

## Best Practice Information Sheet

# Using vegetation to protect soils

## Sheet 27.0a

### New hedgerows

### Why change?

The strategic introduction of hedgerows to help control soil erosion and runoff 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
- improve soil productivity
- increase yields and reduce crop damage
- enhance habitat diversity.



*Hedgerows can intercept runoff.*

### 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, runoff and watercourse pollution. It is a requirement of cross compliance that every farm in receipt of Single Payment Scheme (SPS) payments must complete and maintain a soil protection review (SPR).
- 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 runoff 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 steep, long slopes 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 to raise the base level of the hedge by turning 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
  - observe the local planting season (usually October to March). Under cross compliance regulations this may be kept weed free for five years
  - protect your new hedges from stock and wildlife (including rabbit, where necessary) using stock-proof fencing 1m 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 runoff losses. Consider the introduction of a grassed field margin alongside new hedgerows to extend soil protection.

# Using vegetation to protect soils

# Sheet 27.0b

## New hedgerows - Practical examples

### Hedge and grass strip

The establishment of permanent vegetation including trees, hedges or grassed natural drainageways on 10ha of steep arable (winter wheat) land reduced runoff 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 £250 per year due to reduced loss of yield (£6/ha = £60), less ploughing of rills and gullies (2ha @ £45/ha = £90) and less highway cleaning (£120). In addition the risk of water pollution was reduced. The payback is less than 3 years. Grant aid from Defra (ESS) may improve payback further.

### Wildlife habitats

Protecting existing hedges and increasing diversity of associated vegetation habitats can result from a soil erosion control programme, since this involves using new vegetation breaks on large steep fields to reduce soil loss and risk of water pollution.

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.



Bad practice - A 'gappy' hedge needing attention



Good practice - hedge and ditch protected by stock proof fence

## 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 an Environmental Stewardship Scheme (Defra)

For further information: Defra ([www.defra.gov.uk](http://www.defra.gov.uk)), Environment Agency ([www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)), ECSFDI (<http://www.defra.gov.uk/foodfarm/landmanage/water/csf/delivery-initiative.htm>), Natural England ([www.naturalengland.org.uk](http://www.naturalengland.org.uk)), Cross Compliance Helpline 0845 345 1302 ([www.crosscompliance.org.uk](http://www.crosscompliance.org.uk)) and ART ([www.associationofrivertrusts.org.uk](http://www.associationofrivertrusts.org.uk))



This information sheet is part of a series providing farmers with advice on land management practices to protect water bodies, produced by Association of Rivers Trusts with support from the England Catchment Sensitive Farming Delivery Initiative. The advice will also enable farmers to use farm resources more efficiently and help meet Nitrate Vulnerable Zone and Soil Protection Review requirements under Cross Compliance and environmental regulation.



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