# RPID inspector guidance brief for Nitrate Vulnerable Zones (NVZ)

The Scottish Government
Riaghaltas na h-Alba

## Land inspection

| Visual assessment | Specific elements to be assessed |
|---|---|
| ■ Accuracy of risk assessment map (only applicable if the farm applies any type of organic manure). | ➢ All high risk and no spread areas are identified. Note that all watercourses and ditches (including temporarily dry ditches) are subject to the 10 metre spreading exclusion.<br>➢ The location of any field heaps and the date of their establishment should also be recorded on the risk map. |
| ■ Compliance with organic manure no-spread areas | ➢ No evidence of spreading within 10 metres of a watercourse (including temporarily dry ditches)<br>➢ No evidence of spreading within 50 metres of a well or borehole |
| ■ Location and management of field heaps | Check that heaps are not located within:<br>➢ 10 metres of a watercourse (including temporarily dry ditches)<br>➢ within 50 metres of a well or borehole<br><br>Confirm that:<br>➢ There is no evidence that field heaps have remained in the same location for longer than 12 months.<br>➢ Field heaps do not contain poultry manure that is not mixed with litter, unless the contents are covered with a waterproof cover. |
| ■ Structural integrity of slurry and silage effluent storage facilities (leaking etc.) and permanent storage facilities for FYM or other solid manure (**note** that a field silage heap on an impermeable base would be non-compliant) | ➢ This is a visual assessment only. If the inspection is selected for a cross compliance inspection, this will also form part of the SSAFO inspection. |
| ■ Compliance with other restrictions on the land application of nitrogen fertiliser | Confirm that there is no visual evidence that nitrogen fertiliser (including organic manure) has been applied in the following situations:<br>➢ On land that is frozen, flooded or snow covered.<br>➢ In a location or manner that makes it likely that nitrogen fertiliser will enter a watercourse, or that has resulted in it entering a watercourse. |

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| ■ Compliance with closed periods for chemical fertiliser or organic manure with high available N content. | ➢ Confirm that there is no visual evidence of spreading if the inspection coincides with a closed period (the relevant dates and any exceptions are detailed on the NVZ flashcards)<br>➢ Inspectors should also note whether organic manures with high available N content have been applied to bare/stubble land in July, August or September (a crop must subsequently be sown within six weeks of the first application) |
| ■ Slurry spreading equipment must not be fitted with upward facing splash plates | ➢ Confirm that any slurry spreading equipment is compliant with this requirement.<br><br>However, note that the application of slurry on growing arable crops is permitted using high trajectory splash plates e.g. tramspread type spreaders). |

## Records assessment

| Records to be checked | Key elements to be assessed |
|---|---|
| ■ Livestock numbers, species and type | Record based assessment of the number, species and type of livestock kept on the farm throughout the year. For farms with a slurry based system, an assessment of the number species and type of livestock kept on the slurry system will also be required.<br><br>➢ For dairy cows in particular, the different yield categories result in significant variation in terms of annual N excretion and volume of excreta produced over the housing period. Inspectors should confirm that categories used are realistic. This is particularly important where all cows are allocated into the lowest yield categories. If there is any doubt, yields can be confirmed by checking milk receipts.<br>➢ Note that where animals move to seasonal grazing, the records should detail the dates that animals moved off and returned to the permanent holding. |
| ■ Applications and exports of livestock manure | ➢ For recorded applications of slurry, confirm that the manure reference number used is appropriate .For example, manure reference 16 “cattle slurry - ploughed in” is not appropriate on grassland unless the sward is actually ploughed out.<br><br>➢ For recorded applications and exports, confirm that the manure reference numbers used are realistic in terms of the dry matter content of the slurry. For example, there will be very few situations where 10% dry matter slurry is produced in slurry storage systems which collect rainfall or where parlour wash water goes to the slurry store. |
| ■ Applications and exports of livestock manure (Continued) | ➢ If records are produced in PLANET, the user can change default manure values e.g. by changing default dry matter contents of slurry. In these situations inspectors should request a copy of any laboratory analysis or other justification. If there is no supporting analysis/justification, the PLANET records should be reworked using the appropriate default values. |

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|---|---|
| **Slurry and silage storage**<br>▪ Assessment of any justifiable reduction % of slurry volume from mechanical separation; | ➢ This is only acceptable where mechanical separators are used. Inspectors should verify that a separator exists on farm or see relevant invoices where a mobile unit has been hired in. |
| ▪ Assessment of areas of roads, yards and buildings where rainfall collects to store; | ➢ Inspectors should confirm the actual areas which have been included in the storage calculations as draining to the store and confirm the area. Where additional areas are identified, these should be measured and the storage calculation reworked accordingly. |
| ▪ Assessment of the volume of water collected to store from any other source e.g. parlour washings. | ➢ Inspectors should confirm where dairy washings are stored. If the records show that washings are stored in a separate tank this should be confirmed at the inspection |
| ▪ Confirm the capacity of Slurry stores. | ➢ This will involve taking measurements where appropriate (length and breadth of lagoons tanks & circumference of circular stores).<br>➢ Note that newly constructed stores will often be fitted with a wall plate which states the capacity and this can be accepted without the need to measure |
| ▪ Confirm that slurry and silage effluent storage facilities are structurally sound and that there is no evidence of leakage (**note** that a field silage heap on an impermeable base would be non-compliant) | ➢ **Visual assessment** (if not already undertaken by GPS inspector) |
| ▪ Permanent FYM storage facilities | ➢ Confirm that floor slab is impermeable<br>If the facility is unroofed or uncovered, verify whether any run-off is collected |
| **Note**: **Health and Safety – Measuring slurry stores**<br>Inspectors should not attempt to take internal depth measurements on any type of slurry store. You should accept the farmer's figures for depth in all cases; and<br>No inspector should attempt to measure a slurry storage facility where there is any risk of personal injury in taking the measurements. Where there is an unacceptable risk in measuring facilities the inspector should accept the farmer's measurements and record that | |

fact in the inspection pack.

If ground conditions surrounding an above ground store do not permit access to it to gain a measurement, the inspector can accept the farmer's calculations for the capacity of the store. However the poor ground conditions may be symptomatic of a further problem with the store's structural integrity. If you are in any doubt further advice should be obtained from SEPA colleagues.

| **Records to be checked** | **Key elements to be assessed** |
|---|---|
| **Nmax**<br><br>▪ Crop types grown on the farm and fields growing each crop type | ➢ Confirm that an Nmax calculation exists for all crop types where nitrogen is applied.<br><br>➢ Confirm that all LPIDs are accounted for in the Nmax calculations |
| ▪ Yield adjustment factor | ➢ Where the yield adjustment factor is used this must be justified by sufficient supporting records.<br><br>➢ The standard yields for cereals are based on a dry matter content of 85% i.e. 15% moisture content. The standard yield for oilseed rape is based on a dry matter content of 93% i.e. 7% moisture content. Any supporting records will therefore have to include details of the grain dry matter/moisture content.<br><br>➢ Supporting records should ideally cover 3 harvest years.<br><br>Acceptable records are likely to consist of:<br><br>➢ Farm yield records, which must be based on a weighed (not estimated) yields along with moisture content readings. This can include weighed trailer loads or records from the combine yield monitor; or<br><br>➢ Where all of the grain is sold off of the farm, sales invoices detailing tonnages and dry matter content of grain sold.<br><br>➢ Where grain is fed on farm, records which demonstrate weights of home grown cereals fed. |

**Adjusting yields for dry matter content**

Where the grain dry matter is less than 85% (93% for WOSR) i.e. moisture content is greater than 15% (7%), the fresh yield weight will have to be adjusted using the procedure described at Appendix 1.

| Records to be checked | Key Elements to be Assessed |
|---|---|
| ■ Market adjustment factor used | ➢ Acceptable records include a forward contract document or record of previous year's sales to the market specified.<br>➢ Farmers can also justify the use of marketing adjustment where they can demonstrate that the variety grown is approved for the intended market. |
| ■ Excess winter rainfall adjustment used | ➢ Where the excess winter rainfall adjustment has been used, the inspector should seek justification from the farmer that the adjustment is required and the source of the rainfall data from the period 1 October to 1 March inclusive is relevant. |

## APPENDIX 1: Conversion of yield and dry matter to 85% dry matter.

To convert any combination of yield and dry matter content (DM) or moisture content (MC) to yield at 85% DM:

1. Convert the MC content to DM if required: %DM CONTENT = ( 100 - MC)

2. Adjust to yield at 85% DM using the following calculation:

(Yield t/ha) x (actual %DM / 85)

**Example:**

Farm records show that the average yield from wheat fields in 2007 was 8.5 tonnes/ha. The average moisture content is recorded as 20%.

1. Convert MC to DM: %DM = (100-20) = 80% DM

2. Adjust to yield at 85% DM

(8.5 t/ha) x (80/85) = 8 t/ha.

The yield in this particular year does not exceed the standard rate, but note that you will have to assess the yield for each of the previous three years and base any adjustment on the average.