SCOTTISH STATUTORY INSTRUMENTS

2008 No. 298

ENVIRONMENTAL PROTECTION
AGRICULTURE
WATER

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

Made - - - -	*4th September 2008*
Laid before the Scottish Parliament - - - -	*8th September 2008*
Coming into force - -	*1st January 2009*

The Scottish Ministers make the following Regulations in exercise of the powers conferred by section 2(2) of the European Communities Act 1972(**1**) and all other powers enabling them to do so.

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(**2**) and the Action Programme for Nitrate Vulnerable Zones (Scotland) Amendment Regulations 2003(**3**) are revoked.

(**1**) 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.

(**2**) S.S.I. 2003/51.

(**3**) S.S.I. 2003/169.

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

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;

"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;

"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.

"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;

"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;

"nitrate vulnerable zone" means any area designated as a nitrate vulnerable zone by regulation 3 of the Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2002(**4**) or regulation 3 of the Designation of Nitrate Vulnerable Zones (Scotland) (No. 2) Regulations 2002(**5**);

"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);

(**4**) S.S.I. 2002/276.
(**5**) S.S.I. 2002/546.

"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(**6**) 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;

"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;

"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(**7**);

"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(**8**) 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.

(**6**) 2003 asp 11.
(**7**) 2003 asp 3.
(**8**) 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; and

(c) a calculation of the quantity of nitrogen fertiliser required in relation to each crop on the farm.

(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.

Storage of livestock manure

6.—(1) Subject to regulations 7 to 11, the capacity of storage facilities for livestock manure on a farm must be sufficient to store all livestock manure 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 must be maintained free from structural defect and otherwise be of such standard as is necessary to prevent run off or seepage to the soil or groundwater.

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–

$$X \times Y \times 182$$

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–

$$A \times B \times 154$$

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.

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 the Pollution Prevention and Control (Scotland) Regulations 2000(**9**) or the Waste Management Licensing Regulations 1994(**10**) 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.

Storage of solid manure

9. Subject to regulation 10 the storage of solid manure 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.

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.

(2) No field heap shall be located in any area where the application of organic manure is prohibited under regulation 18 or in an area of high risk identified on the risk assessment map under regulation 5(4).

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

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);

(**9**) S.S.I. 2000/323 to which there are amendments not relevant to these Regulations.
(**10**) S.I. 1994/1056 to which there are amendments not relevant to these Regulations.

(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.

(4) Before planting any crop which is not referred to in paragraph (2) or (3) the figure for the crop requirement for that crop shall be calculated, taking into account the amount of the nitrogen residue from the crop grown immediately previously and soil type, 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).

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) 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).

Annual field limit of nitrogen in organic manure

15.—(1) Organic manure shall not be applied to any field where the application would result in the total nitrogen contained in organic manure applied in any 12 month period to any field exceeding a rate of 250 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).

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(**11**), 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)(**12**), 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.

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

(**11**) Designated as a nitrate vulnerable zone by regulation 3 of the Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2002 (S.S.I. 2002/276).

(**12**) Designated as a nitrate vulnerable zone either by regulation 3 of S.S.1. 2002/276 or regulation 3 of S.S.I. 2002/546.

(b) on or between 15th October and 15th 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 1st October and 15th 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.

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.

(2) The records referred to in paragraph (1) must be kept for each year.

Records to be retained

26. The occupier must retain any record kept for the purposes of regulation 25 for a period of 5 years from the end of the year to which it relates.

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(**13**) 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.

(**13**) 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).

(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.

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 of 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
4th September 2008

RICHARD LOCHHEAD
A member of the Scottish Executive

SCHEDULE 1 Regulations 7, 14 and 15

Calculation of nitrogen ("N") in livestock manure

Table 1

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

Pigs	*Daily Excreta (litres per animal/day)*	*Daily N production (grams per animal/day)*
Weight		
From 7 to 13 kg	1.3	4.1
From 13 to 31 kg	2.0	14.2
From 31 to 66 kg–		
dry fed	3.7	24
liquid fed	7.1	24
From 66 kg and–		
intended for slaughter–		
dry fed	5.1	33
liquid fed	10.0	33
sow intended for breeding that has not yet had its first litter.	5.6	38
sow (including litter up to 7 kg) fed on a diet supplemented with synthetic amino acids	10.9	44
sow (including litter up to 7 kg) fed on a diet without synthetic amino acids	10.9	49
Breeding boar from 66kg up to 150kg	5.1	33
Breeding boar, from 150kg	8.7	48

Cattle	*Daily Excreta (litres per animal/day)*	*Daily N production (grams per animal/day)*
Calf (all categories) up to 3 months	7.0	23
Dairy cow		
From 3 months up to 13 months	20	95

(a) Castrated males.

Cattle	*Daily Excreta (litres per animal/day)*	*Daily N production (grams per animal/day)*
From 13 months up to first calf	40	167
After first calf and–		
annual milk yield more than 9000 litres	64	315
annual milk yield between 6000 to 9000 litres	53	276
annual milk yield less than 6000 litres	42	211
Beef cows or steers[(a)]		
From 3 up to 13 months	20	93
From 13 up to 25 months	26	137
Over 25 months–	32	137
females or steers for slaughter	32	137
females for breeding–		
weighing 500 kg or less	32	167
weighing more than 500 kg	45	227
Bulls		
non-breeding, 3 months and over	26	148
breeding		
From 3 up to 25 months	26	137
Over 25 months	26	132

(a) Castrated males.

Sheep	*Daily Excreta (litres per animal/day)*	*Daily N production (grams per animal/day)*
From 6 months up to 9 months old	1.8	5.5
From 9 months old to first lambing, first tupping or slaughter	1.8	3.9
After lambing or tupping[(a)]		
weight up to 60 kg	3.3	21
weight over 60 kg	5.0	33

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

Goats, deer and horses	*Daily Excreta (litres per animal/day)*	*Daily N production (grams per animal/day)*
Goat	3.5	41
Deer		
Breeding	5.0	42
Other	3.5	33
Horse	24	58

Poultry	*Daily Excreta*[(a)] *(litres per bird/day)*	*Daily N production (grams per bird/day)*
Laying chicken		
up to 17 weeks	0.04	0.64
17 weeks and over (caged)	0.12	1.13
17 weeks and over (free range)	0.12	1.5
Broiler chicken (table)	0.06	1.06
Broiler chicken (breeder)–		
up to 25 weeks	0.04	0.86
25 weeks and over	0.12	2.02
Turkey		
Male	0.16	3.74
Female	0.12	2.83
Duck	0.10	2.48
Ostrich	1.6	3.83

(a) This figure includes litter as appropriate.

Table 2

Total nitrogen content in livestock manure

Manure type	*Total N kg/metres*^{3} *or kg/tonne*
Solid manure	
Cattle farmyard manure	6.0
Pig farmyard manure	7.0
Sheep farmyard manure	7.0
Duck manure	6.5

Manure type	*Total N* *kg/metres³ or kg/tonne*
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)

Livestock type	*Cleaning system*	*Range* *per animal/day*	*Typical* *per animal/day*
Dairy cows	Cleaning milking parlour equipment, washing udders etc		
	Without a power hose	14–22	18
	With a power hose	27–45	35
		Range *per batch*	*Typical* *per batch*
Pigs	Cleaning out pens after each batch		

Livestock type	*Cleaning system*	*Range* *per animal/day*	*Typical* *per animal/day*
	(10 pigs per pen)	16–24	18

SCHEDULE 3 Regulations 12, 13 and 19

Calculation of maximum nitrogen application to crops

Table 1

Maximum nitrogen application to arable and forage crops

PREVIOUS CROP: **N residue group 1 –**	**cereals** **carrots** **swedes** **turnips (removed)** **linseed**

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

Adjustments

a. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0 tonne/ha ("t/ha").

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties.

Planned crop	Standard yield (tonne/ ha)	Predominant Soil Type in Field: Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Winter Oilseed Rape (spring) [d.]	**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. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0 tonne/ha ("t/ha").

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties.

PREVIOUS CROP: **N residue group 2 –**	**Harvested fodder (whole crop)**	**1–2 year low N** leys[1], **not grazed** within 2 months of ploughing out or during September or October
	oilseed rape	
	hemp	([1]**low N** means average N use in last 2 years was less than 150 kg/ha/year)
	vining peas	
	potatoes	

Planned crop	Standard yield(t/ha)	Predominant Soil Type in Field: Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Spring Barley [c.] [e.]	**5.5**	**140**	**120**	**70**	**40**
Winter Barley [c.]	**6.5**	**190**	**170**	**110**	**70**
Spring Wheat [a.] [b.]	**7.0**	**160**	**140**	**90**	**50**
Winter Wheat [a.] [b.]	**8.0**	**210**	**190**	**130**	**70**
Spring Oats [c.]	**5.0**	**110**	**90**	**40**	**10**
Winter Oats [c.]	**6.0**	**150**	**130**	**80**	**40**
Spring Oilseed Rape	**n/a**	**90**	**90**	**40**	**10**
Winter Oilseed Rape (spring) [d.]	**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**	**140**	**120**	**70**	**40**
Kale	**n/a**	**170**	**150**	**90**	**50**
Swedes and Turnips	**n/a**	**100**	**80**	**40**	**10**
Linseed	**n/a**	**70**	**50**	**20**	

Adjustments

a. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties.

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

PREVIOUS CROP: **N residue group 3 –**	**harvested fodder (root only)**	**1–2 year low N** leys, **grazed** within 2 months of ploughing out or during September or October
	Beans	

	combining peas	**1–2 year high N** leys[2], **not grazed** within 2 months of ploughing out or during September or October
	whole crop lupins	
		[2]**high N** means average N use in last 2 years was more than 150 kg/ha/year, or high clover)

		Predominant Soil Type in Field			
Planned crop	**Standard yield(t/ha)**	**Sand or shallow**	**Sandy loam or other mineral**	**Humose**	**Peaty**
Spring Barley,	**5.5**	**130**	**110**	**60**	**30**
Winter Barley	**6.5**	**180**	**160**	**100**	**60**
Spring Wheat.	**7.0**	**150**	**130**	**80**	**40**
Winter Wheat.	**8.0**	**200**	**180**	**120**	**60**
Spring Oats	**5.0**	**100**	**80**	**30**	**0**
Winter Oats	**6.0**	**140**	**120**	**70**	**30**
Spring Oilseed Rape	**n/a**	**80**	**80**	**30**	**0**
Winter Oilseed Rape (spring)	**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**	**140**	**120**	**70**	**40**

Adjustments

a An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b An additional 40kgN/ha is permitted to milling wheat varieties.

c An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e An additional 15kg/N/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1st October – 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

		Predominant Soil Type in Field			
Planned crop	**Standard yield(t/ha)**	**Sand or shallow**	**Sandy loam or other mineral**	**Humose**	**Peaty**
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 An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b An additional 40kgN/ha is permitted to milling wheat varieties.

c An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e An additional 15kg/N/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1st October – 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

PREVIOUS CROP: **N residue group 4 –**	**grain lupin**	**1–2 year high N** leys, **grazed** within 2 months of ploughing outor during September or October **3–5 year low N** leys, **not grazed** within 2 months of ploughing outor during September or October

		Predominant Soil Type in Field			
Planned crop	**Standard yield(t/ha)**	**Sand or shallow**	**Sandy loam or other mineral**	**Humose**	**Peaty**
Spring Barley **c. e.** **,**	**5.5**	**110**	**90**	**40**	**10**

Adjustments

a. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties

If actual local rainfall from 1 October – 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

Planned crop	Standard yield(t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Winter Barley [c.]	**6.5**	**170**	**140**	**80**	**40**
Spring Wheat [a. b.]	**7.0**	**130**	**110**	**60**	**20**
Winter Wheat [a. b.]	**8.0**	**180**	**160**	**100**	**40**
Spring Oats [c.]	**5.0**	**80**	**60**	**10**	**0**
Winter Oats [c.]	**6.0**	**130**	**100**	**50**	**10**
Spring Oilseed Rape	**n/a**	**60**	**60**	**10**	**0**
Winter Oilseed Rape (spring) [d.]	**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**	**140**	**120**	**70**	**40**
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. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties

If actual local rainfall from 1 October – 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

PREVIOUS CROP:**N residue group 5 –**	**leafy brassica vegetables**	**3–5 year high N** leys, **not grazed** within 2 months of ploughing out or during September or October

Leafy non-brassica vegetables	
grazed fodder	**3–5 year low N** leys, **grazed** within 2 months of ploughingout or during September or October

		Predominant Soil Type in Field			
Planned crop	**Standard yield(t/ha)**	**Sand or shallow**	**Sandy loam or other mineral**	**Humose**	**Peaty**
Spring Barley [c.] [e.]	**5.5**	**80**	**60**	**10**	**0**
Winter Barley [c.]	**6.5**	**140**	**110**	**50**	**10**
Spring Wheat [a.] [b.]	**7.0**	**100**	**30**	**0**	**0**
Winter Wheat [a.] [b.]	**8.0**	**150**	**130**	**70**	**10**
Spring Oats [c.]	**5.0**	**50**	**30**	**0**	**0**
Winter Oats [c.]	**6.0**	**100**	**70**	**20**	**0**
Spring Oilseed Rape	**n/a**	**30**	**30**	**0**	**0**
Winter Oilseed Rape (spring) [d.]	**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**

Adjustments

a. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties

If actual local rainfall from 1 October – 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

Planned crop	Standard yield(t/ha)	Predominant Soil Type in Field			
		Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Swedes and Turnips	**n/a**	**70**	**50**	**10**	**0**
Linseed	**n/a**	**10**	**0**	**0**	**0**

Adjustments

a. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties

If actual local rainfall from 1 October – 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

PREVIOUS CROP: **N residue group 6 3–5 year high N** leys, **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 **c. e.**	**5.5**	**40**	**20**	**0**	**0**
Winter Barley **c.**	**6.5**	**100**	**70**	**10**	**0**
Spring Wheat **a. b. .**	**7.0**	**170**	**150**	**100**	**60**
Winter Wheat **a. b. .**	**8.0**	**110**	**90**	**30**	**0**
Spring Oats **c.**	**5.0**	**10**	**0**	**0**	**0**

Adjustments

a. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1 October – 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

Planned crop	Standard yield(t/ha)	Predominant Soil Type in Field Sand or shallow	Sandy loam or other mineral	Humose	Peaty
Winter Oats [c.]	**6.0**	**60**	**30**	**0**	**0**
Spring Oilseed Rape	**n/a**	**0**	**0**	**0**	**0**
Winter Oilseed Rape (spring) [d.]	**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. An additional 20kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

b. An additional 40kgN/ha is permitted to milling wheat varieties.

c. An additional 15kgN/ha is permitted for every tonne that the expected yield exceeds the standard yield.

d. The spring application can be increased by up to 30kgN/ha if the expected yield is over 4.0t/ha.

e. An additional 15kg/N/ha is permitted for high N grain distilling varieties.

If actual local rainfall from 1 October – 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

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.

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

Table 3

Maximum nitrogen application to grassland

Grass management	*Site Class 1* *kgN/ha*	*Site Class 2* *kgN/ha*	*Site Class 3* *kgN/ha*	*Site Class 4* *kgN/ha*	*Site Class 5* *kgN/ha*
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

PART A

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

Table 4

Percentage of Nitrogen available to next crop

FYM type	*Manure Reference Number*	*Total N (kg/t)*	*Dry Matter %*	*% N available to following crop*
Cattle FYM	**1**	6	25	10
Separated solids from cattle slurry	**2**	4	20	10
Pig FYM	**3**	7	25	10
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.**					Autumn		Winter		Spring	Summer use on Grassland
					August–October		November–January		February–April	
Manure Type	Manure Reference Number	Incorporation time*	Total N (kg/t)	Dry Matter %	Sands Sandy Loams Shallow	All other soils	Sands Sandy Loams Shallow	All 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

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).

					Autumn		Winter		Spring	Summer use onGrassland
					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 –	2	**12**	Not incorporated	1.6	20	30 (35)	30	30	45	30

					Autumn		Winter		Spring	Summer use onGrassland
					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	
Surface applied										
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	20	20
Cattle slurry – ploughed in	2	**15**	Within 6 hrs	1.6	20	35 (40)	25	35	50	N/A
Cattle slurry – ploughed in	6	**16**	Within 6 hrs	2.6	20	30 (35)	20	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 –	10	**20**	Band-spread	3.6	20	20 (25)	20	20	30	25

Manure Type	Dry Matter %	Ref No.	Incorporation time/ method	Total N (kg/t)	Autumn August–October Sands Sandy Loams Shallow	Autumn August–October All other soils	Winter November–January Sands Sandy Loams Shallow	Winter November–January All other soils	Spring Feb – April All Soils	Summer use onGrassland
Band-spread										
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**		1.5						
Separated* – Weeping wall		**25**	Select from above	3	*Use the appropriate values for 2% dry matter cattle slurry					
Separated* – Mechanical		**26**		4						
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)	403535	40	55	55
Pig slurry –	4	**29**	Not incorporated	3.6	25	30 (35)	3530	35	50	50

					Autumn		Winter		Spring	Summer use onGrassland
					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	
surface applied										
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)	30	45	50	65	N/A
Pig slurry – ploughed in	4	**32**	Within 6 hrs	3.6	25	40 (45)	25	40	45	60	N/A
Pig slurry – ploughed in	6	**33**	Within 6 hrs	4.4	25	40 (45)	25	40	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	30	50	50
Pig slurry –	2	**37**	Shallow injected	3.0	25	40 (45)	40	40	45	65	65

Manure Type	**Dry Matter %**	**Ref No.**	**Incorporation time/ method**	**Total N (kg/t)**	Autumn August–October Sands Sandy Loams Shallow	All other soils	Winter November–January Sands Sandy Loams Shallow	All other soils	Spring Feb – April All Soils	Summer use onGrassland
shallow injected										
Pig slurry – shallow injected	4	**38**	Shallow injected	3.6	25	35 (40)	4035	40	60	60
Pig slurry – shallow injected	6	**39**	Shallow injected	4.4	25	35 (40)	4035	34	55	55
Mechanical separator	**1	**40**	Select from above	3.6	**Use the appropriate value for 2% dry matter pig slurry					

Table 5

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

Column 1 *Type of livestock manure*	*Column 2* *Percentage content of nitrogen taken up by crop until and including 31 December 2011*	*Column 3* *Percentage content of nitrogen taken up by crop on and from 1st January 2012*
Cattle slurry	20%	35%
Pig slurry	25%	45%
Poultry manure or litter	20%	30%
Solid manure	10%	10%

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

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

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.