

Nitrate Vulnerable Zones (NVZs)

The aim of these rules is to reduce the pollution of waters caused by nitrates from agricultural sources and to prevent such pollution occurring in the future.

If your farm is in a Nitrate Vulnerable Zone:

A. You must



1. keep up to date records which show the following:
 - a calculation showing your existing manure storage capacity;
 - the area of your holding;
 - by the 30 April each year, the number and type of specified livestock¹ kept on your holding, and the amount of time the livestock spent on the holding, during the previous calendar year;
 - by the 30 April each year, a calculation of the total amount of nitrogen produced by specified livestock kept on your holding during the previous calendar year²;
 - any livestock manure moved onto or off the holding including quantities, dates and details of recipients;
 - dates when field sites are used for the temporary storage of manure (poultry and solid);
 - your nitrogen fertiliser³ plan showing for each crop in each field, calculated soil nitrogen supply (SNS), the anticipated month the crop will be planted, calculated crop nitrogen requirement and calculated nitrogen supply from any planned application of organic manure, and the calculated amount of manufactured nitrogen fertiliser required;
 - field records of your crop planting dates, actual applications⁴ of manufactured nitrogen fertiliser and organic manure⁵ including dates of application, quantities applied and type, and a copy of any advice received from a FACTS qualified adviser;
 - if you spread organic manure, a risk map of the holding⁶;
 - by the 30 April each year, for holdings with livestock, a record for the previous storage period⁷ and the number and type of livestock in a building or on hardstanding during the storage period;
2. keep all records for at least 5 years and make them available to an inspector on request;
3. for each specified crop type⁸, make sure that the holding average nitrogen application rate (manufactured nitrogen fertiliser plus crop available nitrogen from livestock manure) does not exceed the maximum nitrogen limit for that crop type;

1 For further information please read *Guidance for Farmers in Nitrate Vulnerable Zones Leaflet 3* (PB12736c) Tables 1 to 4.

2 In the case of permanently housed pigs and poultry where ENCASH software or solid manure sampling and analysis has been used to calculate the amount of nitrogen produced by the livestock kept on your farm, a printout of the results or copies of the analyses must be kept.

3 Nitrogen fertiliser means any substance containing a nitrogen compound used on land to enhance growth of vegetation. This includes manufactured nitrogen fertilisers and organic manures.

4 If your actual applications were the same as planned, rather than re-record this information, you just need to confirm this and record actual planting and application dates.

5 'Organic manure' means any nitrogen fertiliser or phosphate fertiliser derived from animal, plant or human sources and includes livestock manure.

6 For further information please read *Guidance for Farmers in Nitrate Vulnerable Zones Leaflet 8* (PB12736h)

7 1 October to 1 April (6 months) in the case of pigs and poultry. 1 October to 1 March (5 months) in the case of other livestock.

8 For further information please read *Guidance for Farmers in Nitrate Vulnerable Zones Leaflet 3* (PB12736c) Table 5.

4. limit the rate of application of organic manure (excluding manure deposited by grazing animals) in any 12-month period to any individual field to an amount that contains no more than 250 kilograms of total nitrogen per hectare;
5. limit the livestock manure that is applied to land on your holding (including manure deposited by grazing animals and any imported livestock manures) to 170 kilograms of total nitrogen per hectare in each calendar year averaged over the area of your holding (unless you have been granted a derogation⁹);
6. apply nitrogen fertiliser in as accurate a way as possible;
7. only spread slurry with low trajectory equipment (less than 4 metres from the ground) or other technique such as band-spreading or injection (unless using equipment which can achieve an average slurry application rate of not more than 2 millimetres per hour when it is operating continuously);
8. when applying organic manure to bare soil or stubble, incorporate into the soil as soon as practical, and within 24 hours at the latest:
 - poultry manure;
 - slurry and liquid digested sludge, unless it is applied by a band-spreader or injected under the soil surface;
 - any other organic manure (other than organic manure spread as a mulch on sandy soil), if the land is sloping and within 50 metres of surface water that could receive run-off from that land;
9. provide sufficient storage¹⁰ for all slurry produced on the holding by specified livestock and all poultry manure produced whilst in a yard or building during the following storage periods¹¹;
 - 1 October to 1 April (6 months) for pigs and poultry;
 - 1 October to 1 March (5 months) for other livestock;

Storage capacity is not required for slurry or poultry manure sent off the holding during the storage period or spread on land that has a low run-off risk after the end of the closed period (as long as this does not breach other spreading rules). Where the intention is to spread on land with a low run-off risk, storage facilities for an additional one week's manure must be provided as a contingency measure;

10. store poultry manure and other types of solid manure (including any bedding contaminated with organic manure) either:
 - in a vessel;
 - on an impermeable surface;
 - in a roofed building; or
 - in temporary field heaps as long as they are solid enough to be stacked in a freestanding heap and do not give rise to free drainage from within the stacked material;

9 Defra's request for a derogation from the 170 kilograms of nitrogen per hectare limit was agreed by the EU Nitrates Committee up to and including 2012. Farms with grazing livestock and more than 80% of their area under grass can apply on an annual basis and, if the application is successful, work to a higher limit of up to 250 kilograms of nitrogen per hectare, where certain conditions are met. Account of this will be taken in any inspection of farms which have been granted a derogation.

10 A slurry store must have the capacity to store, in addition to the manure, any rainfall, washings or other liquid that enters the vessel (either directly or indirectly) during the storage period.

11 If you are in a Deferred Slurry Storage Area you do not need to have sufficient storage in place until 1 January 2013.

11. cover with an impermeable material any solid poultry manure that does not have bedding material or litter mixed into it and is stored on a temporary field site.

B. You must not

1. apply organic manures with a high readily available nitrogen content¹² (for example, slurry, poultry manure) to land during the following closed periods (unless you are a registered organic farmer¹³):
 - 1 September to 31 December for grassland with sandy or shallow soils;
 - 15 October to 15 January for grassland on all other soils;
 - 1 August to 31 December for tillage land with sandy or shallow soils (application is allowed between 1 August and 15 September as long as a crop is sown on or before 15 September);
 - 1 October to 15 January for tillage land on all other soils;
2. apply manufactured nitrogen (inorganic) fertilisers to any soil type during the following closed periods (unless exemptions apply¹⁴):
 - 15 September to 15 January for grassland;
 - 1 September to 15 January for tillage land;
3. apply more than 50 cubic metres per hectare of slurry or 8 tonnes per hectare of poultry manure to land at any one time, from the end of the above closed periods until the last day in February, and you must allow at least 3 weeks between each individual application;
4. apply any nitrogen fertiliser before you have carried out a field inspection to assess the risk of run-off to surface water¹⁵ and not apply nitrogen fertiliser if there is a significant risk. The inspection must take 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, closeness to surface water, weather conditions and soil type;
5. apply any nitrogen fertiliser when the soil is waterlogged, flooded, has been frozen for 12 hours or more in the last 24 hours or is snow covered;
6. apply manufactured nitrogen (inorganic) fertiliser within 2 metres of surface water;
7. 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 restrictions¹⁶;
8. apply organic manure within 50 metres of a spring, well or borehole;

12 Where more than 30% of the total nitrogen content is in a form that can be readily used by the crop.

13 You may apply organic manure with a high readily available nitrogen content during the closed period if you are a registered organic producer (the applications are subject to certain conditions).

14 Application is allowed during closed periods to specified crops (please read *Guidance for Farmers in Nitrate Vulnerable Zones Leaflet 3* (PB12736c) Table 6) or if written advice is received from a Fertiliser Advisers Certification and Training Scheme (FACTS) qualified adviser.

15 Surface waters include lakes, rivers, streams and ditches which contain free water and also temporarily dry ditches and blind ditches.

16 The restrictions are: the land must be in an agri-environment scheme or an SSSI and livestock manure only (other than slurry and poultry manure) is spread between 1 June and 31 October inclusive, it is not spread directly on to surface water and the total amount does not exceed 12.5 tonnes per hectare.

9. locate temporary field heaps:
 - 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;
10. carry out separation of slurry into its solid and liquid fractions unless it is done mechanically or on an impermeable surface where the liquid fraction drains into a suitable container.



Further advice and guidance

For detailed 'field boundary' maps of the current NVZs (designated in 2008) including 'Deferred Slurry Storage Areas' visit the ADAS website (for Defra) at <http://web.adas.co.uk/defra/>

Guidelines for Farmers in Nitrate Vulnerable Zones: England (PB 12736) – Defra has produced a series of nine leaflets and a record keeping checklist which are available from the Defra website at defra.gov.uk/food-farm/land-manage/nitrates-watercourses/nitrates/

The application of organic manures or manufactured nitrogen fertilisers on uncultivated land or semi-natural areas may form a project under the Environmental Impact Assessment (Agriculture) (England) (No 2) Regulations 2006 and you may need to obtain a screening decision. If this is the case the rules of the cross compliance standard on Environmental Impact Assessment (GAEC 5) will apply.

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