

Nitrate Pollution Prevention Regulations 2008

Nitrate Vulnerable Zones (NVZs)

Questions and answers

Version 9, September 2011

The questions and answers below are intended to support the advice given in the following:

- *Guidance for farmers in NVZs*, produced by Defra and the Environment Agency. You can find these on the [Defra website](#).
- *Nitrate Vulnerable Zones: Information for occupiers*, produced by the Welsh Government (WG) and the Environment Agency. You can find these on the [WG website](#).

Where appropriate, the answers refer to the relevant Defra and WG Guidance Leaflets.

The answers in this document are for guidance purposes only and are given as practical advice on how to carry on with your farming activities taking into account the Regulations. The answers are not intended to constitute legal advice. If you follow the advice given here and in the Defra and WG Guidance Leaflets on any particular issue, the Environment Agency will take this into account in its enforcement of the Regulations. If you are in doubt about any particular aspect, you should speak to your farm advisor. The specific statutory requirements are set out in:

The Nitrate Pollution Prevention Regulations 2008 (as amended), and The Nitrate Pollution Prevention Regulations (Wales) 2008 (as amended).

The questions in this document are divided into the following sections:

Section A: General questions

Section B: NVZ Designation

Section C: Implementation (scope, timing and enforcement)

Section D: Storage of organic manure

Section E: Livestock manure N farm limit

Section E1: Livestock manure N farm limit - Grassland Derogation

Section F: Planning nitrogen use

Section G: The N max limit

Section H: Field application of organic manures, including closed periods

Section I: Field application of manufactured N fertilisers, including closed Periods

Section J: Record keeping

Updates:

Version number	Date	Changes
9	01/09/2011	New question: G7
8	08/02/2011	New questions: C11 , E13 , E14 , H12 , GD1 , GD2 Update to questions: A1 , A7 , A9 , A10 , B1 , B2 , D1 , D2 , D5 , E2 , E3 , E4 , E9 , H5 , H10
7	21/01/2010	New questions: D21 , E12
6	06/11/2009	New questions: C9 , C10 , D18 , D19 , D20 , E11 Update to questions: D5 , E10 , H3 , H4 , H11
5	16/06/2009	New questions: D16 , D17 , E10 Update to question: A1

4	01/04/2009	New questions: C7 , C8 , D13 , D14 , D15 , E9 , G5 , G6 , H8 , H9 , H10 , H11 , I1 , I2 , I3 , J1 Update to questions: A6 , A7 , A11 , B2 , E3
3	19/02/2009	New questions: C5 , C6 , D11 , D12 , E8 , F1 , H6 , H7 Update to question E1
2	27/01/2009	New questions: C3 , C4 , D10 , G4 , H4 , H5 Update to question: D7

Section A: General questions

A1 Q: Where can I find more advice, information and support about the new Nitrate Vulnerable Zone (NVZ) Regulations?

A: If you have land in an NVZ you will have to follow new rules, which came into force on 1 January 2009. For help to ensure you know what this means, and that you take the necessary action to comply, refer to the following:

In England: **Guidance Leaflets** describing the rules farmers in NVZs must follow are available to download from [Defra's website](#) or to request a hard copy please email the Nitrates Directive Mailbox via the following email address: nitratesdirectiveteam@defra.gsi.gov.uk or call either the Defra Library on 020 7238 6575 or the Defra helpline on 08459 335577, Minicom/textphone for the deaf and hard of hearing: 0845 300 1998.

In Wales: a [Farmers Pack](#) which includes a guidance booklet describing the rules farmers in NVZs must follow, and a workbook with templates for plans, calculations and record keeping is available from the Welsh Government's (WG) website. There is also an NVZ helpline for technical queries from farmers and advisors. Call 01824 704060 (Monday to Friday, 8.30 - 17.00). Calls will be charged at the local rate.

Additional guidance for England and Wales: We have produced this set of questions and answers (where appropriate, the answers here refer to the relevant Defra and WG Guidance Leaflets) and a set of detailed fact sheets on NVZ issues to supplement the main guidance described above. All are available on the [Environment Agency](#) website.

- Fact sheet 1: Slurry and dirty water
- Fact sheet 2: Storage of solid manure
- Fact sheet 3: Who is responsible for complying with the NVZ Regulations?

You should also ask your farm advisor for further help and advice.

Software tools are available to provide extra help with some of the calculations required under the new NVZ rules. **PLANET** is a free computer program that provides extra help with nutrient planning and completes some of the calculations required under the new rules (visit the [PLANET website](#) or telephone 08456 023864). **Tried & Tested** is a paper-based system to help make nutrient planning and recording simple and practical for you and your farm. It will also help you meet the latest NVZ regulations in a step-by-step, manageable way (visit the [Tried & Tested](#) website).
(27/07/2010)

A2 Q: How will I know whether it affects me?

A: If you farm on land in an NVZ, it's likely that you have received a letter about the new rules. NVZs now cover 62% of England, and about 3% of Wales, so even if you haven't received a letter, you should find out if you are in an NVZ. In England, you can do this using the detailed maps that are available on Defra's website. In Wales you can contact your WG divisional office.
(27/07/2010)

A3 Q: Why do we need the regulations?

A: The Nitrate Pollution Prevention Regulations 2008 were introduced to implement the European Community's Nitrates Directive, to reduce nitrogen losses from agriculture to water. They designate areas where nitrate pollution is a problem, known as Nitrate Vulnerable Zones (NVZs). There are rules for certain farming practices which must be followed within these zones.

(27/07/2010)

A4 Q: I have heard that nitrate levels are falling. Why tighten the rules further?

A: Current monitoring shows that for every groundwater site showing a falling trend in nitrate concentration, there are three sites showing a rising trend – with the Midlands and East of England being the worst affected regions. The opposite trend exists for rivers found within NVZs, with three out of four having a very slight fall in nitrate concentrations since 2000. But half of rivers within the zones still exceed nitrate limits and the downward trends are very slight. We also know that a number of estuaries and marine waters suffer disturbances to their ecology due to eutrophication, and elevated nitrate levels contribute to this.

We need to protect the quality of drinking water in the long term. This inevitably means keeping nitrate levels below the 50mg/l value.

For all these reasons we needed to further reduce the losses of nitrate from agriculture.

(27/07/2010)

A5 Q: Why is 62 per cent of England vulnerable to nitrate pollution, compared to only 4 per cent of Wales and 15 per cent of Scotland?

A: This is due to differences in existing nitrate concentrations of surface and ground waters, which are influenced by differences in farming systems, geology, soil type, rainfall and other environmental factors. The combination of these factors means that more waters in Wales and Scotland have acceptable nitrate concentrations.

(27/07/2010)

A6 Q: Where are NVZs?

A: The area designated as NVZs is now approximately 62 per cent in England and 4 per cent in Wales. To find out if your land is designated, see question [B1](#) below.

(27/07/2010)

A7 Q: Who is responsible for complying with the new NVZ regulations?

A: The responsibility for complying with the Regulations rests with the occupier of the holding. Please read [Fact Sheet 3 – Who is responsible for complying with the NVZ regulations?](#) for a detailed explanation of what this means on your farm.

(27/07/10)

A8 Q: How will the regulations be enforced?

A: 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, otherwise their payment could be reduced.

(05/12/2008)

A9 Q: When do the regulations apply?

A: For land or holdings within a pre-existing NVZ (designated in 1996 or 2002, and designated again in 2008), the new regulations apply from 1 January 2009 although a transition period applies to some

rules. For land or holdings within new NVZs (those designated in 2008 for the first time), the rules applied from 1 January 2010, and, again, a transition period applies to some rules. The details of the transitions are given in the guidance.
(05/12/2008)

A10 Q: Are there any grants available for building slurry storage?

A: In England, there is no specific grant scheme for storage. Some funding for store covers or other means of reducing slurry volumes, may be available from the Catchment Sensitive Farming programme (in the catchments where this operates). There may also be funding available under the Rural Development Programme for England, which is administered by Regional Development Agencies. If you build storage facilities, you may be eligible for a tax allowance – you should take advice from your accountant or tax specialist.

In Wales, there is currently a Catchment Sensitive Farming (Nitrate Vulnerable Zones) Capital Grant Scheme in place for capital work to reduce pollution risks. Please contact your local EA Wales office for more information.
(27/07/2010)

A11 Q: Are the new rules part of Cross Compliance?

A: Yes, the new rules will be part of Cross Compliance and a revised Penalties Matrix has been developed to reflect them. More information will be available in England in the 2010 Cross Compliance handbook or the Rural Payments Agency website (or in Wales on the WG web pages).
(27/07/2010)

Section B: NVZ designation

B1 Q: How do I find out if I am in an NVZ?

A: NVZ maps for England are available via the [Defra website](#), or you can email helpline@defra.gsi.gov.uk and they will send you hard copies of the designations. If you do not have internet access, contact the Defra helpline on 08459 335577. In Wales contact the helpline 01824 704060. NVZ maps for Wales are available via the [WG website](#).
(27/07/2010)

B2 Q: Can I appeal against my land being designated?

A: The period for submitting your application and supporting evidence to appeal has now closed. For more information, see the Defra or WG website.
(27/07/2010)

B3 Q: I've heard mention of 'de-designation' – what does this mean?

A: There are some small areas which were previously designated that do not meet the criteria for designation in the most recent review. This may be due to better nitrate data or better catchment boundary information. If your land was previously designated as an NVZ, you should check whether this has changed. [Question B1](#) tells you how to do this.
(05/12/2008)

Section C: Implementation (scope, timing and enforcement)

(see also [Defra Leaflet 2](#) or the WG NVZ [Farmers Pack](#))

C1 Q: What is the timetable for the introduction of the rules?

A: For England, Table 1 in [Defra Leaflet 2](#) provides a summary of the key implementation dates for farms within existing and/or new NVZs. For Wales, see the NVZ Farmers Pack.
(05/12/2008)

C2 Q: My land has mixed use, with some glass (protected crops) including soil-grown lettuce and container-grown cress. The remainder is grassland which is not fertilised (just mowed to keep it tidy). How do the rules apply to me?

A: The rules apply to anything that is grown in soil, that is to say, grown in the ground. The only rules that could be relevant to crops grown under permanent cover are the requirements for fertiliser planning and closed periods. It is always good practice to have an appropriate fertiliser plan, and we would expect these to be developed and followed. However, we will not look for records regarding closed periods, since the climatic conditions under glass are artificially controlled. If the grass is unfertilised then no plans or records are needed.
(07/11/2008)

C3 Q: How do the regulations affect the spreading of dredged material to agricultural land within NVZs?

A: When dredgings are spread to agricultural land, they fall within the regulations' definition of nitrogen fertiliser. This includes all materials applied to land that contain nitrogen compounds. Therefore, the spreading of dredgings within NVZs is controlled by the following rules:

i. Planning fertiliser applications (for England see also [Defra Leaflet 6](#) and the WG NVZ [Farmers Pack](#))

Farmers must plan their nitrogen fertiliser applications by following a four-step plan.

Dredgings are also defined within the category of nitrogen fertiliser as an 'other nitrogen containing material'. They are mainly a soil-type material so you should assess the nitrogen supply from applications of dredgings during step one in the above planning process.

As part of your assessment of soil nitrogen supply, you should carry out soil analysis to take account of the mineral N supplied by the dredgings to the crop.

Note: The rule which sets **maximum application rates (the N max limit)** only applies to livestock manures and manufactured fertilisers. **Applications of dredgings do not need to be accounted for in the N max calculation.**

ii. Field inspections and non-spreading conditions

A number of other rules restrict when and where nitrogen fertiliser (which includes dredgings) can be applied. These include the following rules (described in full in [Defra Leaflet 9](#) and the WG NVZ [Farmers Pack](#)):

- A **field inspection** must be carried out, before applying nitrogen fertiliser, to assess the risk of runoff to surface water.
- Applications of nitrogen fertiliser are prohibited if there is a significant risk of pollution via runoff.
- Nitrogen fertiliser should not be applied when the soil is either **waterlogged, flooded, snow-covered or frozen for more than 12 hours in the previous 24 hours.**
- Nitrogen fertiliser must be applied **accurately.**

Note: As well as covering manufactured fertiliser, [Defra Leaflet 9](#) or the WG NVZ [Farmers Pack](#) also provides advice on how the above rules apply to “other nitrogen containing materials” (for example, dredgings from rivers or waste soil).

(12/12/2008)

C4 Q: Could you tell me whether land/water used for growing watercress is covered under the new NVZ regulations?

A: Although the Regulations do not exclude land/water used to grow watercress, it will not be subject to compliance assessment. This position will be reviewed by Defra and they will let any relevant businesses know if this changes.

You should still apply good practice to minimise nitrogen losses to the water environment. If you are responsible for any discharges containing pollutants (including nitrate) you should have a discharge consent¹. You can also see the new [Code of Good Agricultural Practice](#), which gives advice on minimising pollution.

C5 Q: Do the NVZ rules apply to those who keep horses?

A: NVZ rules apply to horses that are kept on a farm, or where a livery yard or stud farm is operated as an integral part of a farm business. If horses are not part of a farm’s business, the NVZ rules do not apply (unless that land is subject to the Single Payment Scheme).

(30/01/2009)

C6 Q: How is dirty water distinguished from slurry under the new Regulations?

A: Please refer to [Fact sheet 1: Slurry and dirty water](#).

(30/01/2009)

C7 Q: My land has been included within a local development plan, but planning permission has not yet been granted and there is no information as to when development is likely to start. What should I do to comply with the new NVZ Regulations?

A: A future intention to develop land does not take away the need to protect water from pollution now. You must comply with all the rules that affect management of your land.

If you rent the land to other parties then you need to agree (in writing) who is responsible for complying with the rules (see [Fact Sheet 3 – Who is responsible for complying with the NVZ regulations?](#)).

(20/02/2009)

C8 Q: I keep my herd of beef suckler cattle outside at all times. The cattle’s winter yard is a permeable (non-impermeable) field enclosure on straw and wood shavings. How is this system affected by the new NVZ Regulations? Does it constitute a ‘permanent field heap’?

A: Your system is not affected by the new NVZ rules, but it may lead to nitrate (and other) pollution of groundwater and surface water, depending on its location. It could be converted to a stand-off pad with an impermeable base. From this, you would need to collect drainage and send it to a slurry store.

Your enclosure is not a temporary field heap. Such heaps can only be formed from poultry manures (or other organic manures) that are solid enough to be stacked in a free-standing heap without giving rise to free drainage from within the stacked material.

¹ The procedures for obtaining a consent from the Environment Agency are contained in Schedule 10 of the Water Resources Act 1991 and the Control of Pollution (Applications, Appeals, and Registers) Regulations 1996 - SI 1996/2971.

(16/01/2009)

Your system is subject to the controls of the Environmental Permitting Regulations, and is unlikely to be acceptable due to the risk of pollution. You should speak to the Environment Agency to see if you need a permit for this, if you have not already done so.

(20/02/2009)

C9 Q: How do the NVZ rules and calculations apply to digestate from anaerobic digestion plants?

A: Each of the NVZ rules that apply are considered below.

Closed period for organic manures

Digestates normally have a high readily available nitrogen content and so you must not spread them to land during the closed period, unless there is evidence to show that a particular type always contains less than 30 per cent readily available nitrogen.

The only exception is that you may spread digestate in the closed period on registered organic farms, subject to the stated limits.

Storage

If you produce digestate containing livestock manure on your holding during the storage period, you will need to provide storage for the whole quantity of digestate produced and not just the proportion which is from livestock manure. The storage periods are 6 months for pig slurry and poultry manure and 5 months for other livestock slurry. If the digestate comes from both pigs/poultry and other livestock, then 6 months storage must be provided.

Livestock manure N farm limit

You must account for the amount of nitrogen in the digestate that comes from livestock manure.

1. If the digester serves only your own farm, then you will already have taken account of the nitrogen when calculating the livestock manure N farm limit for your farm (see [Defra Leaflet 5](#) or the WG NVZ [Farmers Pack](#)) and so no further assessment is needed.
2. If the digestate is from a jointly-operated farm digester or a commercial supplier, then it will be considered as a manure import to your farm, and the supplier should advise you of the total N content. If the total N figure is not available then the digestate must be sampled and analysed according to the sampling protocol in [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#).
 - i. If the imported digestate comes from 100 per cent livestock manure, then the total N content should be used to calculate the kg of N imported.
 - ii. If the imported digestate comes from a mixture of livestock manure and other feedstocks, the supplier should advise you of the proportion that comes from livestock manure, for you to calculate the kg of N imported. We will accept a calculation which assumes that the percentage of N from livestock in the digestate is the same as the percentage of livestock manure in the feedstock. (For example, if digestate containing a total of 20kg N/m³ comes from a feedstock containing 75 per cent livestock manure, then the livestock N = 20 x 75 per cent = 15kg N/m³.) You may choose to make a more detailed calculation relating to the exact livestock types that have contributed, if the relevant data is available to you. For this, use the standard values in Table 7 of [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#) to get the nitrogen content of the relevant livestock manure types. If the supplier cannot advise you of the percentage of livestock manure in the digestate, then you must use the total N content in this calculation, which will either be from the supplier, or sampling and analysis (see 2i above).

If you are well within the livestock manure N farm limit on your holding, you may choose to use the total N content of the whole quantity of the digestate (i.e. 100 per cent livestock manure) to simplify your assessment.

Organic manure N field limit

You must take account of total nitrogen in the digestate:

1. If the digester serves only your own farm, then you should use standard figures and follow the guidance in [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#) on how to comply.
2. For imported digestate (see 2 above for definition) the total N should be advised to you by the supplier. If this information is not given, then sampling and analysis must be used according to the sampling protocol in [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#).

N max

You must account for the amount of available nitrogen in the digestate that comes from livestock manure. To find the total N, we recommend that you follow the advice given above in relation to the livestock manure N farm limit. Then to calculate the crop-available proportion of N you should use the highest percentage applying to the livestock manures in the feedstock (Table 8, [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#)). *(For example, if the feedstock contains manure from cattle, pigs and other livestock, you should use a value of 25 per cent until 12 January 2012.)* You may choose to make a more detailed calculation relating to the exact livestock types that have contributed, if the relevant data is available to you. The N arising from the non-livestock component is ignored.

Nitrogen planning

You must take account of all the nitrogen in the digestate that will be available to the crop.
(17/06/2009)

C10 Q: Can you explain if and how horticultural activities, such as nurseries, greenhouses, or even parks or amenity type gardens, are included within the scope of the new NVZ regulations?

A: The NVZ rules are intended to control agricultural sources of nitrate, and are designed to control typical outdoor activities. As such, horticultural nurseries would be subject to the rules, but amenity nurseries, parks and amenity gardens would not.

If an enterprise involves the application of N to land, then in principle the NVZ rules will apply, and should be followed in accordance with the regulations and guidance. In particular, the principles of fertiliser planning should be followed.
(02/10/2009)

C11 Q: Only a part of my farm is in an NVZ. What should I record as the size of my farm?

A: The rules say you must record the total size of your holding that lies inside the NVZ boundary. To be able to show that you are complying with the relevant limits it will help you if you record separately the area that is inside and outside the NVZ boundary. We strongly recommend that you support this record with a map showing the boundaries of the holding.
(02/07/2010)

Section D: Storage of organic manure

(see also [Defra Leaflet 4](#) - for closed periods, see Section H - or the WG NVZ [Farmers Pack](#)).

D1 Q: I need to provide additional slurry storage. When does this need to be in place?

A: By 1 January 2012, unless your farm buildings are located in a Deferred Slurry Storage Area. However, you must have completed your calculations of how much storage you need by 30 April 2009 if you are in existing NVZ, or by 30 April 2010 if you are within a newly designated NVZ.

For farmers in 'Deferred Slurry Storage Areas' ('purple areas') the date for complying with the slurry storage requirements has been extended by one year to 1st January 2013. The [Defra maps of NVZs](#) in England have been updated to enable farmers to identify if their farm falls within a Deferred Slurry Storage Area.

(27/07/2010)

D2 Q: There is a requirement to calculate the average volume of rainfall that enters a slurry store each month. You suggest obtaining this from the Met Office – doesn't this cost money?

A: Average monthly rainfall for 1971 to 2000 from your nearest rainfall station is available free from the [Meteorological Office](#). However, this data may not be sufficiently accurate, as rainfall rates can be affected locally by hills and valleys. More detailed local rainfall data can be obtained from the Met Office, but will cost money.

We recommend that you buy the more accurate rainfall data, unless you are clear that the free rainfall data will not be significantly different from the actual rainfall on your farm. This should help you to be sure that the capacity of the store meets legal, minimum requirements.

(27/07/2010)

D3 Q: Typically I move farmyard manure from the farmyard or directly from livestock housing to field stacks, from which my contractor then spreads to fields. Am I allowed to continue doing this on fields that have land drains?

A: From 1 January 2012 the rules do not allow temporary field heaps to be located within 10 metres of land drains. However, it is accepted that manure may need to be stacked as part of a spreading activity (that is, to provide a supply of manure to fill spreaders in order to reduce travelling time and costs). The manure must not give rise to free drainage of liquid from within the stack, and any delay between making the field stack and spreading that manure to land should be kept to a bare minimum. It follows that you should plan the removal of farmyard manure to field stacks and the timing of field spreading activity as a joined-up operation. You should ensure that the amount in field stacks is matched to the capacity at which the contractor can spread it in a reasonable time. The Environment Agency may need to see evidence of an agreement with your contractor to carry out the field spreading. You will be liable to enforcement action if you cause water pollution.

You must not put any field stacks:

- within 10 metres of surface waters
- within 50 metres of a spring, well or borehole
- on land likely to become waterlogged
- on land likely to flood.

You must comply with the field inspections, non-spreading conditions, and other restrictions for field application of organic manures (see [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#)).

(05/12/2008)

D4 Q: If I only house cattle indoors for three months, do I have to store the slurry?

A: Yes, you must still provide storage to cover the storage period (five months for cattle). However, the volume of slurry produced will be reduced because of the shorter period over which the cattle are housed. [Defra Leaflet 4](#) or the WG NVZ [Farmers Pack](#) explains how these calculations are made.

(05/12/2008)

D5 Q: Which non-agricultural wastes are subject to the closed periods for spreading? What should I do where the closed periods apply to such wastes?

A: Non-agricultural wastes with a typically high readily available N content (see [Defra Leaflet 3](#), Glossary of terms or the WG NVZ [Farmers Pack](#)) include liquid digested sludge, abattoir wastes, and some digested food wastes. Some non-agricultural wastes will typically have a low readily available N content. However, it is not possible to give definitive guidance on this issue, and if in doubt you should seek written information from the supplier so that you can make the correct decision.

For non-agricultural wastes with a high readily available N content you must comply with the organic manure closed period, and so you may only spread these wastes onto your land outside the closed period (and when ground and weather conditions are suitable); you may provide or allow storage on your land. Such storage is not covered by the NVZ storage rules, but will need to comply with waste regulations. You should contact your local Environment Agency office for advice on the requirements. (13/08/2009)

D6 Q: Do any other requirements apply to manure and slurry stores?

A: Storage must comply with the location and construction requirements of the Silage, Slurry and Agricultural Fuel Oil Regulations 2010 ([SSAFO](#)). To ensure you comply with the SSAFO, when you are looking at ways to improve storage facilities on your farm, you should seek advice from the Environment Agency. The Environment Agency has powers under SSAFO to ask for changes to be made to facilities, if they pose a significant risk of causing pollution. (05/12/2008)

D7 Q: I farm organically, and so I am allowed to apply slurry to certain crops during the closed period. Can I reduce my storage requirement by the amount of slurry that I use in this way?

A: No. The rules do not allow you to do this. This is because the amount of slurry that can be applied each year will be variable, depending on the cropping and weather conditions. (09/01/2009)

D8 Q: When must I use standard figures in my calculations, and when can I use analysis of my own manures?

A: You **must** use standard figures when calculating:

- **Livestock manure N farm limit** – use standard figures for total nitrogen livestock production figures (see [Defra Leaflet 3](#), Tables 1 to 4 or the WG NVZ [Farmers Pack](#)). The only exception is for permanently housed pig and poultry, when you may use values calculated by ENCASH computer software. Or if your housing system only produces solid manure, you may use values determined by sampling and analysis.
- **Slurry storage calculation** – use standard figures for monthly volume of excreta produced (see [Defra Leaflet 3](#), Tables 1 to 4 or the WG NVZ [Farmers Pack](#)).
- **N max limits** – use standard figures ([Defra Leaflet 3](#), Table 8 or the WG NVZ [Farmers Pack](#)) for the percentage of total nitrogen from livestock manures, which is available for crop uptake after spreading. In all other situations, you can use standard figures from the guidance Defra Leaflets or the WG NVZ Farmers Pack, other recognised data sources or values determined by sampling and analysis. You must carry out all sampling and analysis according to the standard sampling methodology

(see [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#)).
(05/12/2008)

D9 Q: What is the meaning of ‘land that has a low runoff risk’?

A: Low runoff risk land is defined as land that:

- has an average slope of less than three degrees;
- does not have land drains (other than a sealed impermeable pipe);
- is at least 50 metres from a watercourse or conduit leading to a watercourse (see Section 2, [Defra Leaflet 4](#) or the WG NVZ [Farmers Pack](#)).

If you have land that has a low runoff risk on your holding, you can reduce your storage capacity if you are able to safely spread slurry/poultry manure on this every year, between the end of the closed period and the end of the storage period. You should follow the restrictions on spreading manures. The volume that you can spread can be subtracted from the farm’s storage (capacity) need. However, an extra one week’s average manure production must be added back as a contingency (see Defra [Leaflets 4 and 8](#) or the WG NVZ [Farmers Pack](#)). The storage capacity that you build must include the minimum freeboard requirement (750mm for earth-banked compounds and 300mm in all other cases).

For example, if a dairy farm’s storage capacity requirement from the 1 October to 1 March (five months) is 5,000 cubic metres slurry, but 1000 cubic metres can always be spread on the farm’s low run-off risk land (after the closed period and before 1 March), then the storage capacity needed would be 4,250 cubic metres (for example, 5,000 – 1000 + 250 (one week’s average slurry production)). But remember, the storage capacity that needs to be built must include the necessary minimum freeboard requirement (750mm for earth-banked compounds and 300mm in all other cases).

[Defra Leaflet 4](#), Annex 1 or the WG NVZ [Farmers Pack](#), provides a step-by-step guide for calculating a farm’s slurry storage requirement.

The total area of low runoff risk land in England is small, and so the reduction in the storage requirement is unlikely to be large for individual farms.

(05/12/2008)

D10 Q: The new regulations differ from the previous (2002) regulations with respect to the classification of livestock. This is highlighted in table 1 of [Defra Leaflet 3](#) and the WG NVZ [Farmers Pack](#), which classifies breeding stock from three months. This means that the results of calculations now will differ from those under the previous Regulations, even though my stocking rate has not changed. Why did we need this change?

A: The classification has changed to incorporate the most recent scientific and practical knowledge, and was reviewed by ADAS. The results of the review can be seen on the Defra and WG websites.

(05/12/2008)

D11 Q: I have the full slurry storage capacity and my farm is fully compliant. What happens if my store is full within the closed period - for example, in an autumn with very high rainfall? Do I allow the store to overflow and have an accidental breach, or spread on land during the closed period and have a deliberate breach?

A: For your storage to be fully compliant, you must have done the following:

- made full allowance for the maximum number of livestock that you can have
- done all that you can to prevent rainwater entering your slurry store
- managed your spreading so that the stores are **empty** in good time for the start of the closed periods.

If your storage is likely to become full before you can spread, you must contact the Environment Agency urgently to discuss your situation. They will talk through your options and review your storage provision with you.
(30/01/2009)

D12 Q: Poultry manure without bedding/litter has to be covered when it's in a temporary field heap ([Defra Leaflet 4](#), section 5 or the WG NVZ [Farmers Pack](#)). This covering can cause the manure to become anaerobic, causing a bad odour. As a result, people have complained to the Local Authority. How should this procedure be carried out?

A: It may not be possible to avoid odours, but there are things you can do to minimise them. For example, wherever possible, you should site heaps away from other buildings, and they should remain covered unless the wind direction becomes favourable. Heaps should be re-covered as soon as possible if odours are occurring.

If you've tried these measures and the odour remains unacceptable, you should consider installing permanent roofed storage or exporting the manure.
(30/01/2009)

D13 Q: According to the NVZ guidance for farmers, if my animals are not housed during the storage period, their slurry production does not need to be counted in the monthly calculation. What proof do I need to provide to show the period of time that the animals are housed for as it may vary from year to year? And what provision do I need to make for an exceptionally wet year?

A: The purpose of the storage calculation is for you to make sure you have sufficient capacity (in most circumstances) to be able to comply with the closed period and other spreading controls. If your livestock are not housed permanently, the grazing period will vary from year to year, and so you should plan for a reasonably foreseeable worst case scenario to avoid running out of storage. Your record of the storage calculation should show the assumptions you've used. [Defra Leaflet 4](#), section (b)1 on page 7 or the WG NVZ [Farmers Pack](#), refers to the records for livestock housing. This type of data will show (over a reasonable number of years) the different periods of time animals are housed for from year to year. This will support the assumptions you've made. Your assumptions will be checked if the storage is found to be insufficient.

When your livestock are outdoors, you will still need to make allowance in the storage calculations for the slurry produced when they are indoors for milking or other yard-based activities.

See [question D11](#) for details of dealing with unforeseen weather conditions.
(26/02/2009)

D14 Q: Can you give me practical guidance on the storage of poultry manure – especially the more 'sloppy' layer manure?

A: The new NVZ regulations include information about storing poultry manures in field heaps, provided they do not contain bedding and are covered.

A research report has been published, which deals with ammonia emissions from storage and land-spreading of poultry manures. The report refers to the covering of manure as an acceptable storage treatment and gives an example of using 1,000 gauge polythene sheets secured and weighed down with tyres and straw bales. However, if you are considering this storage treatment option, you will need to ensure that sufficient overlap is provided between sheets so that rainfall is shed from the cover and there are enough tyres and or straw bales to provide sufficient weight to prevent wind damage. You can find more information on this report (WA0712: Management techniques to minimise ammonia

emissions during storage and land spreading of poultry manures) and related research on the [Defra Ammonia Programme website](#).
(13/03/2009)

D15 Q: Can the manure I retain within a weeping-wall slurry store be classed as a solid FYM? Also, the separated liquid (that seeps through the slotted/slatted walls into channels around the store) will generate a storage requirement. Should I use information from the manufacturer of the weeping-wall store to calculate storage requirements for the separated liquid or is there a standard method available?

A: Solid manure (as defined in the glossary in [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#)) is organic manure which can be stacked in a freestanding heap without slumping. The manure retained behind a weeping-wall would slump if it was stacked in a freestanding heap, and therefore is classed as slurry, not solid manure.

You need to make sure that the total amount of slurry produced in the storage period (see [Defra Leaflet 4](#) or the WG NVZ [Farmers Pack](#)) is contained in the weeping-wall store and its associated store for separated liquid (which is also defined as slurry). Commonly, the store for separated liquid is an underground tank that also accepts dirty water. This will not provide sufficient capacity to comply with the NVZ rules. You will need to consider either reorganising your drainage, or providing extra storage for both the separated liquid and the dirty water. As a general rule-of-thumb, about 10 per cent of the slurry that enters a weeping-wall store (together with incident rainfall on the store) will drain through into the collection channels². But this will depend on the height of the store, the area of drainage slots, and the length of slotted/slatted walling in each store. You can use this rule-of-thumb or the information from the manufacturer to calculate the additional storage required. Remember, it is your responsibility to provide sufficient storage to meet the requirements of the regulations.
(27/03/2009)

D16 Q: I want to reduce my storage capacity by exporting high readily available N manures from my farm. What evidence do I need to give to show that I'm doing this? Will the Environment Agency accept a written agreement with the farmer who's importing my manure, or do I need to have a back-up plan to manage this manure to cover me if my first plan to export fails?

A: You will need to have an agreement in place to export your slurry, though the regulations do not specify that it must be in writing. However, a written agreement would be good evidence that your storage capacity does not need to include space for the exported slurry. You will have to be satisfied that the agreement is robust, as you probably won't be able to produce replacement storage at short notice if it falls through. You should also have a contingency plan on record.

Although your farm's storage capacity can be reduced to account for agreed exports of manure, you must still make sure you have sufficient capacity to be able to comply with the closed period. For example, if you're planning to export a large part of your slurry in March each year, then there will have to be enough storage available for it (together with any remaining manure) until it leaves the farm. Simply deducting the exported volume from the total production may not leave you with enough storage.

The importing farmer must also take account of the amount of manure they are accepting in order to decide how much storage they need. The Environment Agency must be able to track the movement of manure from farm to farm by checking that appropriate records are in place.
(15/05/2009)

² [Protecting our Water, Soil and Air: A Code of Good Agricultural Practice for farmers, growers and land managers, Defra, 2009](#)

D17 Q: My farm is partly in an NVZ area and partly outside of an NVZ area. I have a question about the calculation of slurry storage capacity requirements. If the volume of slurry that I can spread to the land outside of the NVZ area is calculated at 250kg N (for example, 83m³/hectare, using the standard figure of 3kg N/m³ of dairy slurry), can I deduct this volume from the slurry storage calculations for the farm? I am assuming that the farm can normally spread during the storage period. For example, if my farm had 100 hectares outside of the NVZ area, would I be able to deduct 100 x 83 = 8,300m³ from my storage requirement? Would you accept this way of calculating the storage capacity requirement?

A: You cannot rely on this calculation alone to reduce storage capacity. You will also have to demonstrate to the Environment Agency that the land outside the NVZ is able to receive this slurry without causing water pollution. For example, farms that are not in NVZs must still comply with the Silage slurry and agricultural fuel oil Regulations 2010 ([SSAFO](#)). Unless you can demonstrate that regular spreading will not cause water pollution, you will need to have a minimum of four months' slurry storage capacity in place. Under the SSAFO Regulations, the storage requirement needs to include a likely rainfall allowance.

As a farmer, you are responsible for providing sufficient storage to comply with the storage period (six months for pig slurry and five months for other slurry). You will also need to make sure you have enough storage in place to comply with other spreading controls within the NVZ, and with general pollution prevention controls elsewhere.

It may be easier to assume your whole farm is within an NVZ and approach your calculations on that basis (see Question D21 for more information).
(15/05/2009)

D18 Q: Is washdown water that comes from the cleaning of poultry sheds considered dirty water? If so, does this mean it is not subject to the 6 month storage requirement when kept separately from slurry?

A: This washdown water can only be considered as dirty water if reasonable and practical effort has been made to remove faeces and urine, and the bedding material it has contaminated, before washing down. The shed must be brushed clean after poultry litter is removed. If the washdown water is kept separately from slurry then neither the six month storage capacity requirement nor the closed periods for organic manure with high readily available nitrogen will apply.
(13/08/2009)

D19 Q: The guidance says that I should allow for imported poultry manure in storage calculations, but does not mention slurry imports. Should these be accounted for as well?

A: If you import slurry during the storage period and it cannot be spread (due to the organic manure closed period or inappropriate weather or ground conditions) you will either have to make allowance for it in your storage calculations or store it separately from your own slurry. If you do not do this, your stores may become full too soon. In Annex 1 of [Defra Leaflet 4](#) you can add imports as an extra line in Table 1, putting the volume in Column 5, for Wales see the WG NVZ [Farmers Pack](#).

If you import slurry outside the closed period for direct spreading then you do not need to allow for it in your storage calculation. Before you import slurry be sure that your own stores are not at risk of overflowing.
(02/10/2009)

D20 Q: Although the Regulations allow applications of organic manures with high readily available N up to 150kg/ha to grassland on organic farms during the closed period, many organic dairy farmers are concerned that the guidance does not allow this application to be

taken into account for the storage capacity calculation. Won't this position result in excess storage capacity being provided, at significant cost and for no purpose?

A: It has been clarified that footnotes (a) and (c) of Table 6 in [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#) applies to slurry spread on organic farms (see [D7](#) and [H3](#)). This means that slurry can only be spread on grass up to 31 October during the closed period. Given that spreading conditions may not be favourable during the month of October, it cannot be guaranteed that storage will not be needed for all the slurry produced in that time. For this reason, allowance cannot be made as proposed.
(16/10/2009)

D21 Q: Only a part of my farm is in an NVZ. Do I have to meet the NVZ rules for slurry storage?

A: You must do a calculation of storage volume and provide sufficient storage if a part or all of the farm buildings from which your slurry comes are within an NVZ. Question [D17](#) explains how you should do the calculation.

If these buildings are completely outside an NVZ, then you do not have to comply with the NVZ rule on storage, but you are strongly advised to do so to: maximise the value of nitrogen in the livestock manure; minimise nitrogen loss to groundwater and surface water; and avoid the risk of a pollution incident. This ensures you follow good practice as given in the [Code of Good Agricultural Practice](#) (COGAP). Even though, you are not obliged by the NVZ rules to provide the storage, you will need to have enough storage to comply with the closed periods on that part of your land that falls within an NVZ, and to ensure slurry is spread safely on all your land at all times.
(11/11/2009)

Section E: Livestock manure N farm limit

(see also [Defra Leaflet 5](#) or the WG NVZ [Farmers Pack](#)).

E1 Q: When I am working out how to meet the Livestock Manure N Farm Limit, what land can I include?

A: **Include** all land unless it is excluded by the rules. Examples of land that should be included are buffer strips, rough grazing, moorland, heathland, common land and land under management agreements (such as [Environmentally Sensitive Areas](#) and [Environmental Stewardship](#)). It is expected that land included within a holding is capable of being farmed as part of that holding (for example, it is not geographically remote). (See Question [E11](#) for more information).

Exclude water, hard-standing, buildings, roads and un-grazed woodland.
(07/11/2008)

E2 Q: If my farm is overstocked in relation to the Livestock Manure N Farm Limit of 170kg/ha what can I do to comply?

A: There are four things you can do:

- Export manure, in which case you should keep records of all exports (and imports) of livestock manure.
- Bring additional eligible land into the holding ([see question E1](#)). This land should be close enough to the main holding so that it can be farmed jointly.
- Reduce the number of stock.

- If your farm is eligible (you farm cattle, sheep, deer, horses or goats and have at least 80% grassland), apply for the grassland derogation (see [Defra Leaflet 5a](#) or the WG NVZ [Farmers Pack](#) and question E3).

(25/06/2010)

E3 Q: I have heard that there may be a derogation from the Livestock Manure N Farm Limit. What is the situation?

A: Farms with grazing livestock and at least 80 per cent grass can apply for a derogation from the Livestock Manure N Farm Limit of 170kgN/ha/year. If the derogation is granted a limit of 250 kgN/ha will apply for these animals. The derogation is optional for those farms that are eligible. An annual application must be made, and extra conditions apply. Full details are given in [Defra Leaflet 5a](#) or in Wales contact your local EA Wales office.

If the derogation is not granted or applied for, then the Livestock Manure N Farm Limit of 170kgN/ha must be complied with.

(21/06/2010)

E4 Q: If my land is eligible for the grassland derogation, how should I plan for the year, without knowing whether the derogation will be available?

A: Question no longer relevant

(27/07/2010)

E5 Q: Is any consideration being given for those areas that have tuberculosis (TB)? I will be over the stocking limit, but as I am in a TB area I cannot export slurry and find it a very difficult and slow process to sell my animals. Will there be any exemptions for these areas?

A: If your land is eligible for the grassland derogation (see [E3](#)), then this issue may be resolved by this. However, in principle *force majeure* would apply, which means that the regulation does not apply because of unavoidable circumstances – penalties would be unlikely. Nevertheless, we would expect you to make every effort to comply with the rules. Such situations would be resolved on a case by case basis, and you should speak your usual Environment Agency contact or call 08708 506 506.

(31/10/2008)

E6 Q: I keep Dexter cattle on unimproved pasture. Dexters are a very small breed. Will there be reference figures for nitrogen and manure production for these special cases which cannot really be compared with normal dairy or beef cattle?

A: No. You should select the most appropriate set of N production and manure production figures, based on milk yield for the cattle. Given that the pasture is unimproved, and these cattle are unlikely to be farmed intensively, we would not expect any enforcement issues. However, such 'special cases' will be dealt with on a case by case basis by the Environment Agency.

(28/11/2008)

E7 Q: When must I use standard figures in my calculations, and when can I use analysis of my own manures?

A. See question [D8](#) for details.

E8 Q: In Defra Leaflet 3, standard nitrogen values are given for horses but not for ponies. I own ponies and I know that they produce significantly less nitrogen. How should I calculate the values for them?

A: The values given for horses are an average value, reflecting the fact that they are not generally kept agriculturally in large numbers. A pony is a small horse and so you should use the quoted figures for horses.

(30/01/2009)

E9 Q: My farm is only partly in an NVZ. If I apply the Livestock Manure N Farm Limit, the area inside is calculated at 170kg N/ha, and the area outside calculated at 250kg N/ha. This sets the livestock capacity. I see there is an error in PLANET 2 which calculates both areas using 170 kg/ha. What should I do?

A: This has been corrected in version 3 of the PLANET software. If you are still using the earlier version, you can recalculate this element manually. This should be straightforward to do. However, if you fail to do this recalculation it will not count as a breach of the rules.

(28/07/2010)

E10 Q: My farm is in an NVZ and I have alpacas as livestock. There are no standard figures for alpacas provided in Defra Leaflet 3, and the glossary says that livestock means any animal referenced in schedule 1 of the regulations. As they are not mentioned, do they need to be considered in NVZs?

A: The livestock manure N farm limit applies only to those animal types listed in Tables 1 to 4 of [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#), so you will not need to account for alpacas.

However, the organic manure N field limit controls the application of all organic manure to land, which includes all manures of animal origin. No more than 250kg total N/ha may be applied in any 12 month period. Table 7 of [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#) gives standard data for some livestock. For less common animals (such as alpacas), the N content of manures collected and applied to land must be assessed by sampling and analysis, unless you can provide reliable published data. You can find a standard methodology for sampling manures for analysis in Defra Leaflet 3 or the WG NVZ Farmers Pack. You would then need to identify a suitable field application rate (tonnes/ha). You should also consider the manure from your alpacas when you're planning nitrogen use (see [Defra Leaflet 6](#) or the WG NVZ Farmers Pack).

(15/05/2009)

E11 Q: How should I account for common land in complying with the livestock manure N farm limit?

A: There are two ways you can approach this:

1. Exclude common land from the record of your holding - then when calculating your livestock manure for the year, exclude livestock for the period that they are grazing on common land. We recommend that you note them on your calculation sheets, but with a zero in the column for the amount of N produced. This will make it easier to reconcile your calculations to your overall livestock records.

2. Include an appropriate proportion of any grazing land that you use in the record of your holding - to do this you will need to know how many livestock are put onto the common by other commoners, and over what period. You would then work out your own proportion of the total livestock on the common, and use the same proportion of the land in your calculation.

For example, the percentage of the area of common that you can include might be:

$$\frac{\text{Number of your livestock-weeks on the common}}{\text{Total number of livestock-weeks on the common}} \times 100 \text{ per cent}$$

Where a 'livestock-week' is one head of livestock for one week (e.g. 1 cow and 1 calf for 3 weeks = $1+1 \times 3 = 6$ livestock-weeks).

[Defra leaflet 3](#) or the WG NVZ [farmers pack](#) advises option 2 here, but option 1 is likely to be preferable in most cases and would be acceptable to the Environment Agency.

If a large proportion of the area you farm is common land, then you must take care that you do not exceed the field limit on your remaining land if you apply slurry to it. (See Question E1 for more information).
(02/10/2009)

E12 Q: Table 1 in Defra Leaflet 3 has a category for ‘calf up to 3 months’. Does this refer to a calf aged less than three months or less than four months?

A: The term means up to, but not including, three months. From three months or more the animal would be in the next category of ‘dairy cow from 3 months and less than 13 months’.
(02/10/09)

E13 Q: Defra Leaflet 3 and the WG NVZ Farmers Pack has a protocol for how to sample manure and slurry, but does not give any advice on analysis. Can this be done on my farm (using a portable meter) or does the sample have to be sent to a laboratory?

A: On-farm meters only measure the available N in manures, not the total N content. For this reason you cannot use the results to comply with the NVZ rules. However, the results will give you a good indication of whether it is worthwhile to send a sample away for laboratory analysis and can be used for planning field applications of nitrogen fertiliser. Question D8 explains when standard figures must be used and when sampling and analysis is allowed.

If you are relying on sampling and analysis, rather than the standard figures in the regulations and the guidance, then you should consider repeating the sampling and analysis at least twice each year to coincide with the main spreading periods. This is recommended in RB209. However the optimum sampling frequency may vary depending on how manures are managed on your farm. If your practice is significantly different from this recommendation, you should give a justification in your records.
(08/06/2010)

E14 Q: The guidance states that all N from livestock manure applied to the whole farm must not exceed 170kg/ha from grazing or from applications. What is the definition of the ‘whole farm’ and what areas of land can be used in this equation?

This could include:

- The area of the holding
- The area of the holding + the areas of nearby holdings owned by the same farmer
- The area of the holding + nearby land rented by the farmer

For example, a farm may own 3 holdings that are separated but all have boundaries within 1 mile of each other. One holding is used for arable, one is maize for forage, and one is the dairy unit with some grazing. All three holdings have different farm names but are owned by the same farmer. Using just the dairy holding, the farm would not comply with the N farm limit, however by using all three, the farm would be compliant. Would it be within the regulations to include all three farms/holdings for the same N farm limit calculation or does it have to be the dairy holding alone?

A: It is not possible to give a definitive answer to this question, as it depends on how the land and livestock are managed.

The NVZ rules do not define holdings (or farms). The glossary in Defra Leaflet 3 describes a farm as: *'an area or areas of land and its buildings, which is used for the growing of crops or the rearing of livestock, and includes livestock units and any outlying fields all of which form part of an individual farm business.'*

We would judge this issue on individual farms by the question of whether the different units form an individual farm business. In other words, we would look to see whether the units are managed jointly, or whether they are in effect separate farms. We would not expect to see multiple, remote holdings being used to qualify under the Livestock Manure N Farm Limit, if the livestock and their manure were only ever managed on one holding. This would not prevent a farmer from legitimately exporting manure from one holding to another.

When checking that the size of the holding has been recorded, Environment Agency officers will expect a map of the holding to be available, to show where the land is.

(12/07/2010)

Section E1: Livestock manure N farm limit - Grassland Derogation

(see also [Defra Leaflet 5a](#) or the WG NVZ [Farmers Pack](#) for information)

GD1 Q: Maize can count as part of the grassland area if it is under-sown with grass. Is there any specific proof required that it was sown to grass, or is a grassy stubble sufficient evidence that it was under-sown? Does it matter whether the under-sowing was at the time of maize establishment (May) or after harvest (Sept / Oct)?

Under-sown grass in this situation is difficult to establish. If the grass crop was to fail (either completely or partially), to the extent that this took them under the 80 per cent grass, what view would the EA take?

A: Under-sowing must take place when the maize is planted and the rate of sowing must be appropriate to the agricultural purpose of this crop. It will be sufficient evidence for the records to state that maize has been under-sown.

This crop is known to be difficult to establish. Where it is planted, every effort should be made to maintain the grass. If the grass has failed this will not be recorded as a breach. However, if it is to be repeated in the following year, the expected reasons for the failure should be noted, and improvements put in place. If such failures continue, we may require different cropping to be adopted for subsequent years, such as for example undersown barley.

(28/04/2010)

GD2 Q: To qualify for the Grassland Derogation do I just have to have 80 per cent grass on the 1 January or must I maintain this throughout the whole calendar year?

Is 80 per cent the minimum at any one time over the year or an average?

A: You must have at least 80 per cent grass throughout the year to be eligible for the derogation. If you are going to plough any grass during the year to plant an alternative crop, you must plan your rotation so that you maintain this percentage at all times. If you are ploughing grass for re-seeding, then you can take this as being grass all the time.

To reduce the risk of breaching this limit, you should plan to exceed 80 per cent, and this will allow you some flexibility when changes take place on your farm.

(04/06/2010)

Section F: Planning nitrogen use

(see also [Defra Leaflet 6](#) or the WG NVZ [Farmers Pack](#) for information)

F1 Q: Do I need to take account of dirty water when planning my nitrogen use?

A: Yes, refer to [Fact sheet 1: Slurry and dirty water](#) for further details.
(30/01/2009)

Section G: The N max limit

(see also [Defra Leaflet 7](#) or the WG NVZ [Farmers Pack](#))

G1 Q: When I am calculating compliance with the N max Limit, do I include the droppings from my livestock while they are grazing?

A: No. To calculate compliance with N max, you use only nitrogen coming from manufactured nitrogen fertiliser and crop-available nitrogen from livestock manure that is spread onto the land.

It does not include:

- manure directly deposited by grazing animals;
- applications of organic manure that is not from livestock, for example sewage sludge or compost;
- other types of nitrogen containing materials, such as dredgings.

[Defra Leaflet 7](#) or the WG NVZ [Farmers Pack](#) explains when you need to calculate compliance with N max, and how to do it.

(05/12/2008)

G2 Q: What is an acceptable measure of yield for a crop? Does the need to record crop yield (within one week of measuring it) only apply to crops with an N max limit?

A: The minimum requirement is a record of the crop average yield across the farm. For fertiliser planning purposes, field estimates can be used, but these should be reconciled against farm records. If you want to adjust the N max limit for a crop on the basis that you expect a higher than standard yield, you should have written evidence from at least two previous crops (see [Defra Leaflet 7](#) or the WG NVZ [Farmers Pack](#)). This requirement only applies to crops with an N max limit.

(31/10/2008)

G3 Q: When must I use standard figures in my calculations, and when can I use analysis of my own manures?

A: See question [D8](#) for details.

G4 Q: I grow peas and beans in sandy soil. I apply farmyard manure (FYM) to the land to help limit soil erosion. There is no allowance for this in the regulations. Is it allowed?

A: The N max for peas and beans is zero so any application of livestock manure would be non-compliant.

However, where you can justify such an application (that is, by producing a soil erosion risk assessment) you are allowed to use a soil conditioner with a very low readily available N content to

prevent soil loss by wind erosion. Examples of such soil conditioners would be a green waste compost or a thoroughly composted FYM. You are not allowed to use it to prevent soil loss by water erosion (runoff). This can be managed by applying organic manures when non-leguminous crops are being grown within the rotation.

(12/12/2008)

G5 Q: The N max figure is zero for peas and beans. How can I apply sulphur to these crops, which is a major and essential element for the building blocks of protein?

A: If you find evidence of sulphur deficiency, you should use a sulphur fertiliser containing no N so that you comply with the N max limit of zero for peas and field beans. Some examples are calcium sulphate (gypsum), magnesium sulphate (kieserite or epsom salts), potassium sulphate or elemental sulphur.

However, if no practical alternative is available, you can apply ammonium sulphate at recommended rates (typically between 25-35kg/ha SO₃ will be permitted).

You should remember that ammonium sulphate contains N so, if you use this, you will exceed the N max limit. If this is the case, you must state in your records why you have not used a sulphur fertiliser that contains no N instead.

(20/02/2009)

G6 Q: When carrying out my N max calculations, how should I account for dual crops grown in the same growing season and in the same field? For example, in one field I grow grass that is cropped for silage and is then sown to forage maize. This field could then be sown to Italian ryegrass following the maize, in the same growing season. Also, all these crops have fertiliser and/or organic N applications (albeit the grass has a low application rate compared to the overall annual limits). Should the area and the applications be counted for both crops in the N max calculations?

A: You should assess your compliance with N max rules for the areas taken up by each crop type on your farm.

(13/03/2009)

G7 Q: Are there any circumstances under which high trajectory equipment can be used to spread slurry in an NVZ?

Under the amendments to the Regulations for England in 2009 you can use equipment which sends slurry more than 4 metres above the ground, but only if the average spreading rate of that equipment is no more than 2 millimetres per hour when operating continuously. The equipment is normally known as a 'pulse jet irrigator'.

This equipment will spread slurry over a large area, and you must ensure that other spreading rules are observed. In particular, be aware of stand-off distances from watercourses, wells, boreholes and springs. Also, be careful with overlaps on spreading areas to ensure spreading is as accurate as possible.

In Wales, the amended Regulations allow the same equipment to be used, but only on land that has a low run off risk. (*See qu D9 for information on low run-off risk land*). This extra restriction reflects the challenges from greater average wind speeds and generally more steeply sloping ground in Wales.

(30/08/2011)

Section H: Field application of organic manures, including closed periods

(see also [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#))

H1 Q: Can straw manure, also known as FYM, be applied through the closed period?

A: There is no closed period restriction on the application of FYM, which contains low levels of readily available nitrogen (less than 30 per cent). However, there may be times and places that you are not able to spread FYM. You may also be restricted by the need to incorporate FYM into bare soil/stubble within 24 hours in certain situations. Sections 4, 5, 6 and 8 of [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#) give advice on suitable land and conditions for spreading.

(05/12/2008)

H2 Q: Do farmers need to update the maps they currently use to assess pollution risk?

A: Yes, risk maps need to follow the current guidance to comply with the new regulations. [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#) explains what you need to include.

(05/12/2008)

H3 Q: I am a registered organic producer. What conditions do I have to comply with when spreading slurry or poultry manure in the closed period? (In reference to footnotes to Table 6 in Defra Leaflet 3 or the WG NVZ Farmers Pack).

A: Organic manure applications with a high readily available N content (for example slurry and poultry manure) are permitted during some or all of the closed period to the following crops: winter oil seed rape, asparagus, brassicae, grass, over-wintered salads onions, parsley and bulb onions (as listed in Table 6, [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#)). There has been confusion regarding the footnotes to Table 6, and contrary to the advice given previously these do apply to slurry and poultry manure when applied on organic farms, though noting that footnote (b) is not relevant.

You must not spread more than 150kg total N/ha between the start of the closed period and the end of February, except in the case of winter oilseed rape and grass, where you may not spread slurry or poultry manure after 31 October.

You can apply such manures to other crops in the closed period provided you have written advice to that effect from a FACTs qualified adviser.

(16/10/2009)

H4 Q: Can slurry ever be spread during the closed period? The literature says that high readily available manure is not allowed during the closed period, but slurry has a standard value of 20 per cent readily available N.

A: Slurry is subject to the closed period for organic manures with a high readily available N content (see [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#) for full details).

The Environment Agency's enforcement position is that all livestock slurry has a high readily available N content (that is, more than 30 per cent of the total N content of slurry is in molecular forms that are immediately available to the crop at the time of spreading).

The figure of 20 per cent in Table 8 of [Defra Leaflet 3](#) or the WG NVZ [Farmers Pack](#) relates to 'crop available N'. This is the percentage of the total N content of the slurry available for crop uptake during the growing season in which it is spread to land. This figure accounts for losses of some of the readily available forms of N following spreading plus any mineralisation during the growing season of the N held within the slurry in organic forms.

Registered organic farmers may be able to spread slurry during the closed period (see Question H3 above).
(09/01/2009)

H5 Q: The assessment of compliance with the field limit (250kg/ha) for N from organic manure applications to fields is on a rolling 12 month basis and not a calendar date. A strict legal interpretation means that an application made in the following year must be after the calendar date of the application made in the previous year, irrespective of weather conditions. Will I be at risk of prosecution if I exceed the limit within 12 months?

A: Your fertiliser plan and records of previous applications are crucial to the assessment of compliance with this control. They should show what has happened in previous years and how much N you intended to apply during the relevant periods. In the light of this plan, the Environment Agency will check that the actual loading does not exceed 250kg/ha/12 months, but will make practical allowances where the records give justification for applications being made early or late. We will not take action where there has been no intention to exceed the limit over the longer term.

In particular, we recognise that variable harvest dates between years can make it difficult to comply with the strict legal interpretation of the field limit. It is not sensible to fix the amount of leeway that will be considered acceptable for late or early applications (for example, as a set number of weeks). Instead, it will be assessed on a case-by-case basis.

If you are not sure whether your situation will be covered by this explanation, you should contact your local Environment Agency office for advice.
(28/04/2010)

H6 Q: The new Regulations refer to ‘exemptions for organic holdings’. Do these exemptions apply to my organic holding which I’m converting to become an organic producer?

A: Yes, this exemption applies to you. Although you will not have a certificate during your first year, you will be required to meet the usual organic production standards as part of the process. Your records should contain some evidence that you are registered with one of the certification bodies (for example, a letter).
(30/01/2009)

H7 Q: Can dirty water be spread during the ‘closed period’?

A: Please refer to [Fact sheet 1: Slurry and dirty water](#).
(30/01/2009)

H8 Q: According to the NVZ guidance, the closed period for livestock slurry spreading does not apply if I do not yet have manure storage in place. Does it apply on my farm (which is in an NVZ) if I import the manure?

A: If you have a formal agreement with other farmers for the import of livestock slurry, the agreement must make it clear which farm will provide the storage required under the NVZ rules. You must also reflect this in the storage calculations (which should have been completed by 30 April 2009 in existing NVZs or 30 April 2010 in new NVZs).

If the farm receiving the slurry also produces slurry of its own, then the closed periods for slurry spreading will not apply until the necessary storage is in place, or until 1 January 2012.

If the receiving farm does not produce slurry of its own or it already has the necessary storage for its own slurry, then, according to the new regulations, the closed periods should apply immediately.

However, until there is sufficient storage for the imported slurry (either at the source farm or the receiving farm), the receiving farm will be exempt from the closed period. If a farm imports slurry from more than one source, the storage status at each source farm must be clear in the records to maintain this exemption. If slurry is imported from a farm which has the necessary storage and it is spread in the closed period, this will be regarded as a breach of the regulations.
(20/02/2009)

H9 Q: The new NVZ rules say I must incorporate farmyard manure (FYM) within 24 hours when spreading within 50 metres of surface water, and on a slope which might cause runoff to that water. The degree of the slope is not defined - can you give me some guidance?

A: There are several factors that will influence the likely risk of runoff from sloping land. These include the degree of slope, soil type, soil structure (including compaction and surface sealing), soil wetness and ground cover. The weather conditions at and around the time of spreading will also determine the level of risk. Each of these factors will vary from field to field, and so we can't give you specific advice regarding the slope alone.

[Defra Leaflet 8](#), Annex 1 or the WG NVZ [Farmers Pack](#), provides a four-step process for you to decide if you can apply organic manure without causing water pollution. The advice given is in addition to what you must record on your risk map (Defra Leaflet 8, page 5 or the WG NVZ Farmers Pack).
(26/02/2009)

H10 Q: My farm is in an NVZ. I have to prepare a risk map of my farm that 'shows land drains'. Can you give me more information? Specifically, do I have to show the location of all the drains on these maps, just the ones in the spreading areas, or just those in the fields where I am planning to locate in-field manure heaps?

A: The Regulations say that the risk map must show land drains (among other things), and this is confirmed in section 6 of [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#). There is no prescribed format for the risk map, and you can choose your own approach, as long as you give the required information. The guidance says that maps only need to show the areas in which land drains are installed, not individual drain runs.

Our advice should not stop you from including more complete information on the map if you have it. This would show best practice.

Annex 1 of the 1st edition of [Defra Leaflet 8](#) (Oct 2008) describes how an acceptable risk map can be produced, following the style in Defra's [Manure Management Plan](#) guidance (published June 2002). However, since this guidance was insufficient to meet the rules an amendment was included in the 2nd edition of Defra Leaflet 8 (April 2009). This amendment asks for all fields that are coloured yellow on the risk map to be marked with a number 4 if they contain land drains. If maps are found that have been completed in accordance with the first edition guidance, the farmer will be expected to make these minimal changes, but it will not normally be taken as a breach in the first instance.
(13/03/2009)

H11 Q: Does a clover sward qualify as 'grassland' for the purposes of applying manure in January in an organic system? If not, can you offer guidance on what would constitute 'grassland' in this case, for example, having less than 50 per cent clover? I am considering applying slurry or FYM (farmyard manure) to a red clover sward in January to give it a boost.

A: If a sward contains more than 50 per cent grass species, it will be considered 'grassland' under the rules. As you farm organically, you can apply up to 150kg N/ha from slurry or poultry manure to grass between the beginning of the closed period and the end of October. For a sward with less than 50 per

cent grass (for example, a sward with a high clover content), you will need to get written advice from a FACTS advisor to justify such applications in the closed period.

FYM is not subject to a closed period, and so you can apply it at any time, as long as the conditions are suitable.
(13/03/2009)

H12 Q: Should compost be regarded as organic manure or is it just a soil conditioner? Can it be applied to frosty ground?

A: The Regulations give clear definitions of both 'nitrogen fertiliser' and 'organic manure', and these are repeated in guidance [Defra Leaflet 3](#) (and represented diagrammatically in Leaflet 2) or the WG NVZ [Farmers Pack](#). Although compost may act as a soil conditioner, it also contains nitrogen compounds and so will meet these definitions. The rules regarding the conditions when organic manure cannot be spread are clearly given in [Defra Leaflet 8](#) or the WG NVZ [Farmers Pack](#). It should not be spread on frozen ground. As compost will not normally contain high readily available N, it is not subject to a closed period for spreading.
(24/06/2010)

Section I: Field application of manufactured nitrogen fertilisers, including closed periods

(Also see [Defra Leaflet 9](#) or the WG NVZ [Farmers Pack](#) for more information)

I1 Q: Regarding the application of manufactured nitrogen fertiliser during the closed spreading period:

Is the application of 'manufactured N' during the closed period restricted to only those crops listed in Table 6 of Defra Leaflet 3 and the WG NVZ Farmers Pack?

If not, which other crops can 'bagged N' be applied to in the closed spreading period?

Do I need a FACTS adviser recommendation to apply manufactured N to crops listed in Table 6 of Defra Leaflet 3 or the WG NVZ Farmers Pack, or only for those not listed?

A: You can find information on the crop types and conditions under which you can apply manufactured nitrogen fertiliser during the closed spreading period in [Defra Leaflet 3](#), Table 6 or the WG NVZ [Farmers Pack](#). You do not need advice from a member of the Fertiliser Advisers Certification and Training Scheme (FACTS) for these crop types.

You can apply manufactured nitrogen fertiliser to other crop types during the closed period, but only on the basis of written advice from a FACTS qualified adviser. If you receive advice, you must keep a record of that advice for five years.
(13/03/2009)

I2 Q: My farm is in an NVZ. I have to prepare a risk map of my farm that 'shows land drains'. Can you give me more information? Specifically, do I have to show the location of all the drains on these maps, just the ones in the spreading areas, or just those in the fields where I am planning to locate in-field manure heaps?

A: See [question H10](#) for details.
(13/03/2009)

I3 Q: Booklet 9, page 3 refers to ‘not spreading nitrogen fertiliser within 2 metres of a surface water’. Does this mean from the edge of the water or, as with Cross Compliance rules, does this mean ‘1m from the top of the bank or 2m from the centre of the ditch whichever is greater’?

A: You should take the greater distance that applies to avoid nitrogen loss to water. The measures are 1m from the top of the bank, 2m from the water’s edge, or 2m from the centre of the ditch, and these apply even when the watercourse is dry. For good practice, these measures should be regarded as a minimum.

(13/03/2009)

Section J – Record keeping

See [Defra Leaflets 4 – 9](#) and the [NVZ record keeping checklist](#) or the WG NVZ [Farmers Pack](#) for more information.

J1 Q: How do I account for the application of mushroom compost (or other off-farm composts) for record keeping purposes?

A: If there are no published standard values available, you will need to obtain analytical data from your supplier. You will need this to do your fertiliser planning, and to show that you are meeting the organic manure N field limit.

(13/02/2009)