

# Guidance for Farmers in Nitrate Vulnerable Zones

Summary of the guidance  
for farmers in NVZs

April 2009



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Agency

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The guidance in this series of leaflets is designed to help farmers be compliant with The Nitrate Pollution Prevention Regulations 2008 (SI2349 September 2008). The guidance has been produced in association with the Environment Agency, which is responsible for assessing farmers' compliance with these Regulations.

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## **Introduction**

This summary leaflet, and eight other NVZ Guidance leaflets, describe the rules that farmers in England must follow in order to comply with the Nitrate Pollution Prevention Regulations 2008 (Statutory Instrument 2008/2349).

The information supplied in these leaflets is for guidance purposes only. The specific statutory elements concerning water and nitrates are set out in the Nitrate Pollution Prevention Regulations 2008. This legislation, and further information, are available from the Defra website (address on the front cover of this leaflet).

## **Why do we need the Regulations?**

The Nitrate Pollution Prevention Regulations 2008 have been introduced to implement the European Communities Nitrates Directive and to reduce nitrogen losses from agriculture to water. They designate areas where nitrate pollution is a problem, known as Nitrate Vulnerable Zones (NVZs), and set rules for certain farming practices which must be followed within these zones.

## **Where are the Nitrate Vulnerable Zones (NVZs)?**

The agricultural land area in England designated as NVZs has been increased to about 68%. To find out if your land is designated, please go to the interactive field-scale map on the Defra website.

## **Who is responsible for complying with the rules?**

The occupier of any land or holding within an NVZ is responsible for complying with the rules.

## **How will compliance with the rules be enforced?**

The Environment Agency is responsible for assessing farmers' compliance with these Regulations and they do this by visiting farms. Compliance with the rules is also a Statutory Management Requirement (SMR) for cross compliance under the Single Payment Scheme. This means that farmers have to comply with the NVZ rules to be entitled to their full payment. Failure to comply could lead to deductions.

## **When do the rules apply?**

For land or holdings within a pre-existing NVZ (designated in 1996 or 2002, and designated again in 2008), you must comply with the new rules from 1 January 2009. Although for some rules, a later compliance date applies.

For land or holdings within new NVZs (those designated in 2008 for the first time), the rules do not start until 1 January 2010.

## **What do you need to do?**

It is important that you read and understand the relevant leaflets (see overleaf). Each rule is described in detail with additional guidance to help you understand what is required and how it should be implemented on a practical day-to-day basis. Where applicable, a step-by-step guide is given for carrying out and recording the necessary calculations that are needed to demonstrate compliance.

There are nine Guidance leaflets (including this summary). The matrix overleaf shows which ones you will need to read and understand depending on your farm system.

<b>Leaflet</b>	<b>Tillage crops, no livestock, no organic manures are applied to land</b>	<b>Tillage crops, no livestock or imported livestock manures, but other organic manures are applied to land</b>	<b>Livestock, organic manures applied to land</b>	<b>Livestock only, no crops or grassland</b>
1. Summary of the guidance for farmers in NVZs (this leaflet)	✓	✓	✓	✓
2. Implementing the rules – scope, timing and enforcement	✓	✓	✓	✓
3. Reference information – standard values, manure sampling protocol and glossary	✓	✓	✓	✓
4. Storage of organic manures		✓ (Note a)	✓	✓
5. The livestock manure N farm limit			✓	✓
6. Planning nitrogen use	✓	✓	✓	
7. The crop nitrogen requirement limit (N <sub>max</sub> )	✓	✓	✓	
8. Field application of organic manures		✓	✓	
9. Field application of manufactured nitrogen fertilisers	✓	✓	✓	

Note (a) You will need this leaflet if you store solid manure in field heaps.

## Storage of organic manures (Leaflet 4)

You must provide at least:

- 6 months (1 October to 1 April inclusive) storage capacity for pig slurry and poultry manure; and
- 5 months (1 October to 1 March inclusive) storage capacity for other livestock slurry eg. cattle slurry.

By 30 April 2009, or by 30 April 2010 if newly designated in 2008, you must complete a calculation showing your existing storage capacity and whether you need to provide extra storage capacity. Sufficient storage must be in place by 1 January 2012 for all farms within NVZs.

**Record keeping:** *you must keep a record of your calculation of storage capacity for slurry and poultry manure.*

Poultry manure and solid manures eg. farmyard manure, must be stored:

- in the livestock house or covered building; or
- at a suitable, temporary field site (provided the manure can be stacked and liquid does not drain from within the stack); or
- on an impermeable base constructed to the appropriate standard.

**Record keeping:** *you must identify field sites on a risk map and record dates of use.*

New, substantially enlarged or substantially reconstructed manure storage facilities must comply with the construction standards set down in The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations 1991 (as amended).

## The livestock manure N farm limit (Leaflet 5)

You must not exceed a loading of 170 kg/ha of total N produced by livestock in each calendar year averaged over the area of your holding or land.

The European Commission (EC) has approved Defra's request for a derogation which will allow eligible farmers (i.e. those with more than 80% of the farm area as grassland) to operate at a higher limit of 250 kg of total N/ha.

**Record keeping:** you must keep a record of:

- numbers and types of livestock and the number of days they spend on the holding;
- the nitrogen produced by livestock on the holding each calendar year (standard values are provided in Leaflet 3);
- details of any livestock manures you bring onto your holding from another farm (import) or send off your holding to another farm (export); and
- a calculation showing the livestock manure N loading.

## Planning nitrogen use (Leaflet 6)

Before any nitrogen is applied, you must plan the spreading of nitrogen from organic manures and manufactured nitrogen fertilisers to each crop in each field. The plan must show that you have:

- assessed the soil nitrogen supply (SNS);
- assessed the nitrogen requirement of the crop taking into account the SNS;
- assessed the crop available nitrogen supplied from planned applications of organic manures for the crop; and

# Summary of NVZ rules and record keeping

- calculated the amount of manufactured nitrogen fertiliser that is needed taking into account the contribution of crop available nitrogen from organic manures and the nitrogen requirement of the crop.

**Record keeping:** *for each crop in each field, you must keep records of your plan including the crop type and date sown, SNS, crop nitrogen requirement, and details of each planned application of organic manure and manufactured nitrogen fertiliser.*

## The crop N requirement limit – Nmax (Leaflet 7)

For each of the main crop types, you must make sure that the farm average application rate of crop available nitrogen from livestock manure plus manufactured nitrogen fertiliser does not exceed the maximum application rate (Nmax) for the crop type. You must use the values for the percentage of the total nitrogen content of livestock manures that is available for crop uptake as specified in Leaflet 3.

**Record keeping:** *you must be able to demonstrate compliance with the Nmax limit if required. For each crop in each field, you must keep a record of the amount of nitrogen actually spread including details of each application of organic manure and manufactured nitrogen fertiliser.*



## Closed spreading periods for organic manures (Leaflet 8)

You must not apply organic manures with a high readily available nitrogen content (eg. slurry, poultry manure and liquid digested sludge) to land during the following periods (inclusive dates):

Grassland		Tillage land	
Sandy or shallow soils	All other soils	Sandy or shallow soils	All other soils
1 Sep – 31 Dec	15 Oct – 15 Jan	1 Aug – 31 Dec*	1 Oct – 15 Jan

\*On tillage land with sandy or shallow soils, application is permitted between 1 August and 15 September inclusive, provided a crop is sown on or before 15 September.

Registered organic producers may apply organic manures during the closed periods subject to certain conditions.

From the end of the closed period until the last day in February, the maximum amount you can apply to land at any one time is 50 m<sup>3</sup>/ha of slurry and 8 tonnes/ha of poultry manure. There must be at least three weeks between each individual application.

## The organic manure N field limit (Leaflet 8)

You must not apply organic manures (including livestock manures) to land where the application would result in the total N content exceeding a rate of 250 kg N/ha in any 12 month period.

## Closed spreading periods for manufactured nitrogen fertiliser (Leaflet 9)

You must not apply manufactured nitrogen fertilisers to land during the following periods (inclusive dates):

Grassland	Tillage land
15 Sep – 15 Jan	1 Sep – 15 Jan

Applications during the closed period will be permitted:

- to specified crops (listed in Leaflet 3); or
- to other crops if written advice is obtained from a FACTS qualified adviser.

## Keeping nitrogen out of surface waters (Leaflets 8 and 9)

By 1 January 2010, you must:

- carry out a risk assessment if you use organic manure; and
- produce a risk map to identify suitable field locations for manure applications. Where relevant, the map must also show sites suitable for temporary field heaps of solid manures.

When undertaking field operations you must:

- not apply manufactured nitrogen fertiliser or organic manure if the soil is waterlogged, flooded or snow covered, or has been frozen for more than 12 hours in the preceding 24 hours.
- not apply organic manure within 10 metres of surface water, except on land managed for breeding wader birds or as species rich semi-natural grassland and under certain other restrictions.

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- not apply organic manure within 50 metres of a spring, well or borehole.
- not apply manufactured nitrogen fertiliser within 2 metres of surface water.
- make a field inspection to assess the risk of run-off to surface water before spreading manufactured nitrogen fertiliser or organic manure.
- not apply manufactured nitrogen fertiliser or organic manure if there is a significant risk of nitrogen getting into surface water, taking into account:
  - the slope of the land, particularly if the slope is more than 12 degrees (1 in 5);
  - any land drains (other than a sealed impermeable pipe); and
  - ground cover, proximity to surface water, weather conditions and soil type.

**Record keeping:** you must keep a copy of your risk map (to be available for inspection from 1 January 2010).

## Field application techniques (Leaflets 8 and 9)

You must apply manufactured nitrogen fertiliser and organic manure in as accurate a manner as possible.

By the 1 January 2012, if you spread slurry you must use spreading equipment with a low spreading trajectory ie. less than 4 metres from the ground.

If you apply organic manure on bare soil or stubble you must:

- incorporate poultry manure into the soil as soon as practicable, and within 24 hours at the latest;

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- incorporate slurry and liquid digested sludge into the soil as soon as practicable, and within 24 hours at the latest unless it is applied by a band spreader or injected under the soil surface;
- incorporate any other organic manure (other than organic manure spread as a mulch on sandy soil) into the soil as soon as practicable, and within 24 hours if the land is sloping and within 50 metres of surface water that could receive run-off from that land.

## Further information and advice

Further advice to understand and interpret the rules in specific circumstances is given in 'Nitrate Vulnerable Zones (NVZs) – Questions and answers'. This can be found on the Environment Agency website

[www.environment-agency.gov.uk/business/sectors/54714.aspx](http://www.environment-agency.gov.uk/business/sectors/54714.aspx)

A helpline is available on **0845 345 1302**

A series of workshops and events are being organised.  
More information will be available on the Defra website.



