

## Overview

This standard involves understanding the relationships between soil, water and air management to enable best use of land and the minimisation of diffuse pollution. It covers the principles governing the maintenance of soil's organic matter content, the maintenance of good soil structure and methods for the prevention of erosion by water and air, including drainage and irrigation. You must have knowledge of the legal and quasi-legal requirements for the protection of soil and air and the maintenance of soil health and clean air

Advise on the maintenance of soil, water and air protection

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## Performance criteria

*You must be able to:*

P1 prepare a soil protection review to include an assessment of erosion and run-off risk

P2 use relevant methods to reduce the risk of soil erosion by water and wind

P3 ensure good livestock husbandry practice and its importance in soil and water management

P4 promote the effects of soil and water management practices in controlling pollutant loss, nitrate leaching and reduce soil erosion

P5 prepare plans for the management of water and application during drought periods

P6 plan field management systems to effectively control drainage imperfections

P7 plan controls for diffuse and point source pollution to water meeting the current and potential legislation and advisory requirements

## Knowledge and understanding

### *You need to know and understand:*

K1 how to texture soils as per the details given in the Defra booklets 'A Field Guide for an Erosion Risk Assessment for Farmers and Consultants' (PB4092) and 'Erosion and Controlling Soil Erosion' (PB4093)

K2 how erosion control methods work and the importance of field history

K3 the reasoning behind soil-related 'cross-compliance' requirements appropriate to the UK region they work in

K4 the soil-related aspects of 'cross-compliance' within the framework of the Single Farm Payment

K5 The Soil Code

K6 The Water Code

K7 The Air Code

K8 the implications of the Groundwater, Nitrates and Water Framework Directives

K9 agricultural/horticultural aspects of the England Soil Protection Review or equivalent in devolved areas

K10 Good Agricultural and Environmental Condition (GAEC)

K11 how to produce a 'soil management plan' as needed by the Entry Level Scheme (ELS), or equivalent in devolved areas

K12 the reasons why soil material should not be allowed to enter the aquatic environment

K13 the reasons why topsoil should not be removed

K14 how to increase soil's organic matter levels to improve the soil's structural stability using cropping and organic manures

K15 the importance of crop rotations and crop selection linked to erosion and run-off risk

K16 the place for, and the role of, livestock in the best practice of soil and water management

K17 the importance of protecting riverbanks from erosion

K18 the pathways by which soil can reach watercourses (e.g. roads/ditches etc.)

K19 soil/water properties - water status, hydraulic conductivity, moisture holding capacity and infiltration

K20 methods of field drainage, including the use of secondary treatments, and their impact on water tables, hydraulic conductivity, run-off and through-flow pollution

K21 methods of irrigation and the planning of irrigation applications to obtain best crop

yield with the least environmental damage

K22 the importance of using irrigation to improve crop quality

K23 how to reduce diffuse pollution of water by cultural methods appropriate to varied soil types and cropping systems

## Glossary

Requirements for the protection of soil and air and the maintenance of soil health and clean air:

- for England, the Code of Good Agricultural Practice for the Protection of Soil, Water and Air
- for Scotland, the SEPA Code of Good Agricultural Practice and the Farm Soils Plan
- for Wales, the Cross-Compliance Soil Assessment Record
- Water Framework Directive

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