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SCOTTISH STATUTORY INSTRUMENTS

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**2008 No. 298**

**ENVIRONMENTAL PROTECTION  
AGRICULTURE  
WATER**

**The Action Programme for Nitrate Vulnerable  
Zones (Scotland) Regulations 2008**

<i>Made</i>	- - - -	<i>4th September 2008</i>
<i>Laid before the Scottish Parliament</i>	- - - -	<i>8th September 2008</i>
<i>Coming into force</i>	- -	<i>1st January 2009</i>

The Scottish Ministers make the following Regulations in exercise of the powers conferred by section 2(2) of the European Communities Act 1972 <sup>M1</sup> and all other powers enabling them to do so.

**Marginal Citations**

**M1** 1972 c. 68. Section 2(2) was amended by Schedule 8, paragraph 15(3) of the [Scotland Act 1998 \(c. 46\)](#), and the [Legislative and Regulatory Reform Act 2006 \(c. 51\)](#) (“the 2006 Act”), section 27(1). The functions conferred on the Minister of the Crown under section 2(2) were, so far as within devolved competence, transferred to the Scottish Ministers by section 53 of the Scotland Act 1998. Paragraph 1A of Schedule 2 was inserted by section 28 of the 2006 Act.

**PART 1**

**Citation, commencement and extent**

**1.—(1)** These Regulations may be cited as the Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008.

**(2)** These Regulations come into force on 1st January 2009.

**(3)** These Regulations extend to Scotland only.

## Revocations and savings

2.—(1) Subject to paragraph (2), the Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2003 <sup>M2</sup> and the Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2003 <sup>M3</sup> are revoked.

(2) Paragraph 18 of the Schedule to the Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2003 continues to apply until 31st December 2013.

### Marginal Citations

**M2** [S.S.I. 2003/51](#).

**M3** [S.S.I. 2003/169](#).

## Interpretation

3.—(1) In these Regulations—

“area of high risk” means land where there is one or more of the following:—

- a tendency to flood more often than once in 5 years,
- drainage which has been installed in a field within the previous 12 months,
- a tendency to being water-logged;

“catch crop” means a crop which has a short growing period and which is grown in a year between other crops which have a longer growing period;

“chemical fertiliser” means nitrogen fertiliser which is manufactured by an industrial process;

[<sup>F1</sup>“compost” means compost that—

- (a) complies with Publicly Available Specification PAS 100:2011 (Specification for composted materials) published by the British Standards Institution, and
- (b) does not contain livestock manure;]

“cover crop” means a crop sown primarily for the purpose of taking up nitrogen from the soil and which is not harvested;

“crop requirement” means the amount of nitrogen fertiliser in kilograms (“kg”) which it is reasonable to apply to land in any year having regard to the foreseeable nitrogen requirement of the crop growing or to be grown on the land and the nitrogen supply to the crop from the soil and from other sources, including any previous applications of livestock and other organic manures;

[<sup>F2</sup>“derogated farm” means a farm over which a derogation has been granted;]

[<sup>F2</sup>“derogation” means a derogation from the annual limit of nitrogen in livestock manure that can be applied to land granted by the Scottish Ministers in accordance with regulations 14, 14A and 14B;]

[<sup>F2</sup>“derogation application” means an application for a derogation submitted by the occupier of a farm;]

“farm” includes livestock unit;

“farmyard manure” means livestock excreta mixed with bedding material (such as straw) but does not include poultry manure other than duck manure.

[<sup>F3</sup>“fertilisation accounts” means accounts providing such information relating to the management of nitrogen and phosphate inputs during the preceding calendar year as the Scottish Ministers may specify in accordance with regulation 25(3);]

“fertiliser and manure management plan” means a plan drawn up under regulation 5.

“grassland” means land on which the vegetation consists predominantly of grass species;

[<sup>F4</sup>“grassland farm” means a farm where 80% or more of the agricultural area available for manure application is permanent grassland or temporary grassland (temporary implying leys of less than four years), including crops under-sown with grass but excluding grassland with 50% or more clover;]

[<sup>F4</sup>“grazing livestock” means cattle (with the exclusion of veal calves), sheep, deer, goats and horses;]

“livestock” means any animal kept for use or profit;

“livestock manure” means waste products excreted by livestock or a mixture of litter and waste products excreted by livestock, even in processed form;

[<sup>F5</sup>“nitrate vulnerable zone” means any area of land designated as a nitrate vulnerable zone by regulation 2 of the Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2015;]

“nitrogen fertiliser” means any substance containing a nitrogen compound utilised on land to enhance growth of vegetation;

“organic manure” means–

- (a) livestock manure; and
- (b) nitrogen fertiliser, not being livestock manure or chemical fertiliser, derived from organic matter,

and includes sewage sludge and other organic wastes;

“organic manure with high available nitrogen content” means organic manure in which more than 30 per cent (“%”) of the total nitrogen content of the manure will be released in the year in which it is spread on land (such as cattle and pig slurry, poultry manure and liquid digested sludge);

[<sup>F6</sup>“phosphate fertiliser” means any substance containing one or more phosphate compounds used on land to enhance growth of vegetation and includes organic manure;]

“poultry manure” means a mixture of excreta produced by poultry and bedding material, unless the contrary is specified;

“sandy”, in relation to soil, means sandy, sandy loamy and loamy sand soils where in the layer up to 40 centimetres (“cm”) deep and in the layer between 40cm and 80cm deep, there is–

- (a) more than 50 per cent by weight of sand sized particles (that is particles more than 0.06 millimetres (“mm”) and less than 2mm in diameter);
- (b) less than 18 per cent by weight of clay sized particles (that is particles less than 0.002mm in diameter); and
- (c) less than 5 per cent by weight of organic carbon;

“seasonal let” means either a lease for grazing or mowing as defined in section 3 of the Agricultural Holdings (Scotland) Act 2003 <sup>M4</sup> or a short limited duration tenancy as defined in section 4 of that Act for a period of no more than 2 years;

“shallow”, in relation to soil, means less than 40cm depth to rock;

[<sup>F7</sup>“silage effluent” has the meaning given in [<sup>F8</sup>Part 2 of schedule 3 of the Water Environment (Controlled Activities) (Scotland) Regulations 2011];]

“slurry” means–

- (a) excreta, including any liquid fraction, produced by livestock whilst in a yard or building;
- or

- (b) a mixture consisting wholly of or containing such excreta, bedding, feed residues, rainwater and washings from a building or yard used by livestock, dungsteads or manure heaps, high level slatted buildings and weeping wall structures or any combination of these, provided such excreta is present,

of a consistency that allows it to be pumped or discharged by gravity at any stage in the handling process;

[<sup>F9</sup>“soil nutrient status” means soil acidity and plant available concentrations of phosphorous, potassium and magnesium in the soil;]

[<sup>F9</sup>“soil type” means the soil types listed in Table 1 of Schedule 3;]

“solid manure” means organic manure which can be stored or stacked in a freestanding heap without slumping and does not produce free drainage of liquid from within the stacked material;

“surface water” has the same meaning as it has in section 3(3) of the Water Environment and Water Services (Scotland) Act 2003 <sup>M5</sup>;

“water environment” has the same meaning as it has in section 3(2) of the Water Environment and Water Services (Scotland) Act 2003; and

“year” means, unless provided otherwise, any period of 12 months ending with 31st December.

(2) Expressions which are used both in these Regulations and in Council Directive [91/676/EEC](#) concerning the protection of waters against pollution caused by nitrates from agricultural sources <sup>M6</sup> are to have the same meaning in these Regulations as they have in the Directive.

(3) For the purposes of these Regulations, material is applied to land where the material is added to the land whether by spreading on the surface of the land, injecting into the land, placing below the surface of the land or mixing with the surface layers of the land, and for the purposes of regulation 14 material deposited by livestock also constitutes material applied to land.

(4) In relation to a farm only part of which is in a nitrate vulnerable zone, references in these Regulations to a farm (other than references in paragraph (5)) shall be taken as references to that part of the farm which is in the nitrate vulnerable zone.

(5) Where a seasonal let of part of a farm is granted, the existence of that let shall be disregarded in ascertaining who is the occupier of the farm for the purposes of these Regulations.

<b>F1</b>	Words in reg. 3(1) inserted (15.5.2013) by <a href="#">The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2013 (S.S.I. 2013/123)</a> , regs. 1(2), <b>3(2)</b>
<b>F2</b>	Words in reg. 3 inserted (24.1.2010) by <a href="#">The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2009 (S.S.I. 2009/447)</a> , regs. 1, <b>3(2)</b>
<b>F3</b>	Words in reg. 3 inserted (24.1.2010) by <a href="#">The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2009 (S.S.I. 2009/447)</a> , regs. 1, <b>3(3)</b>
<b>F4</b>	Words in reg. 3 inserted (24.1.2010) by <a href="#">The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2009 (S.S.I. 2009/447)</a> , regs. 1, <b>3(4)</b>
<b>F5</b>	Words in reg. 3(1) substituted (1.1.2016) by <a href="#">The Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2015 (S.S.I. 2015/376)</a> , regs. 1(1), <b>5(2)</b>
<b>F6</b>	Words in reg. 3 inserted (24.1.2010) by <a href="#">The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2009 (S.S.I. 2009/447)</a> , regs. 1, <b>3(5)</b>
<b>F7</b>	Words in reg. 3(1) inserted (15.5.2013) by <a href="#">The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2013 (S.S.I. 2013/123)</a> , regs. 1(2), <b>3(3)</b>
<b>F8</b>	Words in <a href="#">reg. 3(1)</a> substituted (1.1.2022) by <a href="#">The Water Environment (Controlled Activities) (Scotland) Amendment Regulations 2021 (S.S.I. 2021/412)</a> , regs. 1(2), <b>8</b>
<b>F9</b>	Words in reg. 3(1) inserted (15.5.2013) by <a href="#">The Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2013 (S.S.I. 2013/123)</a> , regs. 1(2), <b>3(4)</b>

### Marginal Citations

**M4** 2003 asp 11.

**M5** 2003 asp 3.

**M6** O.J. No. L 375, 31.12.91, p.1.

## PART 2

### General application and duties

- 4.—(1) These Regulations apply to any farm which is in a nitrate vulnerable zone.
- (2) The occupier must ensure that this Part is implemented in relation to such a farm.

### Fertiliser and manure management plan

5.—(1) Before 1st March each year, a fertiliser and manure management plan must be prepared in respect of the farm for that year.

(2) The purpose of the plan is to assess the crop requirement for nitrogen fertiliser for each crop on each field each year and to establish the quantities of livestock manure produced and safe methods of collection, storage and land application.

- (3) A fertiliser and manure management plan must consist of—
- (a) a risk assessment plan in respect of organic manure;
  - (b) a calculation of the capacity of storage facilities for livestock manure required on the farm;  
F10 ...
  - (c) a calculation of the quantity of nitrogen fertiliser required in relation to each crop on the farm; [F11 and
  - (d) in respect of derogated farms, in addition to the requirements of sub-paragraphs (a) to (c)—
    - (i) a note of the number of livestock and a description of the housing and storage system that includes the volume of manure storage available;
    - (ii) a calculation of manure nitrogen (less losses in housing and storage) and phosphate produced in the farm;
    - (iii) a description of the crop rotation and area of each crop, including a sketch map indicating location of individual fields;
    - (iv) a calculation of the foreseeable nitrogen and phosphate crop requirements;
    - (v) a note of the amount and the type of manure delivered outside the farm or to the farm;
    - (vi) the results of soil analysis related to nitrogen and phosphate soil status, if available;
    - (vii) a note of the nitrogen and phosphate application from manure over each field; and
    - (viii) a calculation of the application of nitrogen and phosphate with chemical and other fertilisers over each field.]
- (4) A risk assessment plan must contain a map of the farm, which must clearly show—
- (a) the delineation of every field;
  - (b) the area of every field in hectares;
  - (c) the location of all surface water, wells and boreholes or similar work sunk into underground strata for the purpose of providing a water supply;
  - (d) any area of land with a slope of 12 degrees or more;

- (e) the location of any field heaps; and
- (f) any other area of high risk to the water environment.

(5) No nitrogen fertiliser is to be applied to any crop in any year prior to the calculation under paragraph (3)(c) being completed for that crop and that year.

[<sup>F12</sup>(6) Fertiliser and manure management plans in respect of derogated farms shall be revised no later than 7 days after any changes in agricultural practice at the farm.]

- F10** Word in reg. 5(3)(b) omitted (24.1.2010) by virtue of [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **4(2)**
- F11** Reg. 5(3)(d) and preceding word inserted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **4(3)**
- F12** Reg. 5(6) inserted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **4(4)**

### [<sup>F13</sup>Storage of livestock manure and silage effluent

**6.—(1)** Subject to regulations 7 to 11, the capacity of storage facilities for livestock manure and silage effluent on a farm must be sufficient to store all livestock manure and silage effluent which is likely to require to be stored on the farm for such period as may be required to secure compliance with these Regulations and to avoid pollution of the water environment.

(2) Storage facilities for livestock manure and silage effluent must—

- (a) be maintained free from structural defects; and
- (b) be of such standard as is necessary to prevent run off or seepage, directly or indirectly, to the soil or into the water environment.]

- F13** Reg. 6 substituted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **4**

#### **Modifications etc. (not altering text)**

- C1** Reg. 6(1) modified (temp.) (1.1.2016) by [The Designation of Nitrate Vulnerable Zones \(Scotland\) Regulations 2015 \(S.S.I. 2015/376\)](#), regs. 1(1), **4**

### **Storage of slurry from housed pigs and housed cattle and manure from housed poultry**

**7.—(1)** A farm must have capacity to store the total quantity of slurry likely to be produced by housed pigs or housed cattle and manure from housed poultry calculated by adding up the total figures produced for each type of livestock, in accordance with paragraph (2).

(2) The quantity referred to in paragraph (1) shall be calculated—

- (a) in the case of slurry produced by housed pigs, by adding the totals for each type of housed pig on the farm, in accordance with the following formula—

$$X \times Y \times 182$$

where—

X represents the number of pigs by type on the farm (but excluding pigs housed in a straw bedded system), and

Y represents the daily excreta figure per pig of that type set out in column 2 of table 1 in Schedule 1; and

- (b) in the case of slurry produced by housed cattle, by adding the totals for each type of housed cattle on the farm, in accordance with the following formula–

$$A \times B \times 154$$

where–

A represents the number of cattle by type that are housed in a slurry based system on the farm (but excluding cattle housed in a straw bedded system), and

B represents the daily excreta figure per head of cattle set out in column 2 of table 1 in Schedule 1; and

- (c) in the case of manure produced by housed poultry, by adding the totals for each type of housed poultry on the farm, in accordance with the following formula–

$$X \times Y \times 182$$

where–

X represents the number of housed poultry by type on the farm, and

Y represents the daily excreta figure per head of that type of housed poultry set out in column 2 of table 1 in Schedule 1.

- (3) In calculating the minimum capacity of storage facilities necessary to comply with paragraph (1) the following figures shall be included:–

- (a) for rainfall, the quantity of any rainfall that is likely to enter storage facilities (directly or indirectly) during collection or storage;
- (b) for cleaning water, the quantity of any cleaning water that is likely to enter storage facilities, using the relevant figures set out in columns 3 and 4 of the table in Schedule 2, unless a lesser amount can be shown to apply.

- (4) In calculating the minimum capacity of storage facilities for poultry manure under this regulation, a deduction may be made for any such manure stored or to be stored in any field heap under regulation 10.

- (5) In every case where slurry or manure is produced and stored on the farm, a calculation under paragraph (2) must be made, notwithstanding any exemption to paragraph (1) claimed under regulation 11.

#### **Modifications etc. (not altering text)**

**C2** Reg. 7(1) modified (temp.) (1.1.2016) by [The Designation of Nitrate Vulnerable Zones \(Scotland\) Regulations 2015 \(S.S.I. 2015/376\)](#), regs. 1(1), 4

#### **Exclusions from storage capacity**

8. In calculating the quantity of livestock manure for the purposes of regulations 6 and 7 the following may be disregarded–

- (a) any solids to be removed from slurry, other than pig slurry, by means of a slurry separator, up to a maximum of 20% of the total slurry produced;
- (b) any solids to be removed from pig slurry, by means of a slurry separator, up to a maximum of 10% of the total slurry produced;
- (c) any quantity of livestock manure to be moved off the farm;

- (d) any quantity of livestock manure to be transferred to a person authorised under [<sup>F14</sup>the Pollution Prevention and Control (Scotland) Regulations 2012] or [<sup>F15</sup>the Waste Management Licensing (Scotland) Regulations 2011] for the collection, recovery or disposal of the manure;
- (e) any quantity of livestock manure to be disposed of under contract to a manure processing facility or to an approved treatment or recovery outlet.

- F14** Words in reg. 8(d) substituted (7.1.2013) by [The Pollution Prevention and Control \(Scotland\) Regulations 2012](#) (S.S.I. 2012/360), reg. 1(2), **Sch. 11 para. 20(2)** (with reg. 71)
- F15** Words in reg. 8(d) substituted (27.3.2011) by [The Waste Management Licensing \(Scotland\) Regulations 2011](#) (S.S.I. 2011/228), reg. 1(1), **Sch. 6 para. 10**

### Storage of [<sup>F16</sup>livestock manure (other than slurry)]

9. Subject to regulation 10 the storage of [<sup>F16</sup>livestock manure (other than slurry)] must—
- (a) be only on an impermeable surface which prevents drainage to the water environment; and
  - (b) either—
    - (i) be covered by a waterproof covering; or
    - (ii) have a run-off facility with a means of collecting, storing and recovering run-off water and particulate matter.

- F16** Words in reg. 9 substituted (1.1.2009) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2008](#) (S.S.I. 2008/394), regs. 1(1), **2(2)**

### Temporary storage of solid manure

10.—(1) Solid manure may be temporarily stored on land otherwise than in accordance with regulation 9 immediately prior to being applied to land but must not be stored—

- (a) in any field heap for more than 12 consecutive months; or
- (b) on the site of any previous field heap unless at least 24 months have passed since the site was last cleared.

[<sup>F17</sup>(2) No field heap may be located—

- (a) within 10 metres of any body of surface water;
- (b) within 50 metres of any well, borehole or similar work sunk into underground strata for the purpose of providing a water supply;
- (c) on any area of land that—
  - (i) slopes down toward a body of surface water; and
  - (ii) has a slope of 12 degrees or more;
- (d) in any area identified on the risk assessment map prepared under regulation 5(4) as being of high risk to the water environment; or
- (e) in any other location where there is a significant risk of nitrogen from the field heap entering a body of surface water.]

(3) Any solid poultry manure that is not mixed with bedding material stored under this regulation must be covered by a waterproof covering.



**F17** Reg. 10(2) substituted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **5(2)**

### **Exemptions from regulations 6(1), 7(1) and 20**

**11.**—(1) Subject to the provisions of this regulation—

- (a) regulations 6(1) and 7(1) do not apply where the storage capacity on a farm on 1st January 2009 is not sufficient to allow compliance with those regulations; and
  - (b) regulation 20 does not apply where the storage capacity on a farm on that date means that some or all of the slurry collected on the farm can only be applied to land on the farm in contravention of that regulation, due to it not being reasonably practicable for that slurry to be removed from the farm.
- (2) Exemption under sub-paragraph (a) of paragraph (1) lasts until whichever is the earlier of—
- (a) the capacity becoming sufficient to allow compliance with regulations 6(1) and 7(1);
  - (b) 1st January 2012.
- (3) Exemption under sub-paragraph (b) of paragraph (1) lasts until whichever is the earlier of—
- (a) the capacity becoming sufficient so that regulation 20 can apply without the consequences referred to in that sub-paragraph;
  - (b) 1st January 2012.
- (4) An exemption under paragraph (1) applies—
- (a) in respect of 2009, only if a written notification is given to the Scottish Ministers as soon as practicable after 1st January 2009 and in any case no later than 31st March 2009; and
  - (b) in respect of any subsequent year, only if a written notification is given to the Scottish Ministers by 1st January in the year in question.
- (5) Any notification under paragraph (4) must set out—
- (a) whether exemption under sub-paragraph (a) or (b) of sub-paragraph (1) (or under both sub-paragraphs) applies; and
  - (b) the action being taken towards making the storage capacity on the farm comply with regulation 7.
- (6) As long as regulation 20 does not apply to a farm in terms of this regulation no organic manure with high available nitrogen content is to be applied to any crop on that farm between 1st and 31st October.

### **Maximum application of nitrogen fertiliser**

**12.**—(1) The amount of nitrogen fertiliser applied on the farm to any crop must not at any time exceed the maximum figure allowed for the crop type, calculated under this regulation.

(2) Before planting any crop referred to in column 1 of table 1 in Schedule 3 on any area of land on the farm, the maximum nitrogen which can be applied to that crop for that area shall be calculated, by using the appropriate figures based on the standard yield in that table for:—

- (a) the crop grown immediately previously;
- (b) soil type; and
- (c) any other relevant adjustments allowed, if selected for inclusion.

(3) Before planting any crop which is managed grassland of a type referred to in column 1 of table 3 of Schedule 3, the maximum nitrogen which can be applied to that crop shall be calculated

by identifying the appropriate site class by using table 2 of Schedule 3, and using that site class to calculate the appropriate figure in table 3 of that Schedule.

[<sup>F18</sup>(4) Before planting any crop which is not referred to in paragraph (2) or (3), the maximum amount of nitrogen fertiliser which can be applied to that crop shall be calculated in accordance with the recommendations for that crop type specified in—

- (a) the Scottish Agricultural College's Technical Note TN651 (Nitrogen recommendations for cereals, oilseed rape and potatoes);
- (b) the Scottish Agricultural College's Technical Note TN623 (Fertiliser recommendations for soft fruit and rhubarb crops); or
- (c) the Scottish Agricultural College's Technical Note TN649 (Fertiliser recommendations for vegetable, minority arable crops and bulbs),

and no nitrogen shall be applied in excess of that figure.]

(5) For each crop to be grown on the farm, a total sum of all the individual figures for that crop produced under paragraphs (2), (3) or (4) shall be calculated, to show the overall maximum nitrogen figure which may be applied to each crop on the farm.

(6) Subject to the other provisions in these Regulations, the overall figure calculated under paragraph (5) for each crop may be applied to that crop even in excess of the individual figure for the individual area calculated under paragraphs (2), (3) or (4), as long as the overall amount applied to the crop type on the farm does not at any time exceed the sum in paragraph (5).

[<sup>F19</sup>(7) Where the calculation of the maximum amount of nitrogen fertiliser that may be applied on the farm to a crop has been adjusted upwards in accordance with paragraph (2)(c) and Schedule 3 based on an expected yield, the expected yield must be based upon—

- (a) evidence of historic yields previously achieved by that crop at that farm; or
- (b) where a new crop management system is to be introduced for that crop at that farm, evidence from another farm within the same nitrate vulnerable zone with similar soil type and soil nutrient status of historic yields previously achieved by that crop at that other farm using that crop management system.]

**F18** Reg. 12(4) substituted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **6(2)**

**F19** Reg. 12(7) inserted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **6(3)**

### Minimum nitrogen available to crop from livestock manure

**13.**—(1) In calculating the overall quantity of nitrogen fertiliser which may be applied in accordance with these Regulations, the percentage of nitrogen taken up by the crop from any given quantity of livestock manure shall be calculated in accordance with table 4 of Schedule 3, using the appropriate figures for manure type, method of application, total nitrogen content of the manure, percentage of dry matter in the manure and soil type.

(12) Notwithstanding paragraph (1) the percentage of nitrogen shall be no less than the relevant figure in table 5 of Schedule 3.

### Annual farm limit of nitrogen in livestock manure

**14.**—(1) [<sup>F20</sup>Subject to paragraph (4),] in any year the total nitrogen in livestock manure applied to the utilisable agricultural land area of the whole farm, whether directly by an animal or by spreading, must not exceed 170 kg per hectare (“ha”) of that area.

(2) For the purposes of this regulation, and subject to paragraph (3), any calculation of the amount of nitrogen contained in livestock manure from animals on the farm shall be carried out using the appropriate figures in table 1 of Schedule 1, and for livestock manure brought onto the farm, shall be carried out using the appropriate figures in table 2 of that Schedule.

(3) Paragraph (2) does not apply where the occupier provides evidence to the Scottish Ministers, based on such scientific evidence as the Scottish Ministers consider satisfactory, that the total nitrogen contained in the livestock manure to be applied to all land on the farm will not exceed the limit specified in paragraph (1).

[<sup>F21</sup>(4) The occupier of any grassland farm within a nitrate vulnerable zone may apply to the Scottish Ministers for a derogation from the annual farm limit of nitrogen in livestock manure specified in paragraph (1).

(5) Any derogation granted shall last until the conclusion of the calendar year to which it relates, and shall be subject to renewal.

(6) Where the Scottish Ministers grant a derogation, the total annual amount of nitrogen in livestock manure from grazing livestock applied to the derogated farm, whether directly by an animal or by spreading, must not exceed 250kg multiplied by the area of the derogated farm in hectares.

(7) Any application for a derogation shall be made in accordance with regulation 14A and any grant of a derogation shall be subject to the conditions of regulation 14B.]

**F20** Words in reg. 14(1) inserted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **5(2)**

**F21** Reg. 14(4)-(7) inserted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **5(3)**

## [<sup>F22</sup>**Application for a derogation from the annual farm limit of nitrogen in livestock manure**

**14A.**—(1) The occupier of any grassland farm within a nitrate vulnerable zone who wishes to apply to the Scottish Ministers for a derogation must submit an application—

- (a) by 30th April of the calendar year to which the application pertains (in respect of applications other than those pertaining to 2009);
- (b) by 31st January 2010 in respect of applications pertaining to 2009.

(2) The Scottish Ministers must publish electronically the manner and form in which the derogation application must be made.

(3) Where the farm in respect of which a derogation is applied for benefited from a derogation during the calendar year preceding that to which the application relates, the application shall be accompanied by the fertilisation accounts for that preceding calendar year.

(4) The Scottish Ministers must approve or refuse a derogation application within 21 days from its receipt and notify the applicant of the decision in writing.

(5) Where the Scottish Ministers refuse a derogation application, they shall give the occupier reasons for the refusal.]

**F22** Regs. 14A, 14B inserted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **6(1)**

## [<sup>F22</sup>**Conditions of a derogation from the annual farm limit of nitrogen in livestock manure**

**14B.** A derogation shall be subject to the following conditions—

- (a) total nitrogen inputs shall not exceed the foreseeable nutrient demand of the considered crop, taking into account the supply from the soil;
- (b) livestock manure shall not be spread in the autumn before grass cultivation;
- (c) grass on sandy soils, if ploughed, shall only be ploughed in spring;
- (d) ploughed grass on all soil types shall be followed immediately by a crop with high nitrogen demand;
- (e) crop rotation shall not include leguminous or other plants fixing atmospheric nitrogen, other than clover in grassland with less than 50% clover or leguminous plants under-sown with grass;
- (f) nitrogen and phosphate soil sampling and analysis shall be carried out at least once every four years for, as a minimum, every five hectares of the farm that, having regard to crop rotation and soil characteristics, can reasonably be considered homogeneous; and
- (g) fertilisation accounts for each calendar year for which a derogation is granted shall be prepared and submitted to the Scottish Ministers by 30<sup>th</sup> April of the following year.]

**F22** Regs. 14A, 14B inserted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **6(1)**

### Annual field limit of nitrogen in organic manure

**15.**—(1) Organic manure [<sup>F23</sup>(other than compost)] shall not be applied to any field where the application would result in the total nitrogen contained in organic manure [<sup>F23</sup>(other than compost)] applied in any 12 month period to any field exceeding a rate of 250 kg per hectare excluding that deposited by animals whilst grazing.

[<sup>F24</sup>(1A) Compost shall not be applied to any field where the application would result in the total nitrogen contained in organic manure (including compost) applied to any field in any 24 month period exceeding a rate of 500 kg per hectare, excluding that deposited by animals whilst grazing.]

(2) For the purposes of this regulation, and subject to paragraph (3), any calculation of the amount of nitrogen contained in livestock manure shall be carried out using the appropriate figures contained in table 2 in Schedule 1.

(3) Paragraph (2) does not apply where the occupier provides evidence to the Scottish Ministers based on such scientific evidence as the Scottish Ministers consider satisfactory, that the total nitrogen contained in the livestock manure to be applied to all land on the farm, will not exceed the limit specified in paragraph (1).

**F23** Words in reg. 15(1) inserted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **7(2)**

**F24** Reg. 15(1A) inserted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **7(3)**

### Application of nitrogen fertiliser

**16.**—(1) Nitrogen fertiliser must be applied to land in as accurate a manner as is practicably possible consistent with good agricultural practice.

(2) Nitrogen fertiliser must not be applied to any land if—

- (a) the soil is waterlogged;
- (b) the land is flooded;

- (c) the soil has been frozen for 12 hours or longer in the preceding 24 hours; or
- (d) the land is covered by snow.

(3) Nitrogen fertiliser must not be applied to any land if there is a significant risk of nitrogen entering surface water, taking into account—

- (a) the slope of the land, particularly if greater than 12 degrees;
- (b) any ground cover;
- (c) proximity to any surface water;
- (d) weather conditions; and
- (e) the type of fertiliser being applied.

### **Application of chemical fertiliser**

**17.** Chemical fertiliser must not be applied to any land in any case, location or manner that makes it likely that the fertiliser will directly enter any surface water.

### **Application of organic manure**

**18.—**(1) Organic manure must not be applied to any land which is situated within—

- (a) 10 metres of any surface water; or
- (b) 50 metres of any well, borehole or similar work sunk into underground strata for the purposes of any water supply.

### **Closed period for chemical fertilisers**

**19.—**(1) Subject to paragraph (4), a chemical fertiliser must not be applied to land specified in paragraphs (2) and (3) on or between the dates so specified in relation to that land.

(2) In relation to the area of land designated as the Aberdeenshire, Banff, Buchan and Moray nitrate vulnerable zone <sup>M7</sup>, the land and dates specified for the purposes of paragraph (1) are—

- (a) in the case of grassland, 15th September in any year and 20th February in the following year; and
- (b) in the case of other land, 1st September in any year and 20th February in the following year.

(3) In relation to areas of land designated as nitrate vulnerable zones other than the area of land mentioned in paragraph (2) <sup>M8</sup>, the land and dates specified for the purposes of paragraph (1) are—

- (a) in the case of grassland, 15th September in any year and 15th February in the following year; and
- (b) in the case of other land, 1st September in any year and 15th February in the following year.

(4) Where the fertiliser and manure management plan demonstrates that the nitrogen requirement of the following crops can only be met by applying chemical fertiliser on any dates on which that application is otherwise prohibited by this regulation, such fertiliser may be applied up to the following maximum limits—

- (a) for brassicas 100 kg per hectare;
- (b) for winter oilseed rape the amount set out in table 1 of Schedule 3, taking into account the previous crop, crop yield and soil type.

### Marginal Citations

- M7** Designated as a nitrate vulnerable zone by regulation 3 of the [Designation of Nitrate Vulnerable Zones \(Scotland\) Regulations 2002 \(S.S.I. 2002/276\)](#).
- M8** Designated as a nitrate vulnerable zone either by regulation 3 of S.S.I. 2002/276 or regulation 3 of [S.S.I. 2002/546](#).

### Closed periods for organic manure with high available nitrogen content

**20.**—(1) Organic manure with high available nitrogen content must not be applied—

- (a) on or between 1st September and 31st December, to grassland which is situated on sandy or shallow soil; or
- (b) on or between [<sup>F25</sup>15th October and 31st January] to grassland which is situated on any other soil;
- (c) on or between 1st August and 31st December to land which is not grassland and which is situated on sandy or shallow soil; or
- (d) on or between [<sup>F26</sup>1st October and 31st January] to land which is not grassland, and which is situated on any other soil.

(2) In a case where the prohibition in paragraph (1)(c) applies, organic manure with high available nitrogen content may nevertheless be applied—

- (a) up to and including 15th September if the land is sown with a cereal crop before that date, and
- (b) up to and including 30th September if the land is sown with oilseed rape, a catch crop or a cover crop before that date.

- F25** Words in reg. 20(1)(b) substituted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **8(2)**
- F26** Words in reg. 20(1)(d) substituted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **8(3)**

### Modifications etc. (not altering text)

- C3** Reg. 20 modified (temp.) (1.1.2016) by [The Designation of Nitrate Vulnerable Zones \(Scotland\) Regulations 2015 \(S.S.I. 2015/376\)](#), regs. 1(1), **4**

### Closed periods – quantitative restrictions

**21.**—(1) Organic manure with high available nitrogen content must not be applied to land in excess of the maximum quantities set out in column 2 of the table in Schedule 4 in relation to the relevant manure during the following periods—

- (a) 4 weeks prior to the first day on which regulation 20 prohibits the application of such manure; and
- (b) from the day following the last day of that prohibition until 14th February, both dates inclusive.

(2) In any period during which a prohibition imposed by paragraph (1) applies in respect of land, there may be applied to that land only one of the types of organic manure specified in column 1 of that table.

### **Closed periods for spreading on bare ground and stubble**

**22.** Organic manure with high available nitrogen content may only be applied to bare ground and stubble during the months of July, August and September if the land to which it is applied is drilled with a crop within 6 weeks of the first application.

### **Minimum period between applications of livestock manure**

**23.** A period of at least 3 weeks must elapse between each completed application of livestock manure to an area on the farm.

### **Restriction on method of application of slurry**

**24.—**(1) From 1 July 2009, slurry may not be applied to land by means of high trajectory raised splash plates.

(2) Paragraph (1) does not apply to the application of slurry to land on which arable crops are growing.

## **PART 3**

### **Records to be kept**

**25.—**(1) Subject to paragraph (2), the occupier must keep records which must be sufficient to enable any person inspecting those records readily to ascertain—

- (a) the area of the farm;
- (b) for each field on the farm—
  - (i) the area of the field;
  - (ii) the soil type in the field;
  - (iii) the quantity of each type of nitrogen fertiliser applied in relation to each crop;
  - (iv) the type of any crop grown and the date the crop was sown;
  - (v) the date of application of each type of nitrogen fertiliser applied in relation to each crop;
- (c) the number of livestock kept on the farm, their species and type, and the length of time kept on the farm;
- (d) the quantity of each type of livestock manure (whether farmyard manure, slurry, poultry manure, or other livestock manure) produced on the farm and the nitrogen content of such manure which is retained and used on the farm;
- (e) the quantity and nitrogen content of each type of livestock manure (whether farmyard manure, slurry, poultry manure, or other livestock manure ) moved off the farm, the date of that movement and the name and address of the person receiving it;
- (f) the quantity and nitrogen content of each type of organic manure moved onto the farm, the date of that movement and the name and address of the supplier;
- (g) the quantity and type of chemical fertiliser brought onto the farm, used on the farm and retained on the farm; <sup>F27</sup>and
- (h) the location of any field heaps.]

<sup>F28</sup>(2) The occupier of a derogated farm must, in addition to the records to be kept under paragraph (1), keep records of—

- (a) the derogation application and decision;
  - (b) the fertiliser and manure management plan referred to in regulation 5;
  - (c) fertilisation accounts; and
  - (d) the results of nitrogen and phosphate analysis in soil referred to in regulation 14B.
- (3) The Scottish Ministers must publish electronically the manner and form in which fertilisation accounts must be prepared and submitted.
- (4) The records referred to in paragraphs (1) and (2) must be kept for each year.]

- F27** Reg. 25(1)(h) and preceding word inserted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **9(2)**
- F28** Reg. 25(2)-(4) substituted for reg. 25(2) (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **7(2)**

### Records to be retained

**26.** The occupier must retain any record kept for the purposes of regulation 25 for a period of [<sup>F29</sup>3 years] from the end of the year to which it relates.

- F29** Words in [reg. 26](#) substituted (15.5.2013) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(2), **10(2)**

### Inspections

**27.—(1)** The occupier must permit any person authorised by the Scottish Ministers (“the authorised person”), accompanied by such persons as appear to the authorised person to be necessary for the purpose, at all reasonable times, for the purpose of monitoring implementation of these Regulations or of assessing their effectiveness in reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution—

- (a) to enter upon land;
- (b) to take samples;
- (c) to install and maintain equipment;
- (d) to examine all records kept under these Regulations.

(2) The occupier must give all reasonable assistance to any person acting by virtue of paragraph (1) above and in particular must—

- (a) produce for inspection such document or record as may be reasonably required by that person; and
- (b) at the reasonable request of that person, accompany that person in making any inspection of any land.

### Serving of notices

**28.—(1)** Where the Scottish Ministers are of the opinion that an occupier has contravened a requirement imposed by these Regulations, they may serve a notice on the occupier in accordance with paragraph (2).

(2) A notice must—

- (a) require the occupier upon whom it is served to carry out such works or to take such precautions and other steps as the Scottish Ministers consider appropriate in order to



remedy, or to prevent the continuation or repetition of, any contravention to which the notice relates;

- (b) state the period within which any such requirement is to be complied with; and
- (c) inform the occupier on whom it is served of any right of appeal under these Regulations.

(3) The period stated in the notice for compliance with any such requirement must be such period as is reasonable in the circumstances and must not in any case be a period of fewer than 28 days.

(4) The Scottish Ministers may at any time—

- (a) withdraw the notice;
- (b) extend the period for compliance with any requirement of the notice; or
- (c) modify the requirements of the notice.

(5) Unless a modification of the requirements of a notice is consented to by the occupier or is made in consequence of a direction under regulation 29(6), the modification is to impose no greater burden on the occupier than the notice did before modification.

### Appeals against notices

**29.**—(1) An occupier served with a notice under regulation 28 may within the period of 28 days beginning with the day on which that notice is served appeal to the Scottish Land Court <sup>M9</sup> on the grounds set out in paragraph (3).

(2) An appeal shall be made by the appellant in such form as may be specified by the Scottish Land Court.

(3) An appeal may be made on one or more of the following grounds—

- (a) the contravention did not occur;
- (b) any requirement imposed by the notice is inadequately specified in it;
- (c) any requirement imposed by the notice is not necessary to remedy, or to prevent the continuation or repetition of, the contravention to which the notice relates; or
- (d) any requirement imposed by the notice is not appropriate to achieve compliance with these Regulations and the appellant contends that any such requirement should be modified.

(4) Where an appellant contends that the notice should be modified, the grounds of appeal must give such detail of the modification proposed as will adequately indicate the nature, extent and cost of that modification.

(5) The Chairman of the Scottish Land Court may make such arrangements as are considered appropriate for the hearing of appeals under these Regulations and such arrangements may permit the Chairman or any member of the Court to determine the whole or any part of an appeal.

(6) On determining an appeal under this regulation the Court may direct the Scottish Ministers to withdraw the notice, to modify any of the requirements of the notice, to extend the period for compliance or to dismiss the appeal.

(7) The requirement to comply with a notice under regulation 28 shall be suspended until the date on which the Court finally intimates its determination of the appeal or the date on which the appeal is withdrawn.

### Marginal Citations

- M9** The Scottish Land Court, established by section 3 of the Small Landholders (Scotland) Act 1911, and continued in being under section 1 of the [Scottish Land Court Act 1993 \(c. 45\)](#).

### **Offences – general**

**30.**—(1) Any person who fails to comply with—

- (a) regulation 4, 25 or 26, or
- (b) a requirement imposed by a notice served under regulation 28,

is guilty of an offence and liable, on summary conviction, to a fine not exceeding the statutory maximum or, on conviction on indictment, to a fine.

(2) Any person who fails to comply with regulation 27 is guilty of an offence and liable, on summary conviction, to a fine not exceeding level 3 on the standard scale.

### **Offences by directors, etc.**

**31.**—(1) Where a body corporate is guilty of an offence under these Regulations, and that offence is proved to have been committed with the consent or connivance of, or to be attributable to any neglect on the part of—

- (a) any director, manager, secretary or other similar officer of the body corporate; or
- (b) any person purporting to act in such capacity,

that person, as well as the body corporate, is guilty of the offence and liable to be proceeded against and punished accordingly.

(2) For the purpose of paragraph (1) “director”, in relation to a body corporate whose affairs are managed by its members, means a member of the body corporate.

(3) Where an offence under these Regulations is committed by a partnership and is proved to have been committed with the consent or connivance of, or to be attributable to any neglect on the part of, a partner, that partner as well as the partnership is guilty of the offence and liable to be proceeded against and punished accordingly.

St Andrew's House,  
Edinburgh

*RICHARD LOCHHEAD*  
A member of the Scottish Executive

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

## SCHEDULE 1

Regulations 7, 14 and 15

[<sup>F30</sup>Calculation of nitrogen ('N') and phosphate ('P<sub>2</sub>O<sub>5</sub>') in livestock manure]

**F30** Sch. 1 heading substituted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **8(2)**

[<sup>F31</sup>**Table 1**

Standards for the volume of excreta, nitrogen and phosphate in manure produced by livestock

<i>Pigs</i>	<i>Daily Excreta (litres per animal/day)</i>	<i>Daily Nitrogen production (grams per animal/day)</i>	<i>Daily Phosphate production (grams per animal/day)</i>
Weight			
From 7 to 13kg	1.3	4.1	1.3
From 13 to 31kg	2.0	14.2	6.0
From 31 to 66kg—			
Dry fed	3.7	24	12.1
Liquid fed	7.1	24	12.1
From 66kg and—			
intended for slaughter—			
dry fed	5.1	33	17.9
liquid fed	10.0	33	17.9
sow intended for breeding that has not yet had its first litter (maiden gilt)	5.6	38	20.0
sow (including litter up to 7kg) fed on a diet supplemented with synthetic amino acids	10.9	44	37.0
sow (including litter up to 7kg) fed on a diet without synthetic amino acids	10.9	49	37.0
Breeding boar from 66kg up to 150kg	5.1	33	17.9
Breeding boar, from 150kg	8.7	48	28.0
<i>Cattle</i>	<i>Daily Excreta (litres per animal/day)</i>	<i>Daily Nitrogen production (grams per animal/day)</i>	<i>Daily Phosphate production (grams per animal/day)</i>
Calf (all categories) up to 3 months	7.0	23	12.7
Dairy cow			

(a) Castrated males.

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

<i>Cattle</i>	<i>Daily Excreta (litres per animal/day)</i>	<i>Daily Nitrogen production (grams per animal/day)</i>	<i>Daily Phosphate production (grams per animal/day)</i>
From 3 months up to 13 months	20	95	34
From 13 months up to first calf	40	167	69
After first calf and—			
annual milk yield more than 9000 litres	64	315	142
annual milk yield between 6000 to 9000 litres	53	276	121
annual milk yield less than 6000 litres	42	211	93
Beef cows or steers <sup>(a)</sup>			
From 3 up to 13 months	20	91	33
From 13 up to 25 months	26	137	43
Over 25 months—			
Females or steers for slaughter	32	137	60
Females for breeding—			
weighing 500kg or less	32	167	65
weighing more than 500kg	45	227	86
Bulls			
non-breeding, 3 months and over	26	148	24
Breeding			
From 3 up to 25 months	26	137	43
Over 25 months	26	132	60

(a) Castrated males.

<i>Sheep</i>	<i>Daily Excreta (litres per animal/day)</i>	<i>Daily Nitrogen production (grams per animal/day)</i>	<i>Daily Phosphate production (grams per animal/day)</i>
From 6 months up to 9 months old	1.8	5.5	0.76
From 9 months old to first lambing, first tugging or slaughter	1.8	3.9	2.1
After lambing or tugging <sup>(a)</sup>			
weight up to 60kg	3.3	21	8.8

(a) In the case of a ewe, this figure includes one or more suckled lambs until the lambs are aged six months.

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

<i>Sheep</i>	<i>Daily Excreta (litres per animal/day)</i>	<i>Daily Nitrogen production (grams per animal/day)</i>	<i>Daily Phosphate production (grams per animal/day)</i>
weight over 60kg	5.0	33	10

(a) In the case of a ewe, this figure includes one or more suckled lambs until the lambs are aged six months.

<i>Goats, deer and horses</i>	<i>Daily Excreta (litres per animal/day)</i>	<i>Daily Nitrogen production (grams per animal/day)</i>	<i>Daily Phosphate production (grams per animal/day)</i>
Goat	3.5	41	18.8
Deer			
Breeding	5.0	42	17.6
Other	3.5	33	11.7
Horse	24	58	56
<i>Poultry</i>	<i>Daily Excreta<sup>(a)</sup> (kilograms per bird/day)</i>	<i>Daily Nitrogen production (grams per bird/day)</i>	<i>Daily Phosphate production (grams per bird/day)</i>
Laying chicken			
up to 17 weeks	0.04	0.64	0.47
17 weeks and over (caged)	0.12	1.13	1.0
17 weeks and over (free range)	0.12	1.5	1.1
Broiler chicken (table)	0.06	1.06	0.72
Broiler chicken (breeder)—			
up to 25 weeks	0.04	0.86	0.78
25 weeks and over	0.12	2.02	1.5
Turkey			
Male	0.16	3.74	3.1
Female	0.12	2.83	2.3
Duck	0.10	2.48	2.4
Ostrich	1.6	3.83	18.5

(a) This figure includes litter as appropriate.]

**F31** Sch. 1 Table 1 substituted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **8(3)**

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

**Table 2****Total nitrogen content in livestock manure**

<i>Manure type</i>	<i>Total N kg/metres<sup>3</sup> or kg/tonne</i>
Solid manure	
Cattle farmyard manure	6.0
Pig farmyard manure	7.0
Sheep farmyard manure	7.0
Duck manure	6.5
Poultry layer manure	19
Poultry broiler manure [litter]	30
Turkey manure [litter]	30
Cattle slurry	
cattle slurry, 2% dry matter	1.6
cattle slurry, 6% dry matter	2.6
cattle slurry, 10% dry matter	3.6
Pig slurry	
Pig slurry, 2% dry matter	3.0
Pig slurry, 4% dry matter	3.6
Pig slurry, 6% dry matter	4.4
Separated slurry (some solids removed)	
Strainer box cattle slurry	1.5
Weeping-wall cattle slurry	2.0
Mechanically separated cattle slurry	3.0
Mechanically separated pig slurry	3.6
Dirty water (not slurry)	
Dirty water, less than 1% dry matter	0.5

**SCHEDULE 2**

Regulation 7(3)(b)

**Quantity of cleaning water used by livestock (quantities in litres)**

<i>Livestock type</i>	<i>Cleaning system</i>	<i>Range</i>	<i>Typical</i>
		<i>per animal/day</i>	<i>per animal/day</i>

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Dairy cows	Cleaning milking parlour equipment, washing udders etc		
	Without a power hose	14–22	18
	With a power hose	27–45	35
		<i>Range</i>	<i>Typical</i>
		<i>per batch</i>	<i>per batch</i>
Pigs	Cleaning out pens after each batch		
	(10 pigs per pen)	16–24	18

## SCHEDULE 3

Regulations 12, 13 and 19

## Calculation of maximum nitrogen application to crops

[F32]Table 1

Nitrogen Residue Group 1 – **Previous Crops in Nitrogen Residue Group 1 are:** cereals, carrots, swedes, turnips (removed) & linseed

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Spring Barley <sup>(c)(e)</sup>	5.5	150	130	80	50
Winter Barley <sup>(c)</sup>	6.5	200	180	120	80
Spring Wheat <sup>(a)(b)</sup>	7.0	170	150	100	60
Winter Wheat <sup>(a)(b)</sup>	8.0	220	200	140	80
Spring Oats <sup>(c)</sup>	5.0	120	100	50	20
Winter Oats <sup>(c)</sup>	6.0	160	140	90	50
Spring Oilseed Rape	n/a	100	100	50	20

**Adjustments**

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

**There is no upward adjustment for excess winter rainfall on N Residue Group 1 Crops**

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Winter Oilseed Rape (spring) <sup>(d)</sup>	4.0	200	200	120	80
Winter Oilseed Rape (autumn)	n/a	30	30	30	30
Potatoes	n/a	245	225	175	145
Forage Maize, Rape	n/a	140	120	70	40
Kale	n/a	180	160	100	60
Swedes and Turnips	n/a	110	90	50	20
Linseed	n/a	80	60	30	0

#### Adjustments

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

**There is no upward adjustment for excess winter rainfall on N Residue Group 1 Crops**

**Nitrogen Residue Group 2 - Previous Crops in Nitrogen Residue Group 2**  
**are:** - harvested fodder (whole crop), oilseed rape, hemp, vining peas & potatoes

Grassland Management Regimes in Residue Group 2: - **1-2 year low N leys<sup>(1)</sup>, not grazed** within 2 months of ploughing out or during September or October

(1) **low N** means average N use in last 2 years was less than 150kg/ha/year

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or Other mineral	Humose	Peaty
Spring Barley <sup>(c)(e)</sup>	5.5	140	120	70	40
Winter Barley <sup>(c)</sup>	6.5	190	170	110	70

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

If actual localised rainfall from 1st Oct – 1st March exceeds 450 mm: add 10kgN/ha



**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or Other mineral	Humose	Peaty
Spring Wheat <sup>(a)(b)</sup>	7.0	160	140	90	50
Winter Wheat <sup>(a)(b)</sup>	8.0	210	190	130	70
Spring Oats <sup>(c)</sup>	5.0	110	90	40	10
Winter Oats <sup>(c)</sup>	6.0	150	130	80	40
Spring Oilseed Rape	n/a	90	90	40	10
Winter Oilseed Rape (spring) <sup>(d)</sup>	4.0	190	190	110	70
Winter Oilseed Rape (autumn)	n/a	20	20	20	20
Potatoes	n/a	235	215	165	135
Forage Maize, Rape	n/a	130	110	60	30
Kale	n/a	170	150	90	50
Swedes and Turnips	n/a	100	80	40	10
Linseed	n/a	70	50	20	0

### Adjustments

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

If actual localised rainfall from 1st Oct – 1st March exceeds 450 mm: add 10kgN/ha

### Nitrogen Residue Group 3 - Previous Crops in Nitrogen Residue Group 3 are: - harvested fodder (root only), beans, combining peas & whole crop lupins

Grassland Management 1-2 year low N leys, grazed within 2 months of ploughing out or  
Regimes in Residue Group 3: during September or October

1-2 year high N leys, not grazed within 2 months of ploughing out  
or during September or October

Thin permanent grass, low N, no clover

(2) **high N** means average N use in last 2 years was more than 150kg/ha/year, or high clover

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Spring Barley <sup>(c)(e)</sup>	5.5	130	110	60	30
Winter Barley <sup>(c)</sup>	6.5	180	160	100	60
Spring Wheat <sup>(a)(b)</sup>	7.0	150	130	80	40
Winter Wheat <sup>(a)(b)</sup>	8.0	200	180	120	60
Spring Oats <sup>(c)</sup>	5.0	100	80	30	0
Winter Oats <sup>(c)</sup>	6.0	140	120	70	30
Spring Oilseed Rape	n/a	80	80	30	0
Winter Oilseed Rape (spring) <sup>(d)</sup>	4.0	180	180	100	60
Winter Oilseed Rape (autumn)	n/a	10	10	10	10
Potatoes	n/a	225	205	155	125
Forage Maize, Rape	n/a	120	100	50	20
Kale	n/a	160	140	80	40
Swedes and Turnips	n/a	90	70	30	0
Linseed	n/a	60	40	10	0

#### Adjustments

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1st Oct – 1st March add 20kgN/ha to crops grown in sandy, shallow or sandy loam soils exceeds 450 mm:

add 10kgN/ha to crops grown in other mineral, humose and peaty soils

#### Nitrogen Residue Group 4 - Previous Crops in Nitrogen Residue Group 4 is: - grain lupin

Grassland Management Regimes in Residue Group 4:	1-2 year high N leys, grazed within 2 months of ploughing out or during September or October
	3-5 year low N leys <sup>2</sup> , not grazed within 2 months of ploughing out or during September or October
	Thick permanent grass, low N

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Spring Barley <sup>(c)(e)</sup>	5.5	110	90	40	10
Winter Barley <sup>(c)</sup>	6.5	170	140	80	40
Spring Wheat <sup>(a)(b)</sup>	7.0	130	110	60	20
Winter Wheat <sup>(a)(b)</sup>	8.0	180	160	100	40
Spring Oats <sup>(c)</sup>	5.0	80	60	10	0
Winter Oats <sup>(c)</sup>	6.0	130	100	50	10
Spring Oilseed Rape	n/a	60	60	10	0
Winter Oilseed Rape (spring) <sup>(d)</sup>	4.0	140	140	80	40
Winter Oilseed Rape (autumn)	n/a	0	0	0	0
Potatoes	n/a	205	185	145	115
Forage Maize, Rape	n/a	100	80	30	0
Kale	n/a	140	120	60	20
Swedes and Turnips	n/a	80	60	20	0
Linseed	n/a	10	0	0	0

#### Adjustments

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1st Oct – 1st March add 20kgN/ha to crops grown in sandy, shallow or sandy loam soils exceeds 450 mm:

add 10kgN/ha to crops grown in other mineral, humose and peaty soils

#### Nitrogen Residue Group 5 - Previous Crops in Nitrogen Residue Group 5 are: - leafy brassica vegetables, leafy non-brassica vegetables & grazed fodder

Grassland Management Regimes in Residue Group 5: 3 - 5 year high N leys, not grazed within 2 months of ploughing out or during September or October

3 - 5 year low N leys, grazed within 2 months of ploughing out or during September or October

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Permanent grass, high N, not grazed within 2 months of ploughing out or during September or October

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Spring Barley <sup>(c)(e)</sup>	5.5	80	60	10	0
Winter Barley <sup>(c)</sup>	6.5	140	110	50	10
Spring Wheat <sup>(a)(b)</sup>	7.0	100	80	30	0
Winter Wheat <sup>(a)(b)</sup>	8.0	150	130	70	10
Spring Oats <sup>(c)</sup>	5.0	50	30	0	0
Winter Oats <sup>(c)</sup>	6.0	100	70	20	0
Spring Oilseed Rape	n/a	30	30	0	0
Winter Oilseed Rape (spring) <sup>(d)</sup>	4.0	110	110	50	0
Winter Oilseed Rape (autumn)	n/a	0	0	0	0
Potatoes	n/a	175	155	135	105
Forage Maize, Rape	n/a	70	50	0	0
Kale	n/a	110	90	30	0
Swedes and Turnips	n/a	70	50	10	0
Linseed	n/a	10	0	0	0

#### Adjustments

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1st Oct – 1st March exceeds 450 mm: add 20kgN/ha to crops grown in sandy, shallow or sandy loam soils

add 10kgN/ha to crops grown in other mineral, humose and peaty soils

#### Nitrogen Residue Group 6

Management Regimes in 3 -5 year high N leys, grazed within 2 months of ploughing out Residue Group 6:

permanent grass, high N, grazed within 2 months of ploughing out

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Planned crop	Standard yield (t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Spring Barley <sup>(c)(e)</sup>	5.5	40	20	0	0
Winter Barley <sup>(c)</sup>	6.5	100	70	10	0
Spring Wheat <sup>(a)(b)</sup>	7.0	70	0	0	0
Winter Wheat <sup>(a)(b)</sup>	8.0	110	90	30	0
Spring Oats <sup>(c)</sup>	5.0	10	0	0	0
Winter Oats <sup>(c)</sup>	6.0	60	30	0	0
Spring Oilseed Rape	n/a	0	0	0	0
Winter Oilseed Rape (spring) <sup>(d)</sup>	4.0	70	70	10	0
Winter Oilseed Rape (autumn)	n/a	0	0	0	0
Potatoes	n/a	135	115	115	115
Forage Maize, Rape	n/a	30	10	0	0
Kale	n/a	70	50	0	0
Swedes and Turnips	n/a	50	30	0	0
Linseed	n/a	0	0	0	0

#### Adjustments

- (a) For wheat, an additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (b) For wheat, an additional 40kgN/ha is permitted to milling wheat varieties.
- (c) For barley and oats, an additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) On winter oil seed rape, the spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.
- (e) On spring barley, an additional 15kgN/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1 Oct – 1 March exceeds 450 mm:

add 20kgN/ha to crops grown in sandy, shallow or sandy loam soils

add 10kgN/ha to crops grown in other mineral, humose and peaty soils]

**F32** Sch. 3 Table 1 substituted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **9(2)**

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Table 2

### Site Classes– Applicable to grassland

Grassland production is limited by growing conditions, in particular the quantity of rainfall between April and September and soil type. The combined effect of these factors defines the site class.

<i>Soil texture</i>	<i>Average April – September rainfall mm (inches)</i>			
	<i>More than 500 (20)</i>	<i>425–500 (17–20)</i>	<i>350–425 (14–17)</i>	<i>Less than 350 (14)</i>
Sands and shallow soils	2	3	4	5
All other soils	1	2	2	3

Table 3

### Maximum nitrogen application to grassland

<i>Grass management</i>	<i>Site Class 1</i>	<i>Site Class 2</i>	<i>Site Class 3</i>	<i>Site Class 4</i>	<i>Site Class 5</i>
	<i>kgN/ha</i>	<i>kgN/ha</i>	<i>kgN/ha</i>	<i>kgN/ha</i>	<i>kgN/ha</i>
2 or 3 cut silage and grazing	310	300	290	280	270
1 cut silage and grazing	280	270	260	250	240
Grazing with low clover	270	260	250	240	230
Hay and grazing	220	210	200	190	180
Grass with high clover	100	90	80	70	60

Table 4

### Percentage of Nitrogen available to next crop

PART A—Farmyard manure (FYM) – Percentage of nitrogen available to next crop following FYM applications (all crops and all soil types).

<i>FYM type</i>	<i>Manure Reference Number</i>	<i>Total N (kg/t)</i>	<i>Dry Matter %</i>	<i>% N available to following crop</i>
Cattle FYM	1	6	25	10
Separated solids from cattle slurry	2	4	20	10
Pig FYM	3	7	25	10

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

Separated solids from pig slurry	4	5	20	10
Sheep FYM	5	7	25	10
Duck FYM	6	6.5	25	10
Horse FYM	7	7	30	10

PART B—Poultry manure – Percentage of nitrogen available to next crop following Poultry Manure applications (use the value in brackets for grassland and winter oilseed rape cropping).

\*These values assume incorporation by ploughing. Cultivation using discs or tines is likely to be less effective in minimising ammonia losses and intermediate values of nitrogen availability should be used.

Manure Type	Manure Reference Number	Incorporation time*	Total N (kg/t)	Dry Matter %	Autumn		Winter		Spring	Summer use on Grassland
					August–October	All Sands	November–January	All Sands	February–April	All Soils
					Sandy Loams Shallow	other soils	Sandy Loams Shallow	other soils	All Soils	All Soils
Layer manure	8	Over 24 hrs	19	35	20	25 (30)	25	25	35	35
Layer manure	9	Within 24 hrs	19	35	20	25 (30)	25	40	50	N/A
Broiler/Turkey litter	10	Over 24 hrs	30	60	20	35 (40)	20	25	30	30
Broiler/Turkey litter	11	Within 24 hrs	30	60	20	30 (35)	20	30	40	N/A

<sup>[F33]</sup>PART C—Cattle, Dirty Water and Pig Slurry – Percentage of nitrogen available to next crop following Cattle Slurry, Dirty Water and Pig Slurry applications (use the value in brackets for grassland and winter oilseed rape cropping).

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

					Autumn		Winter		Spring	Summer use on Grassland
					August- October		November- January		Feb - April	
Manure Type	Dry Matter %	Ref No.	Incorporation time/ method	Total N (kg/ t)	Sands Sandy Loams Shallow	All other soils	Sands Sandy Loams Shallow	All other soils	All Soils	
Cattle slurry – Surface applied	2	12	Not incorporated	1.6	20	30 (35)	30	30	45	30
Cattle slurry – Surface applied	6	13	Not incorporated	2.6	20	25 (30)	25	25	35	25
Cattle slurry – Surface applied	10	14	Not incorporated	3.6	20	20 (25)	20	20	25	20
Cattle slurry – ploughed in	2	15	Within 6 hrs	1.6	20	35 (40)	30	35	50	N/A
Cattle slurry – ploughed in	6	16	Within 6 hrs	2.6	20	30 (35)	25	30	40	N/A
Cattle slurry – ploughed in	10	17	Within 6 hrs	3.6	20	25 (30)	20	25	30	N/A
Cattle slurry – Band-spread	2	18	Band- spread	1.6	20	30 (35)	30	30	50	40
Cattle slurry – Band-spread	6	19	Band- spread	2.6	20	25 (30)	25	25	40	30
Cattle slurry – Band-spread	10	20	Band- spread	3.6	20	20 (25)	20	20	30	25
Cattle slurry – shallow injected	2	21	Shallow injected	1.6	20	30 (35)	35	35	55	45
Cattle slurry – shallow injected	6	22	Shallow injected	2.6	20	25 (30)	30	30	45	35
Cattle slurry – shallow injected	10	23	Shallow injected	3.6	20	20 (25)	25	25	35	30
Separated – Strainer box	*	24	Select from above	1.5	*Use the appropriate values for 2% dry matter cattle slurry					
Separated – Weeping wall	*	25		2						



**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

					Autumn		Winter		Spring	Summer use on Grassland
					August- October		November- January		Feb - April	
Manure Type	Dry Matter %	Ref No.	Incorporation time/ method	Total N (kg/ t)	Sands Sandy Loams Shallow	All other soils	Sands Sandy Loams Shallow	All other soils	All Soils	
Separated Mechanical	*	26		3						
Dirty Water	0.5	27	Not incorporated	0.5	20	35 (40)	35	35	50	30
Pig slurry – surface applied	2	28	Not incorporated	3.0	25	35 (40)	40	40	55	55
Pig slurry – surface applied	4	29	Not incorporated	3.6	25	30 (35)	35	35	50	50
Pig slurry – surface applied	6	30	Not incorporated	4.4	25	25 (30)	30	30	45	45
Pig slurry – ploughed in	2	31	Within 6 hrs	3.0	25	45 (50)	35	50	65	N/A
Pig slurry – ploughed in	4	32	Within 6 hrs	3.6	25	40 (45)	30	45	60	N/A
Pig slurry – ploughed in	6	33	Within 6 hrs	4.4	25	40 (45)	30	40	55	N/A
Pig slurry – Band-spread	2	34	Band- spread	3.0	25	35 (40)	40	40	60	60
Pig slurry – Band-spread	4	35	Band- spread	3.6	25	35 (40)	35	35	55	55
Pig slurry – Band-spread	6	36	Band- spread	4.4	25	30 (35)	35	35	50	50
Pig slurry - shallow injected	2	37	Shallow injected	3.0	25	40 (45)	45	45	65	65
Pig slurry - shallow injected	4	38	Shallow injected	3.6	25	35 (40)	40	40	60	60
Pig slurry - shallow injected	6	39	Shallow injected	4.4	25	35 (40)	40	40	55	55

**Changes to legislation:** There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008. (See end of Document for details)

					Autumn		Winter		Spring	Summer use on Grassland
					August- October		November- January		Feb - April	
Manure Type	Dry Matter %	Ref No.	Incorporation time/ method	Total N (kg/ t)	Sands Sandy Loams Shallow	All other soils	Sands Sandy Loams Shallow	All other soils	All Soils	
Mechanical separator	**	40	Select from above	3.6	**Use the appropriate value for 2% dry matter pig slurry]					

**F33** Sch. 3 Table 4 Pt. C substituted (24.1.2010) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2009 \(S.S.I. 2009/447\)](#), regs. 1, **9(3)**

**Table 5**

**Percentage nitrogen content taken up by a crop per given quantity of livestock manure**

<i>Column 1</i> <i>Type of livestock manure</i>	<i>Column 2</i> <i>Percentage content of nitrogen taken up by crop until and including 31 December 2011</i>	<i>Column 3</i> <i>Percentage content of nitrogen taken up by crop on and from 1st January 2012</i>
Cattle slurry	20%	[ <sup>F34</sup> 40%]
Pig slurry	25%	[ <sup>F35</sup> 50%]
Poultry manure or litter	20%	30%
Solid manure	10%	10%

**F34** Word in Sch. 3 Table 5 substituted (1.1.2014) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(3), **11(2)**

**F35** Word in Sch. 3 Table 5 substituted (1.1.2014) by [The Action Programme for Nitrate Vulnerable Zones \(Scotland\) Amendment Regulations 2013 \(S.S.I. 2013/123\)](#), regs. 1(3), **11(3)**

## SCHEDULE 4

Regulation 21

Maximum quantities of organic manure with high available nitrogen  
content which may be applied during periods set out in regulation 21

<i>Column 1</i> <i>Organic manure</i>	<i>Column 2</i> <i>Maximum quantities which may be applied</i>
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Manures and fertilisers with high available nitrogen content, other than poultry manure	30 metres <sup>3</sup> /ha
Poultry manure	5 tonnes/ha

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## EXPLANATORY NOTE

*(This note is not part of the Regulations)*

These Regulations establish a revised action programme for the nitrate vulnerable zones which were designated in Scotland by regulation 3 of the Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2002 and regulation 3 of the Designation of Nitrate Vulnerable Zones (No. 2) (Scotland) Regulations 2002. They revoke the previous action programme for Scotland which was established by the Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2003 as amended by the Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2003.

The Regulations further implement, as regards Scotland, the requirements in Article 5 of Council Directive [91/676/EEC](#) concerning the protection of waters against pollution caused by nitrates from agricultural sources (O.J. No. L 375, 31.12.91, p. 1) to establish, review and revise an action programme for nitrate vulnerable zones.

Regulation 4 requires the occupier of a farm in a nitrate vulnerable zone to ensure that the provisions in regulations 5 to 24 are implemented in relation to such a farm.

Regulation 5 requires a fertiliser and manure management plan to be prepared each year.

Regulations 6 to 11 provide for storage of manure on the farm. Regulations 12 to 16 set limits and conditions for applying nitrogen fertiliser on the farm. Regulations 17 and 18 set conditions for applying chemical fertiliser and organic manure.

Regulations 19 to 22 set closed periods during which specified fertiliser or manure must not be applied on the farm. Regulation 23 provides for a minimum period between application of livestock manure. Regulation 24 restricts one method of application of slurry, from 1 July 2009. Regulations 25 and 26 provide for records to be kept and retained. Regulation 27 provides for inspections by the Scottish Ministers for the purpose of monitoring implementation. Regulation 28 provides for serving of notices by the Scottish Ministers and regulation 29 for a procedure to appeal against such notices.

Breaches of regulations 4, 25, 27 and 28 are made criminal offences (regulation 30).

A Regulatory Impact Assessment in relation to these Regulations has been prepared. A copy can be obtained from the Scottish Government, Water, Air, Soils and Flooding Division, Victoria Quay, Edinburgh, EH6 6QQ.

**Changes to legislation:**

There are currently no known outstanding effects for the The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008.