hedges.
- In built-up areas, between roads and pavements, to reduce particulates and nitrogen oxide (NO_x) pollutants moving from vehicles to pedestrians. In certain circumstances hedges may be useful to slow down traffic speed, by reducing visibility, for example at the approach to roundabouts.

There are a few wrong places to make new hedges:

- On wildlife habitats such as wildflower-rich meadows or heathlands.
- On deep (>30cm) organic soils such as peat. Here the disturbance to the soil profile from bank creation and tree planting will lead to a net loss of carbon to the atmosphere for many decades.
- In places such as open moorland and grazing marshes where there are populations of birds like waders or skylarks which require large open spaces.
- Where they will detract from rather than strengthen important ancient field patterns or archaeological features.
- Where they will obscure much valued views or disrupt skylines.

Further advice on appropriate places to plant trees and hedges can be found at [Right Place Right Tree](#). Detailed descriptions on Devon's landscapes are provided by [Landscape Character Assessments](#), helping to define what gives each a sense of place. Use the [woodland planting considerations map](#) on Devon County Council's Environment Viewer to check whether your potential hedge creation site falls within any known sites of ecological, archaeological and historic importance or a landscape that may be sensitive to an increase in tree cover. In built-up areas, the [Urban Tree Manual](#) may be helpful.

3. Is a bank necessary?



Although a true 'Devon hedge' should have a bank, not all new hedges in Devon need do so!

A true “Devon hedge” must by definition have a bank, but not all hedges in Devon must be banked!

Making a bank is the most expensive part of creating a new Devon hedge – where money is tight, as it often will be, it is better to make a new hedge without a bank than none. Also, it can be difficult to establish new trees and shrubs on top of a bank because they will be more prone to die from drought, especially with heat waves becoming more frequent. This is particularly true for areas where the soils are freely-draining.

On the other hand, banked hedges are part of our culture and traditional landscapes, and simply by virtue of having a more complex structure and providing more niches support more wildlife. When contouring slopes, they are also better at preventing soil loss and slowing the rate at which water pours off the land following heavy rainfall, so reducing downstream flood risk. Banked hedges may be better too at filtering out water-borne pollutants and sediment, so keeping our streams and rivers cleaner.

If without a bank, a width of at least 3m should be allocated for the new hedge, if there's space, to allow room for not only at least two rows of shrubs and trees but also for tussocky and herb-rich margins to develop. The wider the better!

4. Building banks

Key points are:

- It is important to get both profile and compaction right. This requires skill. Assuming that an excavator is to be used, which will nearly always be so, an experienced operator is essential.
- Banks can be either turf- or stone-faced, although lower ones can be left to vegetate naturally if well made.
- The larger the bank the better. Generally, wide and low is better than high and thin, for biodiversity and other reasons, including the retention of soil moisture for plants to draw upon as climate change brings increased likelihood of droughts. Banks with a base width of around 2.5m are characteristic of many Devon landscapes.
- Don't be tempted to use good quality soil on the top – this is likely to lead to an excessive growth of nettles, cleavers and docks that will swamp out the new trees and shrubs. New woody plants will require some growing medium, not just pure clay for example, but, counter-intuitively, establishment is often easier and better on nutrient poor soil. Never use topsoil to fill a whole bank.
- If you can, wait for a year before planting up the new bank, to give it time to stabilize.



Building new banks is a skilled operation.



A new hedge bank that has been created without excavating ditches, using top soil stripped from a narrow margin on either side



Soil from the creation of shallow ponds (scrapes) in a floodplain just 100m away is being used here to create a new bank. Photo Simeon Day.

Building banks



Reinstatement of a massive hedge bank using stone-facing and hessian netting and bags.



The banks of this new Devon hedge have been allowed to vegetate naturally. Photo Tom Hynes.

Use onsite material to construct the bank, if possible, to ensure a good fit with the local landscape. Often the material will come from making a ditch, the ditch complementing and enhancing the hedge's habitats considerably. Be sure, though, not to drain any nearby wetland habitats. New banks can be made without making a ditch by using material won by carefully lowering the land level over a wide strip on either side.

Remember to leave room for margins, either herb-rich and flowery or grassy and tussocky, preferably both. The wider these are, the better.

See [Devon hedge creation: how to construct new turf-faced banks](#) for detailed advice on this subject. Information on making stone-faced banks can be found in [Devon hedge management 1: maintaining and repairing turf and stone facing](#). Further useful information can be found in [Devon hedges and development 2: pipelines](#). This includes the use of hessian sacks and textile to stabilise large banks.

5. Choosing the right trees and shrubs

The reasons for making a new hedge will strongly influence the choice of trees and shrubs to plant. Clarity on objectives is essential, as is knowing soil characteristics. Is it acid, neutral or basic? Is it freely-draining or not? What are the local climate and geographic conditions – think here about the future as well as the present? Is the site exposed? Maybe it is near the coast and subject to salt-laden winds?

Likewise, you need to consider future management constraints and practicalities. Are there overhead lines? If so, then plant low and slow-growing species. If alongside a road or footpath, the hedge will need trimming regularly to maintain access so plant species that respond well to regular cutting and remain thick and bushy at the base (e.g. blackthorn, holly or beech, not hawthorn or willow).

This guidance cannot suggest appropriate mixes for all the possible combinations of hedge purpose, location, soil type, climate/exposure, and management constraints/practicalities. That would take pages and pages! However, it does give some principles, suggestions for a few multifunctional mixes, and a chart of which species are likely to be suitable for different purposes and soils ([see Annex 1](#)).



Seeing what species are typical of your local hedges is a useful first step towards deciding what to plant in your new hedge. Here we see hazel, oak and grey willow.



Choosing the right trees and shrubs

Key principles:

- Use native or long-established species. In urban areas the use of non-native species may be acceptable and indeed desirable to cope with high stress levels from heat and drought, or to optimise pollutant removal from the air.
- To ensure resilience against climate change and possible future diseases, select a mix that includes five or more different native species, unless the hedge is being grown primarily for wood fuel or is in a very exposed situation.
- Plant single species hedges only under exceptional circumstances, even if characteristic of your local area. Such exceptional circumstances might be when gapping up a single-species hedge of particularly high landscape or cultural value, or very exposed situations where only one or two species, like blackthorn, will do well.
- Include a few trees intended as standards. Select hedgerow tree species based on the space available and your requirements. Larger trees like oak, beech and sycamore will cast more shade and capture more carbon, whilst smaller trees such as crab apple, rowan and holly can be excellent for flowers, berries and fruits.
- Use locally sourced and grown plants wherever possible, to increase the chances that they are well adapted to local circumstances and to improve biosecurity.
- Trees and shrubs in the local landscape are a good guide to those that will do well.

The priority is to plant for the present and future, not the past. The emphasis should be on addressing biodiversity and climate emergencies, not on maintaining traditional and cultural landscapes. Nevertheless, within the constraints of adhering to this principle, the character and heritage of an area should be respected.

Some cautionary notes:

- Be careful about using standard mixes available from nurseries – they are unlikely to meet your specific needs.
- Limit the amount of hawthorn and perhaps blackthorn – they are difficult to manage. Hawthorn produces little growth at the base leading to rapid basal gap formation, while blackthorn can cause problems by suckering profusely into adjacent margins.
- Be aware that some species like birches, spindle, rowan and buckthorn are difficult to keep thick and bushy even though good for wildlife. However, some open-growing species like sycamore, willows and wild cherry are good for wood fuel and carbon capture.
- There is no need to use trees and shrubs from more southerly latitudes - existing genetic and phenotypic variability in our native species in southern England is sufficient to cope with climate change, they are adapted to our day length, and our wildlife has co-evolved with them.
- Be aware that some shrubs and trees are toxic to livestock such as yew, box, cherry laurel and privet.

Choosing the right trees and shrubs

Tree and shrub suggestions for different purposes

Most new hedges will be intended to meet a range of different uses. To help you decide what species to plant, here are some species mixes to consider for some different primary purposes. You will, though, almost certainly need to refine them to meet your local circumstances and wishes. Please refer to Annex 1 for further information.

For wildlife. Choose seven or more from: alder buckthorn, blackthorn, crab apple, field maple, guelder-rose, hawthorn, hazel, holly, oaks, rowan, spindle and willows.

To create a stock-proof barrier. Choose five or more species, with a high proportion of beech, blackthorn, hawthorn or holly, together with wild roses and perhaps wild pear, as well as occasional other shrubs and trees.

For carbon capture and/or woodfuel. Choose three or more from: alder, beech, birches, hornbeam, oaks, sycamore, wild cherry and willows.

For fruit. Choose five or more from: apples, blackthorn, cherries, Devon whitebeam, hazel, pears, plums (including bullace and damson) and sea buckthorn. It's OK to use domestic varieties!

To remove air borne pollutants in built up areas. Choose evergreens like yew (toxic berries), box, conifers (but not Leylandii!) and species with hairy leaves like whitebeams.

Some suitable shrubs and trees for a fruit hedge.
From top down: Bullace or wild plum; Devon Whitebeam; Sea Buckthorn; domestic apple.



Choosing the right trees and shrubs



Hawthorn
(May blossom)



Hazel



Oak



Guelder-rose



Holly

General purpose mix

A suitable multi-functional mix for a hedge on neutral, free-draining, soil in a sheltered position that can be kept dense and bushy might be:

- Blackthorn 15%
- Hawthorn 15%
- Hazel 15%
- Field maple 10%
- Holly 10%
- Pedunculate oak 10%
- Alder buckthorn 5%
- Crab apple 5%
- Guelder-rose 5%
- Wild cherry 5%
- Wild roses 5%

On lime-rich soils, switch wayfaring tree for guelder-rose and buckthorn for alder buckthorn, while on exposed coastal sites, switch sycamore for field maple, dogwood for alder buckthorn and privet for guelder-rose. For shelter, shade and screening you will need to select tall-growing trees like aspen, beech, black poplar, hornbeam, limes, oaks and sycamore.

Be sure to include trees destined to remain untrimmed so they can become standards in the hedge. These need not be large species like oak, beech and sycamore, but can just as usefully be smaller ones like holly, crab apple, rowan and even hawthorn ([Annex 1](#) gives further suggestions).



Crab apple

6. Creepers and ramblers

As well as wild roses, native honeysuckle, bittersweet (woody nightshade), traveller's-joy, bramble and ivy are all excellent plants for wildlife and will enhance any hedge. They may colonise naturally with time, but to speed matters up, why not plant them, or broadcast seeds? They may be difficult to source but can be home grown (see below).

At times, bramble, traveller's joy and ivy can be problematic, smothering hedges. However, in Devon such circumstances are rare. Concern is often expressed by sheep keepers about bramble entangling animals, and this does sometimes happen although it is usually no more of a risk than the sheep getting their heads stuck in wire stock netting. The answer surely is to check livestock regularly. If bramble, wild roses or blackthorn suckers are taking up too much ground, then they can easily be cut back – but do remember scruffy hedges with soft edges are much better for wildlife than those with neat, straight, hard edges.



Bramble (blackberries)



Dog rose hips and leaf



Honeysuckle flowers and berries

7. Sourcing trees and shrubs



Devon Wildlife Trust's community tree nursery at Meeth.
Photo Devon Wildlife Trust.

Locally sourced and grown

The more locally sourced and grown the trees and shrubs you plant, the better! They are likely to be better adapted to your conditions and the risk of bringing in pests and diseases is reduced. Plants grown from seeds collected in southwestern England (The Forestry Commission's Region of Provenance 305) will generally be appropriate if more local supplies are not available. Certainly, avoid any plants that have been grown in Europe, even if the seed was collected in the UK.

Bare rooted or cellular grown?

Plants, sold as bare-rooted whips (two- to three-year-old saplings) or cellular-grown stock, can be bought from commercial nurseries or may be sourced from a growing number of community nurseries. (Information on nurseries is being placed on the Devon Hedge Group website.) Cell-grown trees tend to be more robust for planting as they have a strong fibrous root structure which holds together its growing medium, and so can be handled more roughly. They can be stored more easily, are less prone to drying out when being planted, and arguably will establish better initially as there is less risk of transplant shock. Their use can extend the planting window, volunteers may find them easier to manage, and they are grown in re-useable plastic root trainers.

On the other hand, bare-rooted plants may have a better root to shoot ratio, are cheaper to buy, more cost effective for larger nurseries to produce, and easier to transport in quantity. Above all, the key to successful establishment is to use good quality stock, to plant carefully at the right time, and to provide adequate protection (see below).

Grow your own

Alternatively, you can grow your own. In this way, you can be certain of the local provenance of the plants and reduce the risk of introducing diseases and pests. Further advantages are that the genetic diversity may be greater than from nursery stock which often comes from approved, but limited, seed sources. Seeking help from your local community with collecting seeds and growing the trees is an excellent idea: it will help with establishing long lasting cultural connections. The cost will be less too!

Good sources of advice on how to grow native trees and shrubs are available through the Devon Hedge Group website – it's quite an art, all the way from seed collection through storage and germination to eventual lifting for planting out! Some seeds like acorns are easy to grow, but many others require pre-treatment such as stratification (pre-treating seeds to break dormancy and initiate germination). Likewise, if you are interested in taking cuttings, these are easy for some species like grey willow and black poplar but for others like goat willow and aspen distinctly challenging.

Note that if you intend to market any seeds, fruits, cones, etc, you must be registered with the Forestry Commission under the Forest Reproductive Material Regulations.

8. Planting your hedge

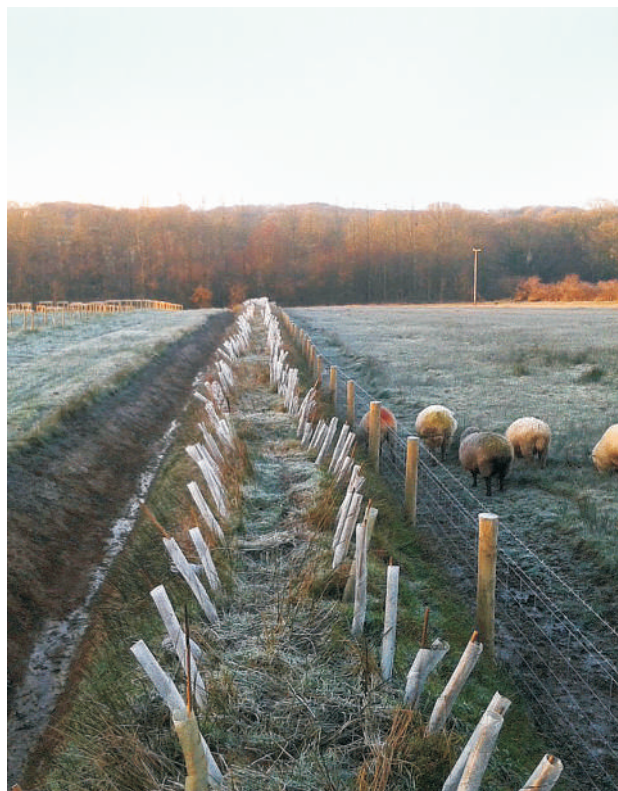
How many plants do I need?

Although six to eight plants per metre is often recommended, this is now a largely out-dated prescription, intended as it was just for making stock-proof hedgerows. Now four plants, or perhaps five, per metre is fine for most purposes including wildlife and carbon capture. New hedges in livestock areas are nearly always wire fenced, so there's no point in planting lots of thorny shrubs to create quick stock-proof barriers. As a rule, it is better to plant fewer and look after them better. Be aware, though, that if you have an agri-environment agreement or grant the specification may be to plant more trees and shrubs - do check.

Do take care when planting not to let the roots dry out, something which can happen in just a few minutes on a windy dry day.

How many rows?

It's usual to plant Devon hedges in two staggered rows, one row along each edge (comb) of the bank, leaving the middle either free or just for those trees intended as standards to be allowed to grow freely to maturity. The advantage of leaving the middle free is that in future it will be far easier to cast up slumped soil from the base of the bank onto the top without smothering the trees or shrubs. (In the past, these central corridors were sometimes called poachers' paths!) If there is space, as is often so with unbanked hedges, there's no reason not to plant in three or more rows – the wider the hedge the better.



The trees and shrubs have been planted on the combs of this new hedge bank to leave the centre clear - something which will make future management much easier. Note the new ditch which provided the earth for the bank. Photo Sally Vergette

Irregular spacing or in blocks?

For most species it is better to plant them at irregular spacings along the length of the new hedge, as tends to occur naturally, rather than in blocks. Block planting of species that don't lay well, like alder buckthorn, spindle or guelder-rose will make future management difficult, while others, like hazel, oak, field maple and rowan are seldom found in discrete clumps in old hedges. Blackthorn is often found naturally in blocks but its ability to sucker freely means that these will form over time even if planted singly. On the other hand, very competitive species like willow might be best planted in blocks to reduce competition with others, although the occasional one planted for early season pollen and nectar remains a good idea.

Planting your hedge



Planting a Devon hedge. Photo Fiona Hailstone.

Standard trees

Aim to plant one tree destined to become a standard roughly every 10m, so that, allowing for natural and other losses, there is about one per 40m when mature. Uneven spacing will give a more natural feel and look to the hedge.

It is essential to mark these trees clearly with a stake, tag or tree shelter right from the start, and to maintain these markers until trees are safe from accidental trimming. See [Devon hedge management 4: hedgerow trees](#) for further information on this subject.

Mulching and herbicide use

Mulching to prevent excessive competition from grasses, nettles, bracken and so forth may occasionally be desirable to ensure good rates of establishment and growth, but it's often not necessary - particularly if planting into infertile soil. Avoid using plastic mulches. Also, avoid the use of any form of matting or geotextile fabric: otherwise, the herbs,

grasses, etc, that are such an important part of any healthy hedge will be prevented from developing for many years. Locally-sourced wood chips are a better option.

The use of herbicides to suppress competing plants is also not recommended on environmental grounds, other than in exceptional circumstances. Emerging evidence suggests that glyphosate and its breakdown products have a negative effect on the soil biota, especially invertebrates and mycorrhiza. The adjuvants which aid contact and effectiveness of the herbicide can also be harmful. Where used, herbicide must be applied responsibly in strict accordance with manufacturers' recommendations.

Not using herbicides or mulches that are slow to decompose may slow down hedge shrub and tree growth, but unless the hedge is being grown to provide a rapid source of wood fuel or is needed quickly to compensate for nearby recent hedge loss, what's the hurry?



Mulching with locally-sourced wood chips. The new trees are filling a big gap in an old hedge. Photo Fiona Hailstone.

9. Protecting the new hedge

Fencing

Newly-planted trees and shrubs may need protection against herbivores, whether they be livestock like cattle and sheep, or wild mammals like deer, rabbits, hares or even voles. Wire fences are the best means of protecting against cattle, sheep and horses, and will deter deer. However, they make future management like laying, coppicing and casting-up difficult, as well as making the maintenance of flower-rich or tussocky grass margins through light grazing or occasional cutting nearly impossible. So, only erect permanent fences where strictly necessary and not as a matter of rote.

If a new, fenced, hedge is destined to be managed to produce a wood fuel crop, don't be too concerned if the fence is subsumed by the hedge since it will still form a stockproof barrier inside the hedge and most modern posts will need replacing anyway after 15/20 years, when the hedge is ready for coppicing.

Further information on fencing hedges can be found in [*Devon hedges and modern farming, management cycle and fencing*](#).

Tree guards

Protecting against rabbits, hares and deer is problematic. The first point to consider is whether the use of tree guards is really necessary. It often isn't: they are frequently used as a matter of rote or because standard contract or grant specifications require it. Do assess the risk as best as you can and only use guards where you are reasonably sure they are needed, not solely as a precaution.

Plastic spirals or tree tubes/shelters have been commonly used against deer, rabbit, hare or vole damage, and effectively so, but the use of plastic is no longer environmentally acceptable, especially if single-use. The production and transport of plastic tree guards has a significant carbon footprint: worse still, if not removed before they become brittle and start to disintegrate, they break down into shards and microplastics which are harmful to much wildlife. Experience reveals that guards are rarely removed, for a range of reasons. It's back-breaking work among thorns, brambles



The rabbit spirals used here have resulted in an immediate gap forming at the base of the hedge. Were they necessary? Hawthorn, although good for flowers and berries, is particularly prone to this problem since it is single stemmed. Blackthorn and hazel, on the other hand, are naturally multi-stemmed.

and nettles; time-consuming; not usually a condition of grant-aid and easily put back to another day, by which time it is too late. Alternative products which will biodegrade safely on site are under development and likely to come on the market soon. Until then you will either have to commit firmly to removing plastic spirals, tubes or shelters, or take the risk that damage levels without them will be acceptable. Research suggests that where less than 70% of plants are lost through herbivore damage, environmentally it is better to replant than use guards: however, this may be the more costly option. Be aware that currently-available compostable tree guards are likely to breakdown only under the high temperatures of commercial facilities, remaining intact *in situ* for many years.

Another good reason not to use tree guards is that they reduce the number of side branches developing on young trees and shrubs, leading to an immediate gap between the ground and canopy. This will remain in place for many years, detracting from the value of the hedge until, hopefully, it is laid or coppiced.

Finally, do remember that brambles and nettles can be effective natural and free protectors of your trees, from humans as well as herbivores. There may even, on occasion, be a good case for including bramble in the list of species to be planted!

10. Aftercare



Cutting back grasses and other plants that threaten to smother new trees. Photo Fiona Hailstone.



Cutting stems close to the ground soon after establishment, and regular trimming in the early years will help new hedges become thick and bushy. Here the hawthorn on the right (with the billhook) was cut down close to the ground a year after planting, that on the left was left untouched.



Clearly marking trees destined to become standards is vital. Move tags onto side branches as soon as possible to prevent strangulation.

Gapping-up and controlling smothering plants

Plants that have died will need replacing if resulting in substantial gaps. A degree of loss is to be expected and usually acceptable. If the young trees and shrubs are becoming swamped by goosegrass (cleavers), nettles, bracken or climbing grasses, etc, then these will need cutting back. Nevertheless, some growth, especially of brambles and nettles, may be tolerated and even be desirable since, as noted previously, they will offer protection to the trees and shrubs from mammalian herbivores and from human vandals.

Early trimming

Psychologically it may be a difficult thing to do, and on publicly-accessible land it may cause disquiet and complaint, but cutting back the young shrubs and trees soon after they have been planted will help to ensure thick bushy growth, as multiple shoots arise from the cut stems. At least on private land away from public view, regular trimming in the early years of a hedge's life is recommended, unless tall trees are wanted as soon as possible, such as for screening, wood fuel or carbon capture. Alternatively, if there's a worry the young plants may become smothered or eaten off if cut back, let them grow up and aim to lay or coppice them in 5- or 6-years' time to achieve a thick, bushy hedge.

Tagging standard trees

Saplings destined to become standard trees need longer term attention if they are to survive the attention of flail trimmers. They will need to be clearly tagged, or perhaps protected by stout stakes, so they are obvious from the tractor cab until big enough to be seen easily, perhaps ten years down the line. As with tree guards, plastic-free tags are still under development: finding a product that is biodegradable, highly visible and long-lasting is proving challenging. In the meantime, improvise. Strips cut from coloured plastic feed bags are effective but do remove them once no longer needed and dispose safely. Tags should be moved to side branches as soon as possible, away from main stems, to avoid strangulation.

11. Encouraging good margins

Natural colonisation and plug planting

The best hedges have either herb-rich margins or tussocky-grass margins, preferably both. So, avoid cultivation or the use of herbicides within 2m of the trees and shrubs, on either side, and don't mow before the marginal growth is well established. This can be allowed to develop naturally, although some plug-planting of herbs may be desirable if the local landscape is floristically very impoverished and the soil seed bank poor.

Controlling grazing and brambles

The greatest barrier to the establishment of good margins is tight grazing by cattle, sheep or horses. (Which is why our best displays of hedgebank flowers are alongside lanes.) Ideally, pasture fields should be stocked at levels compatible with margin establishment and maintenance. However, in commercial farming systems this is rarely possible these days, especially with high levels of winter sheep grazing being common. An answer is to permanently fence off the margins, leaving a gap between the hedge plants or the base of any bank and the open field. However, it's not a particularly good one since without any grazing or ability to mow them, after several years the margins will become rank and lose most of their flowers. Temporary electric fencing is a possible solution, especially where winter sheep grazing is involved – keep the wire a metre or two away from the shrubs and trees.

The dense growth of brambles that often develops behind fences, while preventing growth of herbs, is far from a disaster. They provide excellent habitat for dormice, nesting birds and a wealth of invertebrates. Far better to have such margins than cultivated ground or intensively managed pasture right up to the shrub or tree line.



Creating flower-rich margins alongside hedges, new or old, is not easy. In livestock areas it will necessitate careful management of grazing and keeping any fertilisers well away from the field edge.

Encouraging good margins



Here plugs have been used to introduce herbs to the new hedge's margin.

Controlling nettles and goosegrass

The second major barrier is the excessive, dominating growth of nettles and goosegrass (cleavers) that typically grows where soils have been enriched through application of fertilizers and manures over the years. These nutrients can be very persistent, lasting for decades. The nettles and cleavers may be temporarily controlled with herbicides, but the chances are that they will regrow within a year or two. There's no easy way to reduce their cover. You may just have to tolerate them – although not as good as bramble-dominated margins, they will still provide better habitat than cultivated ground or intensively managed pasture.

For further information on hedge margins see [Devon hedges and wildlife 2: flowers, field margins and ditches](#). There is also much information to be found on the internet about how to establish and manage flower-rich arable field margins linked to options within various agri-environment schemes. Such margins are typically further out into the field than those addressed in this guidance.

12. Further information

The following sections, already published within 'Devon Hedges', contain additional guidance:

[Devon hedges and modern farming, management cycle and fencing](#)

[Devon hedges and wildlife 2: flowers, field margins and ditches](#)

[Devon hedge creation: new turf faced banks and planting](#)

[Devon hedge management 1: maintaining and repairing turf and stone facing](#)

[Devon hedge management 4: hedgerow trees](#)

[Devon hedges and development 2: pipelines](#)

[Devon hedges at home: the benefits of a garden hedge](#)

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Annex 1

Tree and shrub species suitable for different purposes and soils, with guidance on appropriate proportions for different hedge purposes and those suitable to become standard hedgerow trees.

x - up to 10% xx - up to 25% xxx - up to 50% xxxx - up to 75% <i>as proportions of the species mix in a new hedge.</i> Bold green - suitable as standard trees or for allowing to grow to maturity	Multipurpose, including wildlife, soil conservation, flood risk reduction and water purification	Fruits, nuts and berries for humans	Pollinators	Stockproof barrier only	Shelter, shade and screening	Air purification	Wood fuel and carbon capture	Gardens
Minimum number of species to select	7	5	7	3	5	5	3	5
SUITABLE FOR MOST SOILS								
Beech	x			xxx	xxxx	xx	xxx	xxx
Birches	x				xx	xx	xxx	
Blackthorn	xx	xx	xx	xxx				x
Crab apple	x	xx	xx		x	xx		x
Field maple	xx		x		xx	xx	xxx	xxx
Hawthorn	xx	x	xx	xxx				xx
Hazel	xx	xx				xx	xx	xx
Holly	x			xxx	x	xxx		xx
Hornbeam	x				xx	xx	xxx	xxx
Oaks	x		x		xxx	x	xxx	
Roses	xx	x	xx	x				
Spindle	x		x					
Sycamore	x		x		xxx	xxx	xxxx	
Wild cherry	x	x	xx		x	x	xxx	
SUITABLE FOR ACID SOILS								
Rowan	x		xx					x
Alder buckthorn	x		xx					x
Guelder-rose	x		xx					x
SUITABLE FOR LIME-RICH SOILS								
Buckthorn	x		xx					x
Dogwood	x		xx					x
Wild privet	x		x			xx		xx
Wayfaring tree	x		xx			xx		x
SUITABLE FOR WET SOILS								
Willows	x		xx		xxx	xx	xxxx	
Alder	x				xxx	xx	xxxx	

Annex 1 (continued)

	Multipurpose, including wildlife, soil conservation, flood risk reduction and water purification	Fruits, nuts and berries for humans	Pollinators	Stockproof barrier only	Shelter, shade and screening	Air purification	Wood fuel and carbon capture	Gardens
RARE DEVON HEDGE SPECIES - include occasional one								
Aspen	*				*		*	
Black poplar	*				*		*	
Devon whitebeam	*	*	*			*		*
Small-leaved lime	*		*		*	*	*	
Scots pine	*				*	*	*	
Sweet chestnut		*			*		*	
Wild pear	*	*	*	*	*			*
Wild service	*		*		*		*	

NEW DEVON HEDGES

How to make them



New hedge made by Paul and Rosie Yells at Wonnacott Farm. Photo Paul Yells.

Devon remains a well-hedged county, but we have lost between a third and a half of our hedges over the last 100 years or so.

There are places where the network is sparse or broken.

We should strive to replace lost hedges and make new ones for a host of reasons. They are excellent for wildlife, increase landscape connectivity, help keep our air and water clean, and capture and store carbon.

Here guidance is provided on where and how to make new hedges – ones that are fit for the present, and hopefully the future, while respecting the past.



Saving Devon's Treescapes