



# BUILDING A TURF HEDGE

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## TURF HEDGES IN CORNWALL

Turf hedges are similar in shape and size to Cornish hedges but are not built with stone. They are found in Cornwall, Devon and other parts of Britain. In Devon they are known as 'Devon banks'. In Cornwall turf hedges are built where there is not enough local stone to build Cornish hedges, or where the underlying stone is of a poor character or too difficult to quarry. Sometimes where stone is not plentiful, a hedge will have been built with a cladding of stone for its lower half and of turf for the top half. Today, when a turf hedge can be built by machine much more cheaply than building a Cornish hedge, they can be found in localities formerly displaying only Cornish hedges, though more often in areas of heavy clayey soils than where light sandy or peaty soils occur, because of the better stability. With high stocking densities, most turf hedges need to be fenced, otherwise the animals soon make gaps. From traditional, landscape and wildlife points of view as well as utility for shelter and run-off prevention, a turf hedge is a far better option than just a planted English-style thorn hedgerow, but is more expensive to maintain than a Cornish hedge.

There are three ways of building a turf hedge, by hand, by tractor (or digger) and by the Wade method.

## BUILDING A TURF HEDGE BY HAND

This is the traditional way and is probably uneconomic for building new hedges in most circumstances. Nevertheless it is still being used for short lengths of hedge in locations of high landscape value open to the public. A new turf hedge has to be built in two stages. The first stage is building up to half height, then the hedge has to be left for three or four winter months to allow it to settle and for the turf to begin to knit. It is inadvisable to start a turf hedge in the summer months because the turf is likely to die. It is best to build half the hedge in the autumn, and finish it in late winter.

The dimensions are the same as those for a Cornish hedge. The height is the same as the width of the base, and the top is half the width of the base, with inwardly-curved batter as for the Cornish hedge.

It is often said that a turf hedge is built of the soil taken out of the ditch alongside. While this may be true of some wetter places, it is not the whole story. Turf hedges are found in parts of Cornwall (the Culm measures in north Cornwall or at Goonhilly on the Lizard are good examples) where there is clay and poor drainage, not much stone is available outcropping on the land and the land itself is not worth enough to buy hedging stone. Enclosure of the naturally poorer wet land often did involve digging ditches alongside the new hedges. The soil from those ditches made a sufficient height, up to 1.0m (3ft) high, to provide a good hedge when a thorn hedge was grown on top. Many turf hedges, however, are much higher, up to 2m (6ft) or more in height and base width. The filling of these is almost always subsoil, for example rab or shillett. Clearly this was deliberately brought in to make the bigger hedge. Some of the turf hedges around Kilkhampton, for example, are like this.

So the first action is to decide the height of the hedge. This will normally be the same as others nearby, plus about 10%-15% for settlement, but can be higher or lower in special circumstances. The construction of the turf hedge relies on its outer skin of turves (*tobs* or *tubbans* in Cornish). These are not the thin tile-shaped turves used on sports fields or for household lawns, which are useless because they are too thin and cannot knit readily, so they dry, curl up and largely die. The tobs or tubbans used in building or repairing a turf hedge are much larger and chunkier; they are cut by plough or dug up by the Cornish shovel which almost predetermines their size and shape, about 20cm x 15cm x 15cm (8"x 6"x 6"). The good 15cm (6") thickness means that they can survive in their new drier situation on the hedge top until they root themselves down properly. Soil-dwelling invertebrates and many plant species, as well as grass, trans-locate without loss.

The turf to be used in building the hedge is dug from alongside the line of the hedge. No trench is dug out first. The grassy face of each tob is made roughly diamond-shaped, not rectangular or square. This is achieved by cutting a parallel-sided strip 15cm (6") wide, then slicing it up with a shovel at an angle of about 60°, at intervals of 20cm (8in) to make diamond-shaped tobs. The tobs stay on the shovel while being lifted up and placed on the hedge because they tend to fall to bits if piled up and then lifted in hands. The tobs cannot be any bigger, otherwise they split when dug up.

The tobs are laid on the grass to form the first row on each side along the line of the hedge. They must be laid tight up against each other herringbone-fashion with the grassy face outward. This face is slanted inwards to the normal angle of the batter (see diagram). The subsoil is rammed hard behind them, the tobs being held in place by the hedger's foot while this is done.

Next, the top of this first row, along both sides of the hedge, is trimmed inwards to about 30-35 degrees, using the profile former or a Cornish shovel to get the angle as described for building Cornish hedges. The second row is laid and the space between the two sides of the hedge is filled with rab to just above the height of the second row, and rammed in again. The top is trimmed inwards to an angle slightly less than 30-35 degrees, how much less depends on the height of the hedge. The angle reduces with each row, so that by the time the hedge is half-built, the side of the hedge is nearly vertical. It is then left for three or four months to settle and consolidate. Then the top half of the hedge is built in similar manner, with the decreasing

batter continuing up to three-quarters height, then vertically. The instructions for how to make a profile for a Cornish hedge are correct for a turf hedge.

The top of the hedge is turfed in the same way as for a Cornish hedge except that usually more thorns are planted, especially for the lower hedges between 1 - 2m (3 - 6ft) high. The plants may be in two staggered rows, 30cm (12") apart in the row, 50cm (20") between the rows (8 plants per metre run of hedge). Fencing and other final works are as for the Cornish hedge.

## BUILDING A TURF HEDGE BY FARM MACHINERY OR DIGGER

Many farmers, when faced with the need to build a new turf hedge, succeed in doing so by using the tractor fitted with a hydraulic front bucket and plough. It needs two years to do it. First the farmer has to find somewhere he can plough 15-25cm (6"-9") deep and still leave enough topsoil below this to make a useful pasture, and thus renew the material taken away. This material he removes with his bucket to the site where he needs a new hedge. The topsoil need not be of good quality, and in some instances, a subsoil is satisfactory. The test is whether the material will grow grass and weeds speedily. Using the tractor and bucket, it is heaped up along the desired hedge line in a continuous mound about 3m (3 yds) wide at the base, and as high as can be easily piled up. This is fenced off temporarily from livestock and left for a year to settle down and consolidate. Then the bucket is used to scoop up the soil, along the base of the heap, and put it on top, thus narrowing the base to about 1.5m (5ft) wide and increasing the height temporarily to 2m (6ft). Because the finished hedge will lack the properly inwardly-curved batter tied in with mature knitted tobs, the hedge sides will tend to be unstable and be liable to slumping. It has to be fenced immediately with a permanent fence; this is essential. Hedges built by this method take at least five years to settle down and become fully covered with vegetation, but this way is the cheapest method and, from a wildlife viewpoint, may result in a surprising variety of less common native plants growing from wild seeds naturally hidden in the soil, especially where poorer soils have been used.

Exceptionally a turf hedge may be made in one operation by a skilled digger driver who, using the correct bucket, is able to consolidate the pile of soil in layers not exceeding 30cm (1ft). The top is turfed over by hand with tobs 15cm thick. Hedges built by this method should be inspected, four months after being built, for slippage of the hedge sides.

## THE WADE METHOD

Developed in Devon in the 1980s by the then county surveyor, Mr. Wade, this method was intended to provide new turf hedges, or Devon banks, alongside roads. It counteracts the problem with the traditional way of building turf hedges, when time has to be allowed for consolidation, by enclosing the hedge in sheets of welded mesh. This method is expensive but allows the hedge to be built in one operation, which may be more convenient for contractors when, for example, laying pipes across the countryside, having to operate within a narrow way-leave strip and re-instate short lengths of hedge where a breach has been made. A potential problem will remain when the mesh rusts away into sharp-pointed bits which may injure walkers and farm livestock in the future.

Where a gap in the hedge is to be made and then rebuilt, the gap is made by removing the hedgebank and storing the turf separately from the infilling soil. Hedging stones found in the hedge may be of historical value and are stored separately for the farmer. If a pipeline or similar trench through the gap is involved, the infilling of the trench must be properly consolidated so as to provide a stable foundation for the rebuilt hedge.

A turf-retaining frame is made the height of the original hedge, set up to make the hedge base as wide as its height. The top of the frame will be half the width of the base. The frame is constructed of welded mesh sheets of 3.15mm diameter rod, galvanised to BS443, with mesh size 75mm x 150mm, and is built to the original height of the hedge. The sheets are fixed together at 500mm intervals with 2mm diameter galvanised wire, overlapping the sheets by one mesh size.

The sides are kept at the correct distance apart by 2mm diameter galvanised wire ties fixed to the mesh at horizontal intervals (staggered) of 500mm centres. The vertical intervals depend on the height of the hedge, and provide for the required batter of the hedge. The lowest ties are fixed on the bottom line of the mesh on each side, preventing the mesh from spreading more than the required base width. The next tie is fixed at one-quarter the height of the hedge and secured so that the two sides are kept at a distance apart equivalent to three-quarters of the base width. The third tie is fixed at one-half of the height of the hedge and secured so that the sides are kept apart at a distance equivalent to two-thirds of the base width. The fourth tie is fixed at three-quarters of the base width and keeps the sides apart equivalent to half of the base width. The top tie is fixed at the same length, thus ensuring that the top quarter of the hedge is parallel-sided. Construction is easier if each row of wire ties is fixed when the hedge filling has reached the row below. Temporary arrangements are made to keep the top of the frame open to receive the filling.

Each layer includes rough turf placed inside and against the mesh frame to form one continuous skin, grass side out, retaining the filling. The frame is filled with soil, including subsoil where available, which should contain not more than 15% stone, no stone being more than 15cm. It must not contain woody material, and not more than 5% vegetable matter or clay. The filling is placed in layers of 15-20cm and well compacted manually. Mr Wade emphasised to the author that proper consolidation is vitally important, meriting careful supervision of contractors.

When the consolidated filling reaches the top of the frame, a layer of plastic-covered wire netting is laid across the hedge top to stop rabbits from burrowing into the top of the hedge. A further layer of good topsoil 30cm (1ft) high at the centre, and tapering down on each side to meet the frame, is placed and consolidated. This is covered by turf not less than 15cm thick. This extra height allows for some later settlement.

The top of the hedge may be planted with either hawthorn or blackthorn according to which species predominates in the locality. Plants should be sourced from native Cornish stock, well-grown, and not less than 0.5m in height. They should be planted 40cm apart through the wire-netting in one row, then pruned to 20cm to improve drought-resistance.

After repairing a gap, the section of new hedge should be fenced with pig netting and

two strands of barbed wire, the fence being erected 1m from the hedge, with the posts 2m apart, rejoining the original hedge 2m distant from the rebuilt section.

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