



Contour ploughing

Why change?

Good crop establishment leads to optimum yields. Cultivation across slopes promotes stable crop establishment and reduces the risk of soil erosion and run-off. Plough with the contour to:

- increase crop productivity
- improve soil structure
- reduce the loss of soil, seeds and inputs
- reduce watercourse pollution and the risk of legal costs and fines.



Contour ploughing reduces erosion risk

Steps to Success

1. **Review** the current situation by considering whether the direction of your cultivations are appropriate for the slopes, soil and crop types on your farm. If you currently plough up and down a slope you could benefit from contour ploughing.
2. **Identify** potential opportunities for using contour ploughing to protect soils on your farm. Look for evidence of soil erosion, degradation, and run-off in association with down slope cultivation. Consider whether ploughing across the slope could help to minimise any problems and save you money.
3. **Calculate** the cost-benefit of these opportunities. Contour ploughing is cost-neutral and you could make savings due to reduced loss of soil and inputs, as well as improved yields and productivity.
4. **Develop** an action plan to use contour ploughing to protect soils on your farm:
 - identify where contour ploughing could help you to protect the soils on your farm. Not all locations will benefit from a change in the direction of cultivations. Contour ploughing is most effective on gentle, uniform slopes
 - follow the contour precisely and remember that where slopes are complex this may be difficult and could lead to soil damage by channelling water into rills and gullies
 - be aware that in some cases, the operation of machinery such as root crop harvesters across steeper slopes can be dangerous and less efficient
 - use a reversible plough to throw soil up-slope and help counter the effects of erosion
 - consider combining contour ploughing with cross-slope interceptors such as beetle banks to reduce slope length and the risk of run-off.
5. **Check** your fields regularly during rainfall for soil erosion and run-off. Tackle any problems as they occur to minimise costs and protect the environment.

*It can take upwards of 150 years for 1 cm of topsoil to develop.
With poor soil management this can be lost after only one rainstorm.
So protect your soils to protect your profits.*



Best Practice Cultivation techniques

Sheet 25.0b

Contour ploughing - practical example

Contour ploughing can reduce costs

Soil management on slopes is critical for profitable cropping.

In the right circumstances it can:

- Increase crop productivity, not least by protecting the valuable topsoil
- Improve the soil structure
- Minimise the loss of soil, seeds, nutrient and chemical inputs by reducing run-off and erosion
- Reduce the risk of watercourse pollution and associated legal costs and fines
- Protect wildlife.

If there are obvious signs of soil migration downslope advice should be sought on whether contour ploughing (or other practices) would be a safe and valuable change to your operation.

Changing practice on vulnerable soils

In many circumstances where there is a significant risk of large quantities of topsoil moving down slope, for example from run-off and erosion, it is possible to obtain considerable cost savings by changing to more sustainable operations such as contour ploughing.

Typical annual savings from reduced soil migration in 10 ha of winter wheat could include:

- Reduced loss of yield @ £6/ha = £60.
- Reduced need for deep ploughing to refurbish areas with rills and gullies on 2 ha @ approximately £65/ha = £130.
- Reduced need for highway cleaning 2 hours @ approximately £65/ hour = £130.
- Reduced need for ditch cleaning 200m @ approximately £1.75/m = £350. This gives an annual total saving of £670



Contour ploughing can minimise soil seed and nutrient loss



Preventing soil loss down a slope can increase profitability

Remember

- Know the soils on your farm. Aim to protect them and save money by optimising crop establishment.
- Use contour ploughing where slope, soil and crop conditions are appropriate.
- Timeliness is key. Avoid working wet soils to reduce the risk of capping, compaction, erosion and run-off.



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.

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