

Nitrate Pollution Prevention Regulations 2008

Nitrate Vulnerable Zones (NVZs)

Fact sheet 2: Storage of solid manure

Version 1.1, June 2009

Introduction

This fact sheet supplements Nitrate Vulnerable Zone (NVZ) Guidance [Leaflet 4](#). It provides further guidance on the storage of solid manure.

The NVZ rules on the storage of solid manure do not come into force until 1 January 2012. However, there is already legislation in place to prevent the pollution of surface water and groundwater from the storage of solid manure - the [Water Resources Act 1991](#) and the [Groundwater Regulations 1998](#) (revised regulations expected in 2009). Because of this, farmers must be confident that pollution of surface water or groundwater will not happen in their area if they choose to delay complying with the NVZ solid manure rules. This is particularly relevant to those who store solid manures in temporary field heaps. If in doubt, contact a local Environment Agency officer for advice.

Note: The storage of slurry produced by livestock requires five or six months' storage capacity and is not dealt with in this fact sheet (please see [Fact sheet 1 – Slurry and dirty water](#) for more details).

Storage options

Farmers must store poultry manure and other types of solid manure either:

- in a vessel;
- on an impermeable base with appropriate collection and containment for runoff;
- in a roofed building;
- in an appropriately located temporary field heap, as described in the [NVZ Guidance Leaflets](#).

Vessels

Vessels are usually used to store or hold liquids but can be used for solid manures. Farmers can store a mixture of solid manure and slurry in a storage vessel (for example, in an earth-bank slurry compound or a weeping-wall store). Where this is the case, the stored material is regarded as **slurry**, and the slurry storage system used must meet the minimum construction standards set down in the SSAFO regulations¹.

Impermeable bases

Runoff from solid manure stored on an impermeable surface **within** the farmyard is always classed as slurry under the [SSAFO regulations](#)¹. It must be collected and stored, and meet the minimum construction standards set down in those regulations. This runoff is normally considered as slurry under the NVZ regulations as well, and so is subject to the storage rules. There are some situations

¹ Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991, as amended

when this runoff may be considered as dirty water and not slurry for the purpose of the NVZ regulations. In these situations, it can be spread in the closed period. [Fact sheet 1 – Slurry and dirty water](#) gives guidance on this.

Runoff from solid manure stored on an impermeable surface **away** from the farmyard (for example, on a concrete pad built on a field site) is not covered by the SSAFO regulations. This runoff is considered as slurry under the NVZ regulations, and so is subject to the storage rules, requiring it to be collected and stored during the storage period. Farmers may also need to collect this runoff at other times to comply with the Water Resources Act and the Groundwater Regulations to prevent pollution. Collection and storage of this slurry would still be expected to meet the construction standards established by SSAFO, as good practice to prevent the pollution of surface water and groundwater.

Farmers should also apply the same standards for collection and storage of runoff when they use impermeable bases on non-field sites (including disused facilities such as old airfield roads & runways, railway cuttings, roads, tracks and lay-bys) where this is allowed. Farmers must be confident that pollution of surface water and groundwater will not occur.

Important: Non-field sites, such as those mentioned above, will usually have surface water drainage installed. Farmers should block off or remove drains that are within at least 10 metres of any manure store.

Roofed buildings

Runoff from solid manure stored in a roofed building with an impermeable floor must be collected and stored. If the floor is a permeable surface (for example, a soil base), the farmer must be confident that pollution of surface water and groundwater will not occur.

Temporary field heaps

Solid manure can be stored in temporary field heaps, but they **cannot** be located:

- within 10 metres of a surface water or land drain;
- within 50 metres of a spring, well or borehole;
- on land likely to become waterlogged;
- on land likely to flood;
- in a single position for more than 12 successive months;
- in the same place as an earlier heap constructed within the last two years.

Field heaps can be made on a permeable base other than soil (for example, hardcore) but the conditions in the bullet points above still apply.

To be stored in a temporary field heap, manure must be solid enough to be stacked in a free-standing heap which does not give rise to free drainage from within the stacked material.

Poultry manure without bedding/litter material mixed into it (for example, neat manure from caged laying hens) must be covered with an impermeable material.

Further guidance on some specific situations in the temporary storage of solid manures in field heaps is given below.

Further guidance

Field heaps (stacks) made as part of a planned spreading activity stored within 10 metres of land drains (includes field heaps on permeable hard-standing, for example, hardcore base)

Solid manure may be placed within 10 metres of a land drain where very short-term storage is required as part of a spreading operation. This can be done to supply manure to fill spreaders to reduce travelling time and costs, provided:

- the manure does not give rise to free drainage of liquid from within the stack, and any delay between making the field stack and spreading the manure to land is kept to a bare minimum;
- the removal of the manure to field stacks and the timing of field spreading activity is planned as a joined-up operation;
- the amount of manure in the field stack is matched to the capacity at which the farmer, or a contractor, can spread it in a reasonable time (where a contractor is used, we may ask to see evidence of an agreement with the contractor carrying out the field spreading);
- the manure is not stacked within 10 metres of surface waters or within 50 metres of a spring, well or borehole;
- the manure is not stacked on land likely to become waterlogged or likely to flood;
- the activity does not cause water pollution.

The rules for field applications of organic manures (NVZ Guidance [Leaflet 8](#)) must be complied with. For example, farmers must produce a risk map, carry out field inspections, comply with non-spreading conditions and areas and observe restrictions on field application of organic manures.

Impermeable material for covering poultry manure field heaps

There are no minimum standards in the NVZ regulations for impermeable covers for poultry manure.

We recommend that the cover should be made of a durable material that is resistant to wear and will not allow water to pass through it during the whole period the manure is stored. It must be resistant to tearing in strong winds and to deterioration by sunlight. As a guide, use 1000 gauge polythene sheets. These must be secured and weighed down (for example, with tyres and straw bales) and farmers must ensure there is sufficient overlap between sheets to shed rainfall.

Field heaps on sites with ineffective land drains

The NVZ regulations do not allow the storage of field heaps on sites that have had land drains installed or where land drains are suspected. This includes land drains that may be considered to be ineffective.

Ineffective land drains or mole drains within at least 10 metres of field heaps **must be removed**. Once they are removed, the soil must be re-instated so that there is no trace of the drainage system remaining.

Field heaps used for more than 12 months (for example, to kill pathogens before using manures on crops grown to be eaten raw)

Contracts for the sale of crops may require solid manure to be composted and stored for more than 12 months (to minimise pathogen levels) before it can be used on salad crops. As the NVZ rules do not allow this on a single field site, the manure must either be composted and stored elsewhere (in a vessel, in a building or on an impermeable base) or the heap must be moved after 12 months. It may only be necessary to move a short distance away – adjacent to, but not overlapping, the original site.

Important: If the manure is being actively composted (regularly turned and not simply left where it is to rot), this is classed as a waste treatment process, and farmers will need to register an exemption or get a permit under the [Environmental Permitting Regulations](#).