

Water, Air and Soil Codes

Summary





Codes of Good Agricultural Practice for the Protection of Water, Air and Soil

Introduction

The *Water, Air and Soil Codes* are designed to provide practical guidance to help farmers and growers avoid causing pollution and to protect soil as their most valuable resource.

All farm staff and contractors on the farm who handle, store, use, spread or dispose of any substances that could pollute water, air or soil should be aware of their responsibilities and know about the causes and results of pollution. They should know how and when to operate and maintain the equipment they use, and know what to do in an emergency.

The Codes describe the main risks of causing pollution from different agricultural and horticultural sources. Good agricultural practice means a practice that minimises the risk of causing pollution while protecting natural resources and allowing economic agriculture to continue.

This leaflet summarises some of the key messages in the Codes. **It is not comprehensive or site specific, and does not contain information on your legal obligations.** Detailed advice on pesticides is contained in the *Code of Practice for the Safe Use of Pesticides on Farms and Holdings* and on sheep dipping in the *Groundwater Protection Code: Use and disposal of sheep dip compounds*. You can obtain all these Codes free of charge from Defra Publications (Tel: 08459 556 000).

Read the Codes for further detail.

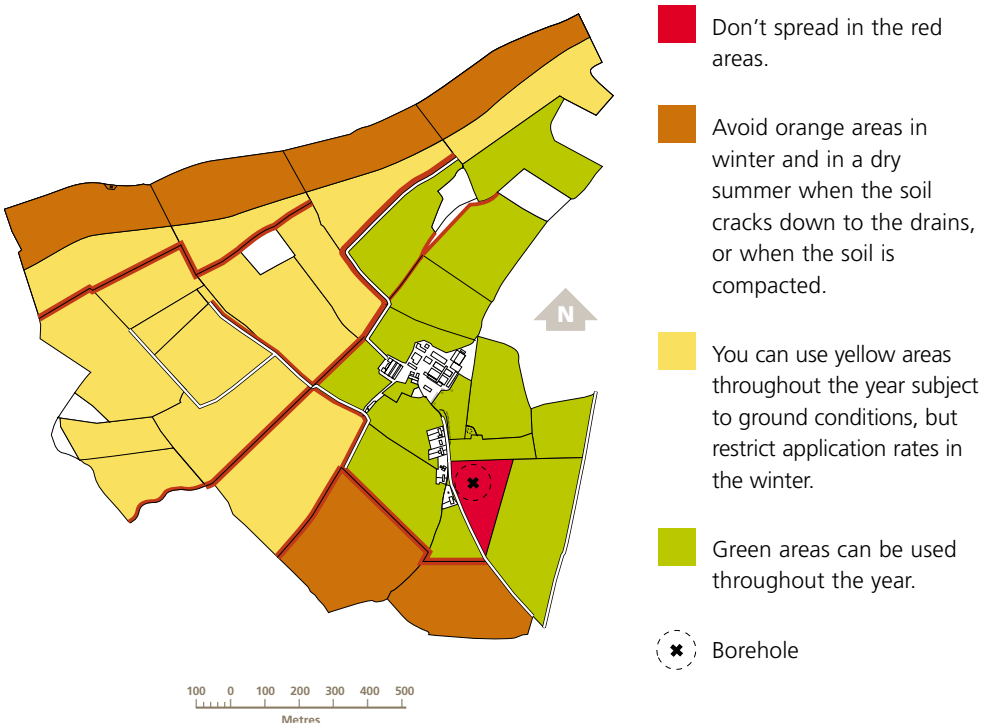


Key Messages

You can often reduce the risk of causing pollution by minimising the quantities of materials to be handled, stored, spread to land or which need disposal.

Manure management planning (formerly known as farm waste management planning)

- Draw up a Manure Management Plan to help you decide when, where and at what rate to spread manure, slurry and dirty water on your farm.



- Avoid spreading within at least 10 metres of a ditch or watercourse and within 50 metres of a spring, well or borehole.
- Following a Manure Management Plan will reduce the risk of causing water pollution and the transfer of pathogens from livestock manures to water.

Slurry and manure spreading

- Wherever possible, use a band spreader or injector to apply slurry. After surface application of slurry and manure to bare land, incorporate the material as soon as possible. These measures will reduce odours and ammonia loss. Where these are not possible, the use of a slurry spreader that gives a low trajectory and large droplets will reduce odour.
- Avoid applying more than 50 m³ per hectare (4,500 gallons per acre) or 50 tonnes per hectare (20 tons per acre) at one time to reduce the risk of run-off and odours. Reduce these rates, as necessary, so that the amount of total nitrogen applied does not exceed 250 kg per hectare per year.



Slurry storage

- Provide sufficient storage and containment for slurry so that it can be managed and controlled properly. Keep stores in good repair.
- Only mix slurry when the store is going to be emptied. Mixing should only be necessary to break up a surface crust or to remove sediment.
- Do not add waste milk, whey or silage effluent to slurry or dirty water stores if there is a risk of causing odour nuisance from the store or when the store contents are applied to land.

Solid manure storage

- Make sure that run-off from field heaps does not cause water pollution. Run-off from stores on concrete bases should be collected and contained.
- If poultry manure and broiler litter are stored in the open, construct narrow A-shaped heaps to shed rainwater.

Dirty water

- Minimise the amount of dirty water produced. Look for ways of separating clean and dirty water. Provide sufficient storage and containment so that dirty water can be managed and controlled properly. Keep stores and irrigation equipment in good repair.
- Check irrigation systems regularly and make sure warning devices and automatic cut-offs are working.

Livestock housing

- Wherever possible, collect and transfer slurry every day to a suitable store.

- Where bedding is required, use enough to keep livestock clean and keep all manure as dry as possible. Manage drinking systems to avoid overflow and spillage.
- Keep concrete areas around buildings clean and free from any build-up of manure and slurry.

Silage effluent

- Minimise the amount produced by wilting grass to 25% dry matter. Provide sufficient storage and containment for silage effluent so that it can be managed and controlled properly. Do not allow effluent into watercourses where even small amounts can kill fish and other water life.

Soil fertility and fertilisers

- Maintain or enhance the fertility of your soil by appropriate rotations and manage manures and fertilisers to maintain soil organic matter and reserves of plant nutrients.
- Apply fertiliser according to soil analysis and the needs of the crop. Always allow for the nutrients supplied by any organic manures that you have applied. Avoid high levels of plant nutrients, particularly phosphorus, accumulating in the soil.
- Spread fertiliser accurately and avoid applications to uncropped areas, hedges and watercourses. Get the spread pattern tested regularly.



Nitrate

- Minimise nitrate leaching by following recommended rates and only applying fertiliser when crops can use the nitrogen. Avoid ploughing up permanent grassland wherever possible.

Soil compaction

- Soil compaction restricts the growth of crops and can lead to water run-off and soil erosion. Avoid damaging soil structure from badly timed cultivations and from poaching by livestock.

Soil erosion

- Loss of soil by water and wind erosion can reduce crop yields and can have serious off-site effects, particularly on roads and in rivers where it can cause flooding, pollution and harm fisheries. Reduce erosion by increasing the stability of soils, maximising crop cover and avoiding run-off. Avoid poaching land by livestock particularly where run-off may enter surface waters.

Soil mixing

- Avoid deep cultivation or mixing of soil if this will reduce soil fertility. Ensure cultivations do not damage sites of archaeological interest.

Sheep dip

- Manage sheep dipping very carefully to avoid spillages and other uncontrolled releases to the environment. All sheep dips are very toxic and extremely small amounts can kill fish and other water life. They can also pollute groundwater and water supplies. You must get a written authorisation from the Environment Agency to spread used dip to land.

Pesticides

- Keep pesticides in a store with an impermeable base and sufficient bunding to contain any leakages and spillages.
- Minimise or eliminate tank washings by careful planning, use of rinsing equipment or direct-meter sprayers. Keep all washings away from yard drains, field drains, ditches and surface waters. Diluted pesticide wastes and washings can be applied to treated or untreated crops if this is permitted within label recommendations; or else you must get a written authorisation from the Environment Agency to spread such wastes to land.

Disposing of animal carcasses

- Carcasses should be sent to a licensed knacker's yard or hunt kennel, authorised incinerator or rendering plant. Carcasses from cattle over 24 months will be collected and tested for BSE (you must report deaths within 24 hours on freephone 0800 525890). Carcasses may be incinerated on-farm but there are technical conditions and environmental controls concerning the incinerators that must be met – contact Defra and the Environment Agency for details. On-farm burial and burning in the open must not be carried out after 30 April 2003.

Soil contamination

- Soils may be contaminated by atmospheric deposition and by the application of farm manures and slurries, sewage sludge and industrial wastes. Obtain a soil analysis if you have reason to believe your soil is contaminated. You must follow the relevant legislation when sewage sludge and industrial wastes are applied to land and monitor both the materials and soils by analysis.



Restoring disturbed soils

- Whenever land disturbed by mineral working or laying pipelines is restored to agriculture it should be managed to ensure that soil fertility and structure are protected and recover fully.

Smoke pollution

- Minimise the need to burn waste materials by first reducing the use of such materials wherever possible, then recycling materials where appropriate and, finally, by using alternative environmentally acceptable methods of disposal wherever practicable. If burning in the open is the only practicable method of disposal, do not burn plastics, rubber or other materials known to produce dark smoke.

Energy efficiency

- Seek opportunities to use energy more efficiently and to exploit non-fossil fuels as sources of energy. Improvements to energy efficiency will reduce carbon dioxide (a greenhouse gas) emissions and can reduce farm running costs.

If you would like further copies of this brochure, which are available free of charge, please write to:

Defra Publications

Admail 6000

London SW1A 2XX

or telephone: 08459 556000

© Crown copyright

PB 4029 (Revised reprint February 2003)

Printed on recycled paper containing 80% post consumer waste
and 20% totally chlorine free virgin pulp.