

Best Practice Information Sheet

Soil management

Sheet 18.0a

Recognising soil loss and damage

Why change?

Soil is the most important resource on your farm. Awareness of soil condition and potential loss is an important part of **Cross Compliance**. Avoiding soil loss and damage can save money and protect the environment by reducing:

- soil erosion and runoff
- watercourse pollution
- loss of inputs
- crop damage
- extra field operations
- flood risk.



Reduced production due to soil erosion.

Steps to success

1. **Know** the overall condition of the soils and the distribution of erosion risk on your farm. Use this knowledge to help you to identify locations where soil loss and damage might occur.
2. **Identify potential opportunities** for improved soil management on your farm. Look out for evidence of soil erosion and degradation, such as:

Brown water runoff



Rills and gulleys



Compaction



Sediment on roads



Poaching of soils by livestock



Watercourse pollution



3. **Develop an action plan** to identify soil loss and damage on your farm:
 - check for evidence of soil erosion and degradation during routine farm walks and heavy rainfall
 - look for runoff pathways between adjacent fields, between fields and watercourses. Pathways concentrate runoff and increase soil loss and damage and the potential for watercourse pollution. Pathways could include ditches, vehicle wheelings, farm tracks, natural drainageways, rills and vehicle access gates. Long, steep, bare slopes are likely to generate higher runoff than short, shallow vegetated ones
 - map vulnerable areas and high-risk crops to help prioritise and target your management response.
4. **Manage** soil loss and damage. Correct any current problems and avoid the risk of future costs by adapting the layout of your farm, matching land use to erosion risk and protecting your soils using best farming practices.

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Recognising soil loss and damage - Practical examples

Reduced soil erosion

Soils on a 10 ha field with a steep slope were classed as being sandy loam and assessed as having a risk of capping and erosion.

The soil was ploughed, pressed and drilled with winter wheat that resulted in a weatherproof coarse seedbed. No rolling was carried out.

The costs were:

Plough and press @ £50 per ha	= £500
Spring tine harrow @£25 per ha	= £250
Drill @ £30 per ha	= £300
Total cost	= £1050

The savings included:

Reduced loss of yield @ £8 per ha	= £80
Less additional field operations	= £110
Less highway clearance	= £105
Reduced need for ditch clearing	= £35
Annual saving	= £330

Additional uncosted benefits include:

- Reduced risk of pollution and associated prosecution and civil damages
- Reduced loss of nutrients
- Reduction in loss of topsoil
- Reduced risk of local flooding
- Less impact on wildlife.



Runoff can lead to crop loss



Topsoil is a valuable resource

Remember

- Nutrients, pesticides and seeds can be eroded with soil and transported as runoff with significant financial and environmental costs.
- Look out for soil loss and damage on your farm and use best farming practices to help you save money.
- If soil erosion and runoff from your farm causes water pollution you could be liable to prosecution costs and fines under the Water Resources Act 1991.

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