Best Practice

Using vegetation to protect soils

Sheet 27.0a

New Hedgerows

Why change?

The strategic introduction of hedgerows to help control soil erosion and run-off on your farm can help save you money and protect the farm environment. Hedges planted on vulnerable soils and across steep or long slopes can help to:

- reduce costs
- minimise risk of soil erosion, runoff and watercourse pollution
- increase yields and reduce crop damage
- enhance habitat diversity
- increase bio-diversity

New hedgrows can reduce soil loss

Steps to Success

1. **Review** the current situation by examining the management of soils on your farm. Use a farm map to help you consider the condition of your soils on a field-by-field basis. Identify the scope for hedgerow planting to protect any vulnerable soils versus the cost of problems including soil erosion, run-off and watercourse pollution. It is a requirement of cross compliance that every farm in receipt of Basic Payment Scheme (BPS) payments must comply with the GAEC Soil Protection Standards.

2**. Identify** potential opportunities for improved soil protection using new hedgerows. Look out for signs of soil damage and erosion such as capping, rilling and brown water run-off on long or steep slopes. Hedgerows can be planted along the contour to decrease slope length, reduce the force of surface flow, and encourage infiltration.

3. **Calculate** the cost-benefit of these opportunities by considering the benefits of hedgerow planting versus the cost of problems such as soil and nutrient loss, watercourse pollution, crop damage and reduced yields.

4. **Prioritise** areas of high erosion risk such as long steep slopes especially on sandy soils. Tackle areas adjacent to watercourses as a priority.

5. **Develop** an action plan for introducing new hedgerows:

- if a new hedge is to be planted along the line of an old hedge, consider retaining any remaining healthy shrubs
- create a hedge bank. Where traditional, to raise the base level of the hedge turn two plough ridges together. Add some well-rotted manure to prepare the soil
- use locally common species found in other hedges in the area. Use a mix of at least three hedging species, with no species comprising more than 75% of the total. Plant at a density of 4-8 plants/m run in a double staggered row. Be aware of disease risk when planting trees such as Ash
- observe the local planting season (usually October to March).
- Under cross compliance regulations, this may be kept weed free by spraying for five years
- protect your new hedges from stock and wildlife (including rabbit, where necessary) by using guards or stock-proof fencing at least 1m out from the hedge bottom
- investigate the availability of grants for hedge planting.

6**. Implement** the action plan by aligning new hedges with the contour and in association with ditches and banks to maximise the impact on soil erosion and run-off losses. Consider the introduction of a grassed field margin alongside new hedgerows to extend soil protection.

Best Practice

Cultivation techniques

Sheet 27.0b

New Hedgerows - practical example

Hedge and grass strips

The establishment of permanent vegetation including trees, hedges or grassed natural drainage ways on 10ha of steep arable (winter wheat) reduced run-off and erosion after rainfall. It reduced crop damage, soil and nutrient losses and off-farm impacts.

In this example, it cost £450 (£1.8/m) to plant a strategically placed 250m hedge designed to reduce the rate and extent of runoff and minimise soil erosion, plus £50 a year for maintenance and ditch clearing.

The saving was £292.6 per year due to protected yield (£7/ha = £70), less ploughing of rills and gullies (2ha @ £51.3/ha = £102.60) and less highway cleaning (£120). In addition, the risk of water pollution was reduced.

The payback is less than 3 years. Grant aid from a Countryside Stewardship Scheme may also be available.

Wildlife habitats

Using a soil erosion control programme to include new hedges or beetle banks planted across slopes can protect and increase the diversity of associated habitats by reducing the speed of overland water flow and its subsequent erosive power.

In this case planting hedges and other vegetation is costed against erosion control, for which grants may be available.

However, these new features can also be designed to improve the wildlife diversity and potential for new farm-based enterprises.

The additional payback arises with any enhanced potential for farm tourism and any sales of associated accommodation provided and in increased capital value.

Long slopes increase the risk of soil loss

New hedges across slope reduces erosion

Remember

- Hedgerow planting can help protect vulnerable soils on your farm, save you money and add to the potential and capital value of your holding.
- Grant aid for hedge planting may be available under a Countryside Stewardship Scheme CS (Defra)

This information sheet is part of a series produced by Westcountry Rivers Trust providing farmers with advice on land management practices to protect water bodies. The advice enables farmers to use farm resources more efficiently, helping to meet Nitrate Vulnerable Zone, Cross Compliance, Farming Rules for Water and other regulations while protecting our environment and natural resources.