
STATUTORY RULES OF NORTHERN IRELAND

2014 No. 307

ENVIRONMENTAL PROTECTION

**The Nutrient Action Programme Regulations (Northern Ireland)
2019**

Made - - - - - *xx xxxxxxxx 2019*

Coming into operation - *xx xxxxxxxx 2019*

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, Environment

The Department of Agriculture, Environment and Rural Affairs being a Department designated(a) for the purposes of section 2(2) of the European Communities Act 1972(b) in relation to the environment, make the following Regulations in exercise of the powers conferred upon them by that section and in exercise of the powers conferred by Article 32 of the Waste and contaminated land (Northern Ireland) Order 1997(c), and now invested in it(d).

In accordance with Article 32(3) the Department has published in the Belfast Gazette a notice indicating the effect of these Regulations and specifying the matters referred to in sub-paragraph (a)(i) to (iii). The Department has taken into consideration the representations made to it in accordance with the notice. (No representations were made in accordance with the notice.)

PART 1

Preliminary

Citation and commencement

1. These Regulations may be cited as the Nutrient Action Programme Regulations (Northern Ireland) 2019 and shall come into operation on xx xxxx 2019.

Purpose of and application of Regulations

2.—(1) These Regulations shall apply to the whole of the territory of Northern Ireland as required under The Protection of Water Against Agricultural Nitrate Pollution Regulations (Northern Ireland) 2004(e).

(2) The purpose of these regulations is to give effect to Northern Ireland's Nitrates Action Programme for the protection of waters against pollution caused by agricultural sources. The measures in these Regulations provide a basic level of protection against possible adverse impact to waters arising from potential agricultural expansion.

Interpretation

3.—(1) The Interpretation Act (Northern Ireland) 1954(f) applies to these Regulations as it applies to an Act of the Assembly.

(2) In these Regulations—

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- (a) S.I. 2008/301
 - (b) 1972 c.68
 - (c) S.I. 1997 No 2778 (N.I. 19)
 - (d) S.R. 2016 No. 76, article 8(1)(c)
 - (e) S.R. 2004 No. 419
 - (f) 1954 c.33 (N.I.)

“action programme” means measures regarding the protection of water against pollution caused by nutrients from agricultural sources as set out in these Regulations;

“adequate effluent collection facilities” means effluent collection facilities that meet the requirements of regulation 17(4);

“agricultural area” means any land suitable for agricultural activities, including any common land used for grazing and excludes areas under farm roads, paths, buildings, woods, dense scrub, rivers, streams, ponds, lakes, sandpits, quarries, areas of peat cutting, bare rock, areas of forestry and areas fenced off or inaccessible other than forests where the use of the same is ancillary to the farming of land for other agricultural purposes;

“agricultural land” has the same meaning as in the Agriculture Act (Northern Ireland) 1949(a);

“anaerobic digestate” means a stable, sanitised material resulting from the mesophilic and thermophilic biological decomposition and stabilisation of biodegradable waste carried out under controlled anaerobic conditions, and which can be applied to land for the benefit of agriculture or to improve the soil structure or nutrients in land;

“Appeals Commission” means the Water Appeals Commission for Northern Ireland as constituted in accordance with Article 292 of the Water and Sewerage Services (Northern Ireland) Order 2006(b);

“appropriate person” means—

- (a) the controller;
- (b) any person permitted by the controller to carry out, on their behalf, any activity described in these Regulations;
- (c) the owner of any storage facility used for the storage of livestock manure, silage and silage effluent; and
- (d) any person using such storage facilities for the storage of livestock manure, silage and silage effluent;

“authorised person” means a person authorised by the Department in accordance with Article 72 of the Order;

“available nitrogen” means forms of nitrogen that can be taken up by a crop immediately or within a short period;

“available phosphorus” means forms of phosphorus that can be taken up by a crop immediately or within a short period, the proportion of which contained in fertilisers is set out in Table 3 of Schedule 2;

“chemical fertiliser” means any fertiliser in which the declared plant nutrients are in the form of minerals obtained by extraction or by physical and/or chemical industrial processes;

“chemical nitrogen fertiliser” means any fertiliser containing one or more nitrogen compounds which is manufactured or blended by an industrial process;

“chemical phosphorus fertiliser” means any fertiliser containing one or more phosphorus compounds which is manufactured or blended by an industrial process;

“Code of Good Agricultural Practice” means the “Code of Good Agricultural Practice for the Prevention of Pollution of Water, Air and Soil” published by the Department of Agriculture and Rural Development (as may from time to time be reissued);

“construct” includes install;

“controller” means in relation to a holding, the person charged with management of the holding for the calendar year in question and will be taken to be—

- (a) for calendar years prior to 2015 and in the absence of a written nitrates controller agreement to the contrary, the person claiming direct agricultural aid payments for the agricultural area or, where direct agricultural aid payments are not being claimed, the owner of the agricultural area; or

(a) 1949 c.2 (N.I.)

(b) S.I. 2006/3336 (N.I. 21)

- (b) for calendar years from 2015, the person claiming direct agricultural aid payments for the agricultural area or, where direct agricultural aid payments are not being claimed, the person who enjoys the decision making power, benefits and financial risks in relation to the agricultural activity carried out on the land.

“crop requirement” means the amount of nitrogen, phosphorus and other plant nutrients in fertiliser which is reasonable to apply to land in any year for the purpose of promoting the growth of the crop having regard to the foreseeable nutrient supply to the crop from the soil and from other sources, including any previous applications of livestock and other organic manure and any chemical fertilisers estimated as described in the fertiliser technical standards and, with regard to nitrogen, regulations 9, 10, and 11 of these regulations;

“Department” means the Department of Agriculture, Environment and Rural Affairs;

“direct agricultural aid payments” means the Basic Payment Scheme as referred to in Title III of Regulation (EU) No 1307/2013(a) and/or Payments to areas facing natural or other specific constraints as referred to in Article 31 of Regulation (EU) No 1305/2013(b);

“dirty water” means water contaminated by organic manure, urine, effluent, milk and cleaning materials with a Biochemical Oxygen Demand (BOD) no greater than 2000 mg/litre and total nitrogen and dry matter contents no greater than set out in Table 2 of Schedule 3;

“environment” means any or all of the following media, namely the air, water and land;

“farmyard manure” means a mixture of bedding material and animal excreta in solid form arising from the housing of cattle, sheep and other livestock, excluding poultry manure, but including spent mushroom compost and the stackable solids fraction from mechanical separation of slurry excluding pig slurry;

“fertilisation plan” means a plan prepared in accordance with regulation 16(2);

“fertiliser” means any substance containing plant nutrients utilised on land to enhance growth of vegetation and may include livestock manure, the residues from fish farms and sewage sludge;

“fertiliser technical standards” means—

- (a) the “DEFRA Fertiliser Manual (RB209) 8th Edition” (as may from time to time be reissued) and any supplementary guidance;
- (b) with regards to phosphorus recommendations for grassland, Table 1 of Schedule 2 to the; and
- (c) any other publication by DEFRA or the Department substituting any of the standards referred to in sub-paragraphs (a) and (b);

“forage crop” means any crop grown as food for animals;

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

“grassland holding” means a holding where 80 % or more of the agricultural area available for manure application is cultivated with grass;

“grazing livestock” means cattle (with the exclusion of veal calves), sheep, deer, goats and horses;

“heavy rain” means more than 4 mm of rain per hour;

“holding” in relation to a controller means all the agricultural area managed by that controller;

“lake” means a body of standing inland surface water;

“land application” means the addition of materials to agricultural land whether by spreading on the surface of the land, injection into the land, placing below the surface of the land or mixing with the surface layers of the land but does not include the direct deposition of manure onto land by animals;

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

(a) OJL 347, 20.12.13, p. 865-883

(b) OJL 347, 20.12.13, p. 487-547

“livestock enterprise” means any enterprise where livestock are kept;

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

“midden” means a storage facility with an impermeable base for solid, stackable organic manure;

“nutrient controller agreement” means, for any stipulated calendar years prior to 2019, a written agreement transferring responsibility for compliance with these Regulations for a defined agricultural area from—

- (a) the person claiming direct agricultural aid payments for the agricultural area; or
- (b) where direct agricultural aid payments are not being claimed, the owner of the agricultural area;

to a third person who enjoys the decision making power, benefits and financial risks in relation to the agricultural activity carried out on the defined agricultural area;

“nitrogen compound” means any nitrogen-containing substance except for gaseous molecular nitrogen;

“nitrogen fertiliser” means any substance, including chemical fertiliser, containing one or more nitrogen compounds utilised on land to enhance growth of vegetation;

“notice” means notice in writing;

“the Order” means the Waste and Contaminated Land (Northern Ireland) Order 1997(a);

“organic manure” means—

- (a) livestock manure; and
- (b) fertiliser, not being livestock manure or chemical fertiliser, derived from organic matter, and includes sewage sludge, residues from fish farms and other organic wastes;

“phosphorus fertiliser” means any substance, including chemical fertiliser, containing one or more phosphorus compounds utilised on land to enhance growth of vegetation;

“pig enterprise” means any enterprise with more than 10 breeding sow places or 150 finishing pig places;

“poultry enterprise” means any enterprise with more than 500 places;

“poultry litter” means a mixture of bedding material and poultry manure arising from the housing of poultry and with a dry matter content not less than 55 %;

“public” means such persons as appear to the Department—

- (a) to be representative of those carrying on any business which—
 - (i) is, or is likely to be, directly affected by the action programme; or
 - (ii) relies upon the water environment; or
- (b) to have an interest in the protection of the water environment;

“reception pit” means a pit used for the collection of slurry before it is transferred into a slurry storage tank or for the collection of slurry discharged from such a tank;

“scientific case” means a reasoned case, as set out in guidance issued on these Regulations, designed to demonstrate that the proposed deviation from the values set out in Tables 1a to 1c or 2 of Schedule 3 will have no worse effect on the environment than that caused by using the aforementioned values;

“silage” means any forage crop which is being, or has been, conserved by fermentation or preservation (including the use of additives), or both;

“silage effluent” means—

- (a) effluent produced from any forage crop which is being made, or has been made, into silage; and

(a) S.I. 1997/2778 (N.I. 19)

(b) a mixture consisting wholly of or containing such effluent, rain or water coming from a silo, silage effluent collection system or drain;

“silo” means any structure used for making or storing silage;

“slurry” means—

(a) excreta produced by livestock whilst in a yard or building;

(b) a mixture of such excreta with bedding, rainwater, seepage, washings or any other extraneous material from a building or yard used by livestock or in which livestock manure is stored; or

(c) any other organic manure or any combination of these, of a consistency that allows it to be pumped or discharged by gravity at any stage in the handling process and includes dirty water that is stored with slurry or mixed with slurry;

“slurry contractor” means a person who spreads slurry on an agricultural area who is not claiming direct agricultural payments on that agricultural area;

“slurry storage system” means—

(a) a slurry storage tank;

(b) any reception pit and any effluent tank used in connection with the slurry storage tank; and

(c) any channels and pipes used in connection with the slurry storage tank, any reception pit or any effluent tank;

“slurry storage tank” includes a lagoon, pit (other than a reception pit) or tower used for the storage of slurry.

“soil phosphorus index” means the index number (0 to 4) assigned to the soil in accordance with Schedule 1 to indicate the amount of phosphorus available from the soil to the crop;

“steeply sloping land” means land which has an average incline of 20 % or more in the case of grassland or 15 % or more in the case of other land;

“total nitrogen” means the sum of all nitrogen forms including nitrate, nitrite, ammonia and organic nitrogen;

“underground strata” has the same meaning as in Article 2(2) of the Water (Northern Ireland) Order 1999(a);

“Waste Regulations” means the Waste Management Licensing Regulations (Northern Ireland) 2003(b);

“water pollution” means the discharge, directly or indirectly, of nitrogen compounds from agricultural sources into the aquatic environment, the results of which are such to cause hazards to human health, harm to living resources and to aquatic ecosystems, damage to amenities or interference with other legitimate uses of water;

“waterlogged” means soil where water appears on the surface of the land when pressure is added; and

“waterway” has the same meaning as in Article 2(2) of the Water (Northern Ireland) Order 1999.

(3) A requirement in these Regulations for a silo or slurry storage tank to conform to a British Standard (in whole or in part) is satisfied if the silo or tank conforms to a standard or specification that provides an equivalent level of protection and performance and is recognised for use in a member State, Iceland, Liechtenstein, Norway or Turkey.

(a) S.I. 1999/662 (N.I. 6)
(b) S.R. 2003 No. 493

PART 2

General

Duty of the controller to prevent water pollution

4. The controller of a holding shall not cause or permit, directly or indirectly—
- (a) the entry of fertiliser into any waterway; or
 - (b) the entry or risk of entry of fertiliser into water contained in any underground strata.

Duty of the controller to comply with these Regulations

5. In complying with a duty under these Regulations, the controller of a holding shall have regard to any guidance which may be issued from time to time by the Department for the purposes of these Regulations and the Code of Good Agricultural Practice as may be amended from time to time.

Exemptions granted by the Department

- 6.—(1) The Department may exempt from the requirements of these Regulations—
- (a) research activities of the Department, and institutes or agencies authorised by the Department, for the purpose of—
 - (i) protecting or improving water quality; or
 - (ii) increasing nutrient efficiency in agricultural systems; and
 - (b) activities carried out by the Department, and institutes or agencies authorised by the Department, so as to address emergency situations where there is a risk of—
 - (i) impact on human health;
 - (ii) widespread impact on animal health; or
 - (iii) impact on the quality of the environment as a whole.
- (2) The Department shall record all exemptions under this Regulation.

PART 3

Prevention of water pollution from the application of fertilisers

Periods when the land application of fertiliser is prohibited

7.—(1) The land application of chemical nitrogen and chemical phosphorus fertiliser to grassland shall not be permitted from 15th September in any year to 31st January of the following year.

(2) The land application of chemical fertiliser to any land shall not be permitted from 15th September in any year to 31st January of the following year for crops other than grass unless there is a demonstrable crop requirement between those dates.

(3) The land application of organic manure, excluding farmyard manure and dirty water, to any land shall not be permitted from 15th October in any year to 31st January of the following year.

(4) The land application of farmyard manure to any land shall not be permitted from 31st October in any year to 31st January of the following year.

Requirements as to the manner of land application of fertiliser to any agricultural land

8.—(1) The land application of fertiliser shall be done in an accurate and uniform manner and in accordance with paragraphs (2) to (13).

- (2) The land application of fertiliser shall not be permitted when—

- (a) soil is waterlogged;
- (b) land is flooded or likely to flood;
- (c) the soil is frozen;
- (d) land is snow-covered;
- (e) heavy rain is falling or forecast within 48 hours; or
- (f) the land is steeply sloping land and where, taking into account the risk assessment set out in Schedule 6, there is a significant risk of causing water pollution.

(3) The land application of fertiliser shall not be permitted on any land in a location or manner which would make it likely that the fertiliser will directly enter a waterway or water contained in any underground strata.

(4) Subject to paragraph (6), the land application of chemical fertiliser shall not be permitted within 2 metres of any waterway.

(5) Subject to paragraphs (6) and (9), the land application of organic manure shall not be permitted within—

- (a) 20 metres of lakes;
- (b) 50 metres of a borehole, spring or well;
- (c) 250 metres of a borehole used for a public water supply;
- (d) 15 metres of exposed, cavernous or karstified, limestone features (such as swallow-holes and collapse features); or
- (e) 10 metres of any waterway, other than lakes, including open areas of water, open field drains or any drain which has been backfilled to the surface with permeable material such as stone/aggregate; except that
- (f) the distance for (e) may be reduced to 3 metres of any waterway where the land has an average incline less than 10 % towards the waterway and where—
 - (i) organic manure is spread by bandspreader, trailing hose or trailing shoe or soil injection;
 - (ii) the adjoining area is less than 1 hectare in size; or
 - (iii) the adjoining area is not more than 50 metres in width.

(6) On grassland with an average incline of greater than 15 % and any other land with an average incline of greater than 12 %, the land application of fertilisers shall not be permitted—

- (a) for organic manures within—
 - (i) 30 metres of lakes; or
 - (ii) 15 metres of any waterway, other than lakes, including open areas of water, open field drains or any drain which has been backfilled to the surface with permeable material such as stone/aggregate; and
- (b) for chemical fertiliser within—
 - (i) 10 metres of lakes; or
 - (ii) 5 metres of any waterway, other than lakes, including open areas of water, open field drains or any drain which has been backfilled to the surface with permeable material such as stone/aggregate.

(7) The maximum land application of solid organic manure shall be 50 tonnes per hectare at any one time provided this does not exceed the limits set out in regulation 9(1) and a period of at least 3 weeks shall be left between such land applications.

(8) Subject to paragraph (9), the maximum land application of slurry shall be 50 cubic metres per hectare at any one time provided this does not exceed the limits set out in regulation 9(1) and a period of at least 3 weeks shall be left between such land applications.

(9) During the month of February and the period of 30th September to 15th October—

- (a) the land application of organic manure as described in paragraph (5)(a) shall not be permitted within 30 metres
- (b) the land application of organic manure as described in paragraph (5)(e) shall not be permitted within 15 metres,
- (c) the maximum land application for slurry in paragraph (8) shall be reduced to 30 cubic meters per hectare.

(10) The maximum land application of dirty water shall be 50 cubic metres per hectare at any one time and a period of at least 2 weeks shall be left between such land applications.

(11) The land application of slurry shall only be permitted by spreading close to the ground using inverted splash plate spreading, bandspreading, trailing hose, trailing shoe, soil injection or soil incorporation methods, except—

- (a) on cattle farms with 100 or more livestock units or pig farms with a total annual livestock manure nitrogen production of 10,000kg or more, where it shall only be permitted by spreading close to the ground using trailing shoe, trailing hose or dribble bar or soil injection, from 1st February 2022;
- (b) when applied by a slurry contractor, it shall only be permitted by spreading close to the ground using trailing shoe, trailing hose or dribble bar or soil injection, from 1st February 2021;

if the ground is sloping towards a waterway, and there is a risk of water pollution, the slurry must be spread along the contour of the slope and not within 10 metres of the waterway. If this is not practical an exemption must be sought from the Department.

(12) The land application of dirty water shall only be permitted by spreading close to the ground using inverted splash plate spreading, bandspreading, trailing hose, trailing shoe, soil injection, soil incorporation or irrigation methods.

(13) The land application of anaerobic digestate shall only be permitted by spreading close to the ground using inverted splash plate spreading, bandspreading, trailing hose, trailing shoe, soil injection or soil incorporation methods, except—

- (a) on grassland, where it shall only be permitted by trailing shoe, from 1st February 2020.

Restrictions on spreading anaerobic digestate may apply where there is potential for impact on any environmentally designated or protected sites.

General measures governing the limits on land application of nitrogen fertiliser

9.—(1) The amount of total nitrogen in livestock manure and anaerobic digestate containing digested livestock manure applied to the agricultural area of a holding, both by land application and by the animals themselves, shall not exceed 170 kg of nitrogen per hectare per year when calculated in accordance with paragraphs (2) and (3).

(2) The total nitrogen from livestock manure from animals kept on the holding is calculated in accordance with Table 1 of Schedule 3.

(3) The total nitrogen from imported livestock manure and other fertilisers is calculated in accordance with Table 2 of Schedule 3.

(4) The amount of nitrogen available to a crop from organic manure or chemical fertiliser, in the year of application of that fertiliser, is the percentage specified in Table 3 of Schedule 3.

(5) Any controller wishing to deviate from the values set out in Tables 1 or 2 of Schedule 3 must present a scientific case in order to obtain prior approval from the Department, and the Department shall only grant such approval where it is satisfied that a scientific case has been established.

(6) A controller may appeal the decision by the Department in paragraph (5) in accordance with the procedure set out in regulation 31.

Measures governing the limits on land application of nitrogen fertiliser to grassland

10. For each holding, the total amount of available nitrogen in organic manure and chemical fertiliser, excluding livestock manure and anaerobic digestate containing digested livestock manure, applied to grassland each year, shall be in proportion to the crop requirement for nitrogen of the holding and shall not exceed the amounts as defined in Table 4 of Schedule 3, when calculated in accordance with regulation 9.

Measures governing the limits on land application of nitrogen fertiliser to land other than grassland

11.—(1) For each holding, the total amount of available nitrogen in organic manure and chemical fertiliser applied to land other than grassland or land under cultivation for the crops set out in Table 5 of Schedule 3 both by land application and by the animals themselves each year shall not exceed the recommendations contained in the fertiliser technical standards for crop requirement for nitrogen when calculated in accordance with regulation 9.

(2) For each holding, the total amount of available nitrogen in organic manure and chemical fertiliser applied to land under cultivation for the crops set out in Table 5 of Schedule 3 both by land application and by the animals themselves each year shall be applied in accordance with the recommendations contained in the fertiliser technical standards for crop requirement for nitrogen when calculated in accordance with regulation 9 and shall in no case exceed the limits set out in Table 5 of Schedule 3, adjusted in accordance with the notes to the table.

Measures governing the land application of anaerobic digestate

12.—(1) Anaerobic digestion plant operators shall provide analysis of the nutrient content of each consignment of digestate exported to a holding.

(2) A controller may apply anaerobic digestate to meet crop requirements, subject to soil analysis, as ascertained in accordance with Schedule 1.

(3) Where anaerobic digestate is applied as a fertiliser, the controller must prepare and retain a fertilisation plan.

Measures governing the limits on the land application of chemical phosphorus fertiliser

13.—(1) The controller of a holding shall ensure that the total amount of available phosphorus in chemical phosphorus fertiliser applied each year to grassland and to land other than grassland shall not exceed the recommendations contained in the fertiliser technical standards for crop requirement for phosphorus taking into consideration soil phosphorus index, the recommended soil phosphorus index for the crop and the supply of phosphorus available from the application of organic manures.

(2) For the purposes of paragraph (1)—

- (a) the soil phosphorus index shall be ascertained in accordance with Schedule 1;
- (b) the phosphorus fertiliser recommendations for grassland shall be those set out in Tables 1 and 2 of Schedule 2, adjusted in accordance with the notes to the table; and
- (c) the available phosphorus content of livestock manures and other fertilisers is as set out in Table 3 of Schedule 2.

(3) Where a controller uses chemical P fertiliser, he shall prepare and keep a fertilisation plan.

Measures governing the limits on land application of organic manures with a high proportion of phosphorus

14.—(1) Where an organic manure contains more than 0.25 kg of total phosphorus per 1 kg of total nitrogen calculated in accordance with Table 2 of Schedule 3 it shall not be applied to land unless the controller of a holding can demonstrate that the total amount of available phosphorus applied does not exceed the recommendations contained in the fertiliser technical standards for crop requirement for phosphorus taking into consideration soil phosphorus index, the recommended soil

phosphorus index for the crop and the supply of phosphorus available from the application of other fertilisers.

(2) The soil phosphorus index shall be ascertained in accordance with the provisions of Schedule 1.

(3) Paragraph (1) does not apply where—

- (a) the organic manure is applied in accordance with the Sludge (Use in Agriculture) Regulations (Northern Ireland) 1990^(a) or a licence or exemption granted under the Waste Regulations; or
- (b) the organic manure arises from a livestock enterprise contributing no more than 7 kg of nitrogen per hectare per year applied to the agricultural area of a holding, both by land application and by the animals themselves.

Measures governing the location of supplementary feeding sites and water troughs

15.—(1) From 1st January 2020, supplementary feeding sites shall not be located within 20m of any waterway.

(2) From 1st January 2022, in the case of holdings where there is a significant risk of pollution to any waterway, water troughs shall not be located within 10m of any waterway.

(3) In sub-paragraph (2) ‘significant risk’ means unrestricted drinking and crossings areas.

Fertilisation Plans

16.—(1) Where the controller is required to prepare and keep a fertilisation plan, describing crop rotation and the planned application of nitrogen and phosphorus fertilisers to their agricultural area, they shall be made available on the holding every year no later than 1st March for that calendar year;

(2) Fertilisation plans shall include—

- (a) the number of livestock on the holding;
- (b) a description of livestock housing and livestock manure storage systems, including the volume of livestock manure storage available on the holding;
- (c) the amount of nitrogen and phosphorus from livestock manure produced on the holding calculated in accordance with Table 1 of Schedule 3;
- (d) the crop rotation and area of each crop, including a sketch map indicating the location of the area of each crop;
- (e) the holding’s foreseeable crop requirement for nitrogen and phosphorus in accordance with fertiliser technical standards;
- (f) the quantity of each type of organic manure moved on or off the holding;
- (g) the results of soil analysis relating to nitrogen and phosphorus soil status if available;
- (h) the amount of nitrogen from nitrogen fertilisers applied in each area of the holding under the same cropping regime and soil type calculated in accordance with Tables 1 to 5 of Schedule 3;
- (i) the amount of nitrogen from other organic manure, excluding livestock manures, applied in each area of the holding under the same cropping regime and soil type, calculated in accordance with regulation 9; and
- (j) the amount of phosphorus from chemical phosphorus fertilisers and organic manures applied in each area of the holding under the same cropping regime and with the same soil phosphorus index calculated in accordance with Tables 1 and 2 of Schedule 3; and

(3) where changes in agricultural practices necessitate changes in the fertilisation plan of a holding the controller shall revise the plan within seven days of such changes taking effect

(a) S.R. 1990 No. 245

PART 4

Storage requirements

General obligations as to storage facilities for livestock manure and silage effluent

17.—(1) Subject to paragraphs (2) and (3) and regulations 18 to 24, the capacity of storage facilities for livestock manure and silage effluent of a holding shall be sufficient and adequate to provide for the storage of all the livestock manure and silage effluent which is likely to require storage on the holding for such period as may be necessary to ensure compliance with these Regulations and the avoidance of water pollution.

(2) For the purposes of paragraph (1), the controller shall have due regard to the storage capacity likely to be needed by the holding during periods of adverse weather conditions when, due to extended periods of wet weather, frozen ground or otherwise, the application to land of organic manure is not permitted.

(3) Subject to regulation 18, the total livestock manure storage capacity on holdings shall be sufficient for at least 22 weeks storage.

(4) All storage facilities for livestock manure and silage effluent shall be maintained free of structural defect, shall be of such standard as is necessary and be managed to prevent run-off or seepage, directly or indirectly, into a waterway or water contained in any underground strata and where applicable shall comply with regulations 19 and 24.

Obligations as to livestock manure storage capacity on pig and poultry enterprises

18.—(1) Subject to paragraphs (2) and (3), on any holding where there is a pig or poultry enterprise or both the total livestock manure storage capacity on the holding shall be sufficient for at least 26 weeks storage.

(2) On any holding with less than 10 breeding sow places or 150 finishing pig places and any holding with less than 500 poultry places the total livestock manure storage capacity on the holding shall be sufficient for at least 22 weeks storage.

(3) On any holding where there is—

- (a) a pig enterprise;
- (b) a poultry enterprise; or
- (c) both a pig and poultry enterprise,

in addition to another livestock enterprise the livestock manure storage capacity on the holding shall be sufficient for at least 26 weeks storage for the pig or poultry enterprise and at least 22 weeks storage for the other livestock enterprise.

Manner of storage of slurry

19.—(1) Subject to paragraph (2), an appropriate person having custody or control of slurry shall store it in a slurry storage system in relation to which the requirements of Schedule 4 are satisfied or which is an exempt structure by virtue of paragraph (3).

(2) Paragraph (1) shall not apply to slurry while it is stored temporarily in a tanker with a capacity not exceeding 18,000 litres which is used for transporting slurry on roads or about a holding.

(3) A slurry storage system is an exempt structure if—

- (a) its construction for the purpose of storing slurry was completed before 1st December 2003; and
- (b) it has not ceased to be an exempt structure by virtue of paragraph (4).

(4) A structure to which the circumstances set out at paragraph (3) apply shall cease to be an exempt structure if—

- (a) any requirement of a notice under regulation 30(1) is not complied with within the period stated in the notice;
- (b) it is substantially enlarged; or
- (c) it is substantially reconstructed, unless, in the opinion of the Department, the risks of pollution will be reduced by such works.

(5) Any reference in paragraph (4) to the period stated in a notice is to that period as extended if it has been extended under regulation 30(6) and any reference in that paragraph to a requirement of a notice is to that requirement as modified if it has been modified under regulation 30(6).

(6) Any appropriate person who proposes to have custody or control of slurry which is to be kept or stored on a holding in a slurry storage system constructed, substantially enlarged or substantially reconstructed on or after 1st December 2003 shall serve notice on the Department specifying the type of structure to be used and its location at least 28 days before it is to be first used for such purpose.

Manner of storage of farmyard manure and location of storage facilities

20.—(1) Prior to land application, farmyard manure shall only be stored on a holding—

- (a) in a midden which shall have adequate effluent collection facilities; or
- (b) subject to paragraphs (2) and (3), in the field where land application will take place.

(2) Where stored in a field, farmyard manure shall be stored in a compact heap and such heaps shall not be placed in the same location of the field in consecutive years or within—

- (a) 50 metres of lakes;
- (b) 20 metres of any waterway, including open areas of water, open field drains or any drain which has been backfilled to the surface with permeable material such as stone/aggregate;
- (c) 50 metres around a borehole, spring or well;
- (d) 250 metres from any borehole used for a public water supply; or
- (e) 50 metres of exposed, cavernous or karstified, limestone features (such as swallow-holes and collapse features).

(3) Where stored in a field, land application of the farmyard manure shall take place within 120 days from placement in that field, and the farmyard manure heap shall not be placed where—

- (a) the soil is waterlogged; or
- (b) the land is flooded or likely to flood.

Manner of storage of poultry litter or anaerobic digestate fibre and location of storage facilities

21.—(1) Prior to land application, poultry litter or anaerobic digestate fibre shall only be stored on a holding—

- (a) in a midden which shall have adequate effluent collection facilities;
- (b) where anaerobic digestate fibre is stored in open midden, it must be covered within 24 hours of storage; or
- (c) subject to paragraphs (2) to (6), in the field where land application will take place.

(2) Poultry litter or anaerobic digestate fibre shall not be stored in a field heap except under and to the extent granted by an authorisation from the Department in accordance with paragraphs (3) to (6).

(3) With regard to authorisations—

- (a) an application by an appropriate person for authorisation shall be made on a form provided by the Department for the purpose and accompanied by such information in such form as the Department may reasonably require;
- (b) the Department shall authorise or refuse an application within 28 days from its receipt;

- (c) an authorisation of an application for storage of poultry litter or anaerobic digestate fibre in a field heap shall not preclude service by the Department of a notice under regulation 28; and
 - (d) the appropriate person may, within the period of 28 days from the day on which a refusal is made, appeal the refusal under sub-paragraph (b) in accordance with the procedure set out in regulation 31.
- (4) Where stored in a field, poultry litter shall be stored in a compact heap and such heaps shall not be placed in the same location of the field in consecutive years or within—
- (a) 100 metres of lakes;
 - (b) 40 metres of any waterway, including open areas of water, open field drains or any drain which has been backfilled to the surface with permeable material such as stone/aggregate;
 - (c) 50 metres around a borehole, spring or well;
 - (d) 250 metres from any borehole used for a public water supply; or
 - (e) 50 metres of exposed, cavernous or karstified limestone features (such as swallow holes and collapse features).
- (5) Where stored in a field, land application of the poultry litter or anaerobic digestate fibre shall take place within 120 days from placement in that field, and the poultry litter or anaerobic digestate fibre heap shall not be placed where—
- (a) soil is waterlogged; or
 - (b) the land is flooded or likely to flood.
- (6) Where stored in a field, poultry litter or anaerobic digestate fibre shall be covered with an impermeable membrane within 24 hours of placement.

Manner of storage of dirty water

22. Provision for the safe storage of dirty water should be available for those periods when weather and ground conditions, as set out in regulation 8(2), are unsuitable for land application.

Calculation of livestock manure storage capacity

23.—(1) In calculating the livestock manure storage capacity of a holding, the following farming practices may be taken into account—

- (a) the quantity of farmyard manure stored in a midden or field prior to land application in accordance with regulation 20;
- (b) any solids removed from slurry other than pig slurry by means of a slurry separator;
- (c) any additional storage available off the holding, by means of a rental agreement;
- (d) any valid contract the holding has with a manure processing facility or demonstrable access to an approved treatment or recovery outlet; and
- (e) the quantity of poultry litter stored in a midden or field prior to land application in accordance with regulation 21.

(2) Subject to paragraph (4), the livestock manure storage capacity of a holding may be less than the capacity specified in regulation 17 in relation to—

- (a) sheep, deer and goats which are out-wintered at a grassland stocking rate which does not exceed 130 kg of nitrogen at any time during the period specified in regulation 7(3) in relation to the application of organic manure as calculated in accordance with paragraph (6);
- (b) livestock (other than dairy cows, sheep, deer and goats) which are out-wintered at a grassland stocking rate which does not exceed 85 kg of nitrogen at any time during the period specified in regulation 7(3) in relation to the application of organic manure, as calculated in accordance with paragraph (6), provided the amount of livestock manure

produced on the holding does not exceed 140 kg of nitrogen per hectare per year, as calculated in accordance with regulation 9; and

- (c) in the case of a mixed holding the nitrogen limit in sub-paragraph (b) shall apply except where the controller of the holding demonstrates to the Department that the livestock out-wintered more appropriately reflects the composition of the livestock applicable in sub-paragraph (a).

(3) The livestock manure storage capacity of a holding shall be calculated in accordance with—

- (a) the livestock manure production figures specified in Table 6 of Schedule 3; and
- (b) any further procedures for calculating such storage capacity which may be specified in any guidance issued in accordance with regulation 5.

(4) A holding falling within paragraph (2) must ensure that—

- (a) out-wintered livestock have free access at all times to the land area required for the relevant stocking rate;
- (b) land is maintained in good agricultural and environmental condition; and
- (c) the reduction in storage capacity is proportionate to the extent of out-wintered livestock on the holding.

(5) Any land used for the purpose of out-wintering under paragraphs (2) and (4) must be under the control of the controller of the holding to which the exemption applies.

(6) In this regulation, a grassland stocking rate of 130 kg or 85 kg of nitrogen, as the case may be, means the stocking of grassland on a holding at any time by such numbers and types of livestock as would in the course of a year excrete waste products containing 130 kg or 85 kg of nitrogen, as the case may be, per hectare of the grassland when calculated in accordance with the nitrogen excretion rate for livestock specified in Table 1a of Schedule 3.

(7) In this regulation, mixed holding means a holding where there are sheep, deer, goats or other livestock (other than dairy cows).

Making and storage of silage

24.—(1) Subject to paragraph (3), an appropriate person shall not have custody or control of any crop which is being made into silage, or of any silage, which is being stored unless—

- (a) it is kept in a silo in relation to which the requirements of Schedule 5 are satisfied or which is an exempt structure by virtue of paragraph (3);
- (b) it is compressed in the form of bales which are wrapped and sealed within impermeable membranes (or are enclosed in impermeable bags) and are stored at least 10 metres from any waterway that effluent escaping from the bales could enter; or
- (c) it is made as bulk bagged silage in bags which—
 - (i) are made of 1000 gauge polyethylene or material of at least equivalent impermeability and durability;
 - (ii) are kept sealed to prevent the escape of silage effluent;
 - (iii) incorporate a facility designed to enable the safe removal of excess effluent when present; and
 - (iv) are stored at a place at least 10 metres from any waterway that effluent escaping from the bales could enter.

(2) Any appropriate person having custody or control of any crop which is being made, or has been made, into silage in the manner described in paragraph (1)(b) or (c) shall not open or remove the wrapping of any bales or open or empty any bulk bags within 10 metres of any waterway that effluent escaping from the bales or bulk bags could enter.

(3) A silo is for the time being an exempt structure if—

- (a) its construction for the purpose of making and storing silage was completed before 1st December 2003; and

(b) it has not ceased to be an exempt structure by virtue of paragraph (4)

(4) A structure to which the circumstances set out at paragraph (3) apply shall cease to be an exempt structure if—

(a) any requirement of a notice under regulation 30(1) is not complied with within the period stated in the notice; or

(b) it is substantially enlarged; or

(c) it is substantially reconstructed, unless, in the opinion of the Department, the risks of pollution will be reduced by such works.

(5) Any reference in paragraph (4) to the period stated in a notice is to that period as extended if it has been extended under regulation 30(6) and any reference in that paragraph to a requirement of a notice is to that requirement as modified if it has been modified under regulation 30(6).

(6) Any appropriate person who proposes to have custody or control of any crop which is being made into silage, or of any silage, which is to be kept or stored on a holding in a silo constructed, substantially enlarged or substantially reconstructed on or after 1st December 2003 shall serve notice on the Department specifying the type of structure to be used and its location at least 28 days before it is to be first used for such purpose.

PART 5

Measures relating to land management

Cover in winter

25. After harvesting a crop other than grass the controller shall ensure that from harvest to 15th January in the following year, one of the following conditions is met on the land at any time—

(a) the stubble of the harvested crop remains in the land; or

(b) (i) land is sown with a crop which will take up nitrogen from the soil; or

(ii) where soil or weather conditions prevent a subsequent crop from being sown, appropriate measures are put in place to limit soil erosion.

Crop management

26. Where grass leys are grown in rotation with arable crops the first crop shall be sown as soon as possible after the grass has been ploughed.

PART 6

Record keeping and compliance monitoring

Type of records required

27.—(1) In relation to all holdings and in accordance with paragraphs (2) and (3), the controller of the holding shall keep sufficient records to allow the following information to be ascertained on an annual basis—

(a) the identity of the controller of the land for the calendar year in question;

(b) the total agricultural area including the size and location of each field;

(c) the cropping regimes and their individual areas;

(d) the soil nitrogen supply index for cropping areas other than grassland as estimated in accordance with the fertiliser technical standards;

- (e) the number of livestock kept on the holding, their species and type, and the length of time for which they were kept on the holding;
- (f) the capacity of livestock manure storage, and where applicable the details of rented storage, authorisation for storage of poultry litter in a field heap, farmyard manure production, outwintered livestock, manure separation and manure processing facilities utilised;
- (g) the details of any rental or contractual agreement to demonstrate compliance with regulation 23(1)(c) and (d);
- (h) the amount of each type of nitrogen fertiliser applied, the certified nitrogen content of any chemical fertiliser applied and the total nitrogen content per tonne of other organic manures as in accordance with Table 2 of Schedule 3;
- (i) where regulation 12(1) applies—
 - (i) anaerobic digestion plant operator must submit records monthly to the Department, showing the quantity, N and P analysis, and date of all anaerobic digestate exported to holdings in Northern Ireland;
 - (ii) the controller must retain record of the anaerobic digestate analysis provided by the anaerobic digestion plant operator;
- (j) where regulations 13(1) and 14(1) applies—
 - (i) a fertilisation plan must be maintained
 - (ii) the results of any soil tests carried out in accordance with Schedule 1;
 - (iii) a statement of the foreseeable crop requirement for phosphorus;
 - (iv) the quantity of each type of phosphorus fertiliser applied;
 - (v) the certified phosphorus content of any chemical fertiliser applied and the available phosphorus content of all organic manures applied in accordance with Table 2 of Schedule 1;
 - (vi) the date of application of any phosphorus fertiliser; and
 - (vii) the type and date of any crop sown;
- (k) evidence of the right to graze common land;
- (l) the quantity of each type of nitrogen fertiliser moved on to the holding, the date of that movement and, in the case of organic manure, the name and address of the consignee, the consignor and any third party transporter of the manure, and
- (m) the quantity of each type of nitrogen fertiliser moved off the holding, the date of that movement and, in the case of organic manure, the name and address of the consignee, the consignor and any third party transporter of the manure.

(2) Records under paragraph (1)(a) to (l) shall be prepared for each calendar year by 30th June of the following year and shall be retained for a period of 5 years from that date.

(3) Records under paragraph (1)(m) shall be prepared for each calendar year and shall be submitted to the Department by 31st January of the following year for all other holdings, in a format specified by the Department and a copy shall be retained by the controller for a period of 5 years from the date of submission.

(4) Where the controller is required to complete a fertilisation plan, they shall retain the fertilisation plan for each calendar year for that holding for 5 years from the date upon which they were prepared or submitted to the Department, whichever is the later.

(5) Records under paragraphs (1) and (4) shall be made available by the controller for inspection by the Department on request.

Duty of the controller not to provide false or misleading information

28. The controller shall not compile records which are false or misleading or furnish any false or misleading information in any notice or other document for the purposes of these Regulations.

PART 7

Enforcement

Enforcement

29.—(1) The enforcement authority for the purpose of compliance with these Regulations shall be the Department or any person authorised by the Department.

(2) In ensuring compliance with these Regulations an authorised person may have regard to the Code of Good Agricultural Practice and any guidance produced on these Regulations.

(3) A person authorised under Article 72 of the Order may exercise any of the functions under that Article to determine or ensure compliance with these Regulations.

Notices

30.—(1) The Department may serve notice on any appropriate person—

- (a) who has custody or control of slurry, or any crop which is being made into silage, or of any silage, in circumstances in which these Regulations apply, requiring that person to carry out such works, take such precautions or take such other steps as are specified in the notice and which, in the opinion of the Department, are appropriate, having regard to any requirements of these Regulations in relation to that substance, for reducing to a minimum any significant risk of pollution of water in a waterway or underground strata arising from the custody or control of that substance; or
- (b) where the Department is of the opinion that the appropriate person is in breach or is likely to be in breach of these Regulations.

(2) A notice served in accordance with paragraph (1) shall—

- (a) require the person upon whom it is served to carry out such works or to take such precautions and other steps as the Department specifies in the notice as appropriate to reduce to a minimum any significant risk of pollution of water in a waterway or underground strata arising from the custody or control of slurry, or any crop which is being made into silage, or of any silage, or to prevent any breach, to remedy any breach or to prevent the continuation or repetition of any breach to which the notice relates;
- (b) subject to paragraph (3) state the period within which any such requirement is to be complied with; and
- (c) inform the person on whom the notice is served of their right to appeal under paragraph (4).

(3) The period for compliance stated in the notice pursuant to paragraph (2)(b) shall be such as is reasonable in the circumstances and shall not in any case be less than 28 days from the day on which the notice is served.

(4) A notice served pursuant to this regulation may be appealed in accordance with regulation 31.

(5) Where an appeal is brought under regulation 31, the notice shall be of no effect pending the final determination or the withdrawal of the appeal.

(6) The Department may at any time—

- (a) withdraw the notice;
- (b) extend the period for compliance; or
- (c) with the consent of the person on whom the notice is served, modify any requirement of the notice.

Appeals against notices requiring works etc.

31.—(1) Any appropriate person upon whom a notice is served under regulation 28 may, within the period of 28 days from the day on which the notice is served, appeal in writing against the notice to the Appeals Commission.

(2) Appeals under regulations 9(6), 21(3)(d), and 30(4) shall be determined by the Appeals Commission in accordance with the procedure pursuant to Article 293 of the Water and Sewerage Services (Northern Ireland) Order 2006(a) and, for the purposes of appeals under these Regulations, references to the Department in Article 293 shall have the same meaning as under these Regulations.

Offences

32.—(1) It shall be an offence for the controller to fail to comply without reasonable excuse with regulation 4, 9(1) or 25.

(2) It shall be an offence for the appropriate person to fail to comply without reasonable excuse with regulation 7(3), 7(4), 8(2), 8(3), 8(7), 8(8), 8(10), 20(3) or 21(5).

(3) It shall be an offence for the controller to fail to comply with regulation 9(5), 10, 11(1), 11(2), 13(1); 14(1), 17(1), 17(3), 18, 22, 27(1), 27(2), 27(3), 27(4), 27(5) or 28.

(4) It shall be an offence for the appropriate person to fail to comply with regulation 7(1), 7(2), 8(1), 8(4), 8(5), 8(6), 8(9); 8(11), 8(12), 17(4), 19(1), 19(6), 20(1), 20(2), 21(1), 21(2), 21(4), 21(6), 24(1), 24(2), 24(6) or 26.

(5) From 1st January 2020, it shall be an offence for the appropriate person to fail to comply with regulation 8(13).

(6) It shall be an offence for the appropriate person to fail to comply without reasonable excuse with any requirement of a notice issued under regulation 31.

Penalties

33. Any person guilty of an offence under regulation 32 shall be liable—

- (a) on summary conviction, to a fine not exceeding the statutory maximum together with a fine of an amount equal to one-tenth of that level for each day upon which the offence continues after the conviction; or
- (b) on conviction on indictment to a fine or to imprisonment for a term not exceeding 2 years or both.

PART 8

Powers, duties and functions of the Department

Implementation Report

34.—(1) The Department must prepare a report on the implementation of these regulations at four-yearly intervals.

(2) A report under paragraph (1) must contain—

- (a) details of any steps taken to promote good agricultural practice;
- (b) a summary of the monitoring results on the effectiveness of the action programme;
- (c) a summary of the most recent review conducted under regulation 36.

(3) A report under paragraph (1) must be published—

- (a) in such manner as the Department considers appropriate;

(a) S.I. 2006/3336 (N.I. 21)

- (b) by the last day of the six months period beginning with the day on which the four-yearly interval ends.

Reviewing the action programme

35.—(1) The Department shall review at four-yearly intervals, in consultation with the public, this action programme and, if appropriate, publish a revised action programme for the protection of water against nitrates from agricultural sources.

(2) An action programme shall include such necessary measures as are required by these regulations and shall contain a review of the action programme most recently made and of such additional measures as may be required.

(3) The Department shall—

- (a) ensure that the public is given early and effective opportunity to participate in the preparation, review or revision of an action programme; and
- (b) in doing so shall—
 - (i) ensure that the public is informed by public notices or other appropriate means, such as electronic media, about any proposals for the preparation, review or revision of an action programme;
 - (ii) ensure that the information about the proposals referred to in paragraph (3)(a), is made available to the public, including information about the right to participate in decision making in relation to those proposals;
 - (iii) ensure that the public is entitled to make comments before any decision is made on the establishment, review or revision of an action programme;
 - (iv) in making any such decision, take due account of the results of the public participation; and
 - (v) having examined the comments made by the public, make reasonable efforts to inform the public of the decisions taken and the reasons and considerations on which these decisions are based, including information on the public participation process.

(4) In carrying out their functions under paragraph (3), the Department shall ensure that reasonable time is allowed such as is sufficient to enable the public to participate effectively.

(5) In carrying out their functions under paragraph (3), where the Department publish any information, the Department shall—

- (a) do so in a way as they consider appropriate for the purpose of bringing the information to the attention of the public; and
- (b) make copies of that information accessible to the public free of charge through their websites or otherwise.

(6) The Department shall specify in a notice on their websites or otherwise the detailed arrangements made to enable public participation in the preparation, review or revision of an action programme, including—

- (a) the address to which comments in relation to those proposals may be submitted; and
- (b) the date by which such comments should be received.

PART 9

Miscellaneous

Transitional provisions

36.—(1) A notice served under—

- (a) regulation 28 (notices) of the Nitrates Action Programme Regulations (Northern Ireland) 2014(a), or
- (b) regulation 9 (notice) of the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2014(b)

shall, notwithstanding the revocation of those Regulations, be deemed to be a notice served under regulation 30 (notices) with the coming into operation of these Regulations.

(2) Records required to be retained under—

- (a) regulation 25 (type of records required) of the Nitrates Action Programme Regulations (Northern Ireland) 2014; or
- (b) regulation 7 (duty of the controller to provide information) of the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2014;

shall, notwithstanding the revocation of those Regulations, be deemed to be records required to be retained under regulation 27 (type of records required) with the coming into operation of these Regulations.

Consequential amendments

37.—(1) The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations (Northern Ireland) 2003(c) are amended as follows—

- (a)
- (b) in regulation 12, for “3(1), 3(2), 4(1), 5(1), 7(3) or 11” substitute “5(1) or 11”;
- (c) .

(2) Schedule 2 to the Waste Management Licensing Regulations (Northern Ireland) 2003(d) is amended as follows—

- (a) in paragraphs 9(3)(c), 10(1)(c), 11(3)(e), 47A(1)(d) and 47B(c) of Part I, for ‘2014’ substitute “2018”;
- (b) in paragraphs 47C(3)(c), 47D(2)(b), 47E(1)(b) and 47F(b) of Part I, for ‘2014’ substitute “2018”; and
- (c) in paragraph 2(b) of Part III, for ‘2014’ substitute “2018”.

(3) For paragraph 1 of Schedule 1 to The Common Agricultural Policy Direct Payments and Support Schemes (Cross Compliance) Regulations (Northern Ireland) 2014(e) substitute “A farmer shall comply with Regulations 8(4), 8(5), 8(6) and 13 of the Nutrient Management Regulations (Northern Ireland) 2019”.

(4) The Protection of Water Against Agricultural Nitrate Pollution Regulations (Northern Ireland) 2004(f) in regulation 3 omit “by Regulations”.

Revocations

38.—(1) The following regulations are revoked—

- (a) the Nitrates Action Programme Regulations (Northern Ireland) 2014;
- (b) the Nitrates Action Programme (Amendment) Regulations (Northern Ireland) 2015(g);
- (c) the Phosphorus (use in Agriculture) Regulations (Northern Ireland) 2014(h);

(a) S.R. 2014 No. 307, as amended by S.R. 2014/369 and S.R. 2018/188
 (b) S.R. 2014 No. 308
 (c) S.R. 2003 No. 319, as amended by S.R. 2006/489 and S.R. 2010/411
 (d) S.R. 2003 No. 493, as amended by S.R. 2006/489 and S.R. 2010/411
 (e) S.R. 2014 No. 291
 (f) S.R. 2004 No. 419
 (g) S.R. 2015 No. 369
 (h) S.R. 2014 No. 308

Sealed with the Official Seal of the Department of Agriculture and Rural Development on xxth
xxxxxxxxxx 2019

[insert name of senior officer]
A senior officer of the Department of Agriculture, Environment and Rural Affairs

SCHEDULES

SCHEDULE 1

Regulations 13

Soil test for phosphorus

1. Reference to the results of a soil test is a reference to the results of an analysis of a soil sample carried out by a soil-testing laboratory competent to analyse soils for phosphorus. Each analysis, provided by the competent laboratory, will require a UKAS accreditation or (National equivalent) statement.

2. The taking of soil samples and the analysis for phosphorus shall be carried out in accordance with the procedures below.

Soil sampling procedure

3. Area to sample: The size of the area from which one sample can be taken varies but shall not be more than 4 hectares. Generally one sample shall be collected from each field. Within one field, areas which are not uniform for crop growth and areas which have been cropped or fertilised differently shall be sampled separately.

4. Time of sampling: Sampling every fourth year shall be satisfactory as a basis for phosphorus fertiliser recommendations. A field shall not be sampled for phosphorus until at least 3 months after the last application of any fertiliser (organic or chemical) containing this nutrient.

5. Depth of sampling: Grassland shall be sampled to a depth of 75 millimetres and arable land to a depth of 150 millimetres.

6. Method of sampling: A soil sample shall be made up by bulking at least 25 sub-samples taken from the area to be sampled. The sub-sampling points shall be selected systematically to give an even distribution over the whole sampling area. This distribution shall be achieved by following the pattern of a letter "W" and taking sub-samples at regularly spaced intervals. Taking sub-samples from headlands, dung and urine patches, areas where stock gather or other unusual features shall be avoided. Each sub-sample shall be taken using a soil auger which takes an even core of soil throughout the sampling depth. The soil sample shall be stored in a clean, labelled plastic bag.

Soil analysis for phosphorus

7. The soil test for phosphorus shall be carried out after the soil sample has been air-dried and ground.

8. Air-drying and grinding soil: The entire soil sample shall be dried to constant weight in an oven with a current of air at a temperature not exceeding 30 °C. Then the whole of the air-dried sample, excluding stones and fibrous material from roots, shall be ground to pass a 2 millimetre sieve.

9. Soil analysis for Olsen extractable phosphorus: The measure of phosphorus which is available for crop growth shall be given by the amount extracted from soil at 20 ± 1 °C with a sodium bicarbonate solution of pH 8.5. Details of the analytical procedure are given in The Analysis of Agricultural Materials, Third Edition, pp183-185, Ministry of Agriculture, Fisheries and Food reference Book 427, 1986. Olsen extractable phosphorus results are expressed as milligrammes phosphorus per litre (mg P/l) of soil, rounded to the nearest whole number.

10. Classification of soil analysis results into indices: The Olsen extractable phosphorus concentration in soil is classified into an index according to the following scale.

Soil phosphorus index	Olsen extractable phosphorus (P) (mg P/l)
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0	0-9
1	10-15
2-	16-20
2+	21-25
3	26-45
4	46-70

SCHEDULE 2

Regulations 13

Criteria as to nutrient management for phosphours

Table 1

Phosphorus (as orthophosphate (P₂O₅)) limits for grassland on soils of different soil phosphorus index

	<i>Soil phosphorus index</i>					
	0	1	2-	2+	3	4
	<i>Phosphorus recommendation (kg P₂O₅ ha⁻¹)</i>					
At grass establishment	120	80	65	50	30	0
Grazing⁽¹⁾	80	50	35	20	0	0
	<i>Soil phosphorus index</i>					
	0	1	2-	2+	3	4
	<i>Phosphorus recommendation (kg P₂O₅ ha⁻¹)</i>					
Silage cut⁽¹⁾						
<i>1st</i>	100	70	55	40	20	0
<i>2nd</i>	25	25	25	25	0	0
<i>3rd</i>	15	15	15	15	0	0
<i>4th</i>	10	10	10	10	0	0
Hay⁽¹⁾	80	55	43	30	0	0

⁽¹⁾ The amount of phosphate applied for establishment shall be deducted from the first season's grazing, silage or hay crop requirement for phosphorus.

Table 2

Maximum phosphate fertiliser application limits (kg P205 per hectare) for extensively managed grassland (under 60 kg chemical N/ha/year and under 120 kg manure N/ha/year loading).

	<i>Soil phosphorus index</i>					
	0	1	2-	2+	3	4
At grass establishment	80	65	50	30	0	0
Grazed grass (whole season)	50	35	20	0	0	0
First cut silage	70	55	40	0	0	0
Hay	55	43	30	0	0	0

Table 3**Available phosphate (P₂O₅) values for fertilisers**

<i>Liquid/slurry manure types</i>	<i>Dry matter content (%)</i>	<i>Soil phosphorus index of 0 or 1⁽¹⁾</i>	<i>Soil phosphorus index of 2- or greater</i>
<i>Available phosphate (kg P₂O₅/m³)</i>			
Liquids⁽²⁾			
Dirty water	0.5	0.05	0.10
Cattle slurries⁽²⁾			
	2	0.3	0.6
Cattle slurry ⁽³⁾	6	0.6	1.2
	10	0.9	1.8
Separated cattle slurries (liquid portion)⁽²⁾			
Strainer box	1.5	0.15	0.3
Weeping wall	3	0.25	0.5
Mechanical Separator	4	0.6	1.2
Pig slurries⁽²⁾			
	2	0.5	1.0
Pig slurry ⁽³⁾	4	0.9	1.8
	6	1.3	2.6
Separated pig slurry (liquid portion)	3	0.8	1.6
<i>Solid manure types</i>	<i>Dry matter content (%)</i>	<i>Soil phosphorus index of 0 or 1</i>	<i>Soil phosphorus index of 2- or greater</i>
<i>Available phosphate (kg P₂O₅/t)</i>			
Poultry manures⁽⁴⁾			
Broiler litter	66	9.6	16
Layer manure	30	7.8 ⁽⁵⁾	13 ⁽⁵⁾
Turkey litter	60	15 ⁽⁵⁾	25 ⁽⁵⁾
Duck manure	25	3.3 ⁽⁵⁾	5.5 ⁽⁵⁾
Farmyard manures⁽⁴⁾			
Cattle manure	25	1.9	3.2
Sheep manure	25	1.9	3.2
Goat manure	25	1.7	2.8
Pig manure	25	3.6	6.0
Horse manure	30	3.0	5.0

<i>Solid manure types</i>	<i>Dry matter content (%)</i>	<i>Soil phosphorus index of 0 or 1</i>	<i>Soil phosphorus index of 2- or greater</i>
		<i>Available phosphate (kg P₂O₅/t)</i>	
Miscellaneous manures⁽²⁾			
Spent mushroom compost	35	1.7	3.4
Separated cattle slurry (solid portion)	20	1.0	2.0
Separated pig slurry (solid portion)	20	2.3	4.6
<i>Other organic manures</i>	Dry matter content and total phosphorus content to be declared in accordance with the Waste Management Licensing Regulations (Northern Ireland) 2003(a). 60 % phosphate availability assumed at soil phosphorus index of 0 or 1 ⁽¹⁾ ; 100 % phosphate availability assumed at soil phosphorus index greater than 1		
<i>Chemical fertilisers</i>	Dry matter content and total phosphorus content as certified by the producer. Phosphate availability assumed to be 100 % for all soil phosphorus indices		

⁽¹⁾ For potatoes and vegetable crops, these availabilities should be used regardless of soil phosphorus index.

⁽²⁾ 50 % phosphate availability assumed at soil phosphorus index of 0 or 1 and for potatoes and vegetables.

⁽³⁾ Figures in bold are the most common values.

⁽⁴⁾ 60 % phosphate availability assumed at soil phosphorus index of 0 or 1 and for potatoes and vegetables.

⁽⁵⁾ Values that may change if further research into poultry manure nutrient content is carried out.

SCHEDULE 3

Regulations 3(2), 9(2) to (5), 10,
11, 14(2),
24(3) and (6) and 28(1)

Criteria for nutrient management

Interpretation

1. In this Schedule—

“state 1 turkeys” means a holding operating a turkey rearing production system mainly comprising a mix of male and female turkeys from hatching to six weeks old;

“turkey growers” means a holding operating a turkey rearing production system mainly comprising a mix of male and female turkeys from six weeks old to kill;

“turkey entire production” means a holding operating a turkey rearing production system mainly comprising a mix of male and female turkeys from hatching to kill;

“broiler breeder rears” means a holding operating a broiler breeder rearing production system, mainly comprising broiler breeders from hatching to 18 weeks only;

(a) S.R. 2003 No. 493

“broiler breeder layers” means a holding operating a broiler breeder laying production system mainly comprising broiler breeders from 18 weeks old to 60 weeks;

“broiler breeder” means a holding operating an entire production system, mainly comprising broiler breeders from hatching to 60 weeks.

Table 1a

Regulations 9, 12 and 20 - Nitrogen (N) and phosphorus (P) excretion rates for grazing livestock

<i>Livestock type</i>	<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Cattle		
Dairy cow (annual milk yield up to 6000 litres)	85	16
Dairy cow (annual milk yield from 6000 to 8500 litres)	100	19
Dairy cow (annual milk yield over 8500 litres)	116	22
Dairy heifer (over 2 years)	45	8.3
Dairy heifer (1-2 years)	39	7.2
Beef suckler cow (over 2 years)	52	9.6
Breeding bull	52	9.6
Cattle (over 2 years)	45	8.3
Cattle (1-2 years)	39	7.2
Bull beef (0-13 months)	30	7.5
Bull beef (6-13 months)	23	5.8
Calf (0-1 year)	19	4.7
Calf (0-6 months)	7.0	1.7
Calf (6-12 months)	12	3.0
Sheep		
Ewe (over 1 year)	9.0	1.0
Ram (over 1 year)	9.0	1.0
Lamb (0-6 months)	1.2	0.3
Lamb (6-12 months)	3.2	0.3
Lamb (0-1 year)	4.4	0.6
Deer		
Deer (red) 6 months - 2 years	12	2.0
Deer (red) over 2 years	15	4.0
Deer (fallow) 6 months - 2 years	7.0	1.0
Deer (fallow) over 2 years	13	2.0
Deer (sika) 6 months - 2 years	6.0	1.0
Deer (sika) over 2 years	10	2.0
Horses		
Horse (over 3 yrs)	50	9.0
Horse (2-3 yrs)	44	8.0
Horse (1-2 yrs)	36	6.0
Horse (under 1 yrs)	25	3.0
Donkey / small pony	30	5.0

<i>Livestock type</i>	<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Goats		
Milking goats	15	1.7
Non milking Goat	9.0	1.0
Kid (0-1 year)	4.4	0.6
Kid (6-12 months)	3.2	0.3
Kid (0-6 months)	1.2	0.3

Table 1b

Regulations 9 and 12 - Nitrogen (N) and phosphorus (P) excretion rates for pigs

<i>Livestock type</i>	<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Adult pigs		
Boar	18	4.2
Maiden gilt	11	5.7
Breeding sow ⁽¹⁾	16	8.7
	<i>Nitrogen (N) produced per pig (kg N)</i>	<i>Phosphorus (P) produced per pig (kg P)</i>
Pigs weaned at 3-4 weeks		
Approximate start weight (kg)	Approximate sale/transfer weight (kg)	
6-8	18 (7.5 weeks)	0.09
6-8	35 (11 weeks)	0.38
6-8	105 (23 weeks)	2.38
Growing and finishing pigs		
Approximate start weight (kg)	Approximate sale/transfer weight (kg)	
18	35	0.29
18	105	2.30
35	105	2.00

⁽¹⁾ Breeding sows includes served gilts, dry and lactating sows and piglets to weaning.

Table 1c

Regulations 9 and 12 – N and P excretion rates for poultry

<i>Livestock type</i>	<i>Nitrogen (N) produced per 1000 birds per crop (kg N)</i>	<i>Phosphorus (P) produced per 1000 birds per crop (kg P)</i>
Broilers -hot water heating	33.8	7.0
Conventional broilers	40	8.4
Free range broilers	44.9	11.4
Stage 1 turkeys	229	55
Turkeys grower	305	73.8
Turkeys entire production	534	129
Fattening ducks (1000's)	139	65

<i>Livestock type</i>	<i>Nitrogen (N) produced per 1000 birds per week (kg N)</i>	<i>Phosphorus (P) produced per 1000 birds per week (kg P)</i>
Broiler breeders rears	2.9	2.0
Broiler breeders layers	7.2	3.9
Broiler breeders	5.9	3.3
Pullets (1000s)	4.7	1.7
Layers (1000s)	12	4.6
Free range laying hens	5.4	2.2

Table 2

Regulations 3, 9, 12 and 13 – Total nitrogen (N) and phosphorus (P) contents of fertilisers and proportion of total phosphorus to total nitrogen (all on a fresh weight basis)

<i>Liquid / slurry manure types</i>	<i>Dry matter content (%)</i>	<i>Total nitrogen (N) content by volume (kg N/m³)^{(1) (2)}</i>	<i>Total phosphorus (P) content by volume (kg P/m³)^{(1) (2)}</i>	<i>Proportion of total phosphorus to total nitrogen</i>
Liquids				
Dirty water	0.5	0.5	0.04	0.08
Cattle slurries				
	2	1.6	0.26	0.16
Cattle slurry	6	2.6	0.52	0.20
	10	3.6	0.79	0.22
Separated cattle slurries (liquid portion)				
Strainer box	1.5	1.5	0.13	0.09
Weeping wall	3	2.0	0.22	0.11
Mechanical separator	4	3.0	0.52	0.17
Pig slurries				
	2	3.0	0.35	0.12
Pig slurry	4	3.6	0.65	0.18
	6	4.4	0.96	0.22
Separated pig slurry (liquid portion)	3	3.6	0.48	0.13

⁽¹⁾ Figures in bold are the most common values.

⁽²⁾ For calculation purposes assume 1m³ of slurry weighs 1 tonne.

<i>Solid manure type</i>	<i>Dry matter content (%)</i>	<i>Total Nitrogen content by weight (kg N/t)</i>	<i>Total phosphorus content by weight (kg P/t)</i>	<i>Proportion of total phosphorus to total nitrogen</i>
Poultry manures				
Broiler - hot water heating	72	33.8	7.0	0.21
Free range broilers (0-kill)	57	26.4	6.7	0.25
Broiler breeder rears	55	17.5	11.8	0.67
Broiler breeder layers	60	20.7	11.0	0.53
Broiler breeders	59	20.2	11.2	0.56
Conventional broiler	66	33	7.0	0.21
Stage 1 turkeys	58	24.8	6.0	0.24
Turkey growers	58	24.8	6.0	0.24
Turkey entire production	58	24.8	6.0	0.24

Pullets	72	32.7	12.0	0.37
Layer	30	16	5.7	0.36
Free range laying hens	46	18.8	7.5	0.40
Duck	25	6.5	2.4	0.37
Farmyard manures				
Cattle manures	25	6.0	1.4	0.23
Sheep manures	25	7.0	1.4	0.20
Goat manures	40	9.5	2.0	0.21
Pig manure	25	7.0	2.6	0.37
Horse manure	25	5.0	2.2	0.44
Miscellaneous manure				
Spent mushroom compost	35	8.0	1.5	0.19
Separated cattle slurry (solid portion)	20	4.0	0.87	0.22
Separated pig slurry (solid portion)	20	5.0	1.60	0.32
<i>Other organic manures</i>	Dry matter content, total nitrogen content and total phosphorus content to be declared in accordance with the Waste Regulations. Proportion of phosphorus to total nitrogen to be calculated from these analyses.			
<i>Chemical fertilisers</i>	Dry matter content, total nitrogen content and total phosphorus content as certified by the producers. Proportion of total phosphorus to total nitrogen to be calculated from these analyses.			

Table 3
Regulations 9 and 12 - Nitrogen availability in organic manures and chemical fertilisers

<i>Fertiliser</i>	<i>Nitrogen availability (%)</i>
Chemical	100
Pig slurry	50
Poultry litter	30
Farmyard manure	30
Cattle slurry	40
Spent mushroom compost	20
Other organic manures	40

Table 4**Regulations 10 and 12 - Nitrogen application standards for grassland crops**

	<i>Dairy cattle</i> ⁽²⁾	<i>Other livestock</i> ⁽²⁾
Balance of crop nitrogen requirement (kg N/ha/year) (e.g. from chemical fertiliser or organic nitrogen supply other than livestock manure) ⁽¹⁾	272	222

⁽¹⁾ This table does not imply any departure from regulation 9(1) which prohibits the application to the agricultural area on a holding of livestock manure in amounts which exceed 170 kg N/ha/year, including that deposited by the animals themselves.

⁽²⁾ The dairy cattle figures (dairy cows and heifer replacements) apply where it can be demonstrated that more than 50 % of the livestock manure applied to the agricultural area, both by land application and by the animals themselves, arises from dairy cattle. In all other cases the figures for other livestock will apply.

Table 5**Regulations 11 and 12 - Maximum permitted nitrogen application and standard yields for cereal crops**

<i>Crop type</i>	<i>Maximum permitted nitrogen (kg N/ha)</i> ⁽¹⁾	<i>Standard yield (t/ha)</i>
Winter Wheat	220	8.0
Spring Wheat	180	7.0
Winter Barley	170	7.0
Spring Barley	140	5.0
Winter Oats	140	6.0
Spring Oats	110	5.0

⁽¹⁾ For all crops in the table, an additional 20 kg N /ha is permitted for every tonne that the expected yield exceeds the standard yield. Evidence of this must be demonstrated by overall farm crop yield in any of the previous three years.

Table 6**Regulation 20 - Livestock manure production figures**

<i>Livestock type</i>	<i>Volume of excreta produce per animal per week (m³)</i> ⁽¹⁾
Cattle	
Dairy cow	0.37
Suckler cow	0.23
Cattle (over 2 years)	0.23
Cattle (1 – 2 years)	0.18
Calf (6-12 months)	0.09
Calf (0-6 months)	0.05
Sheep	
Adult ewe / ram	0.03
Fattening lamb (6-12 months)	0.01
Adults pigs	
Maiden gilt / boar	0.05

<i>Livestock type</i>	<i>Volume of excreta produce per animal per week (m³)⁽¹⁾</i>	
Dry/lactating sows and served gilts	0.08	
Pigs weaned at 3-4 weeks		
<i>Approximate start weight (kg)</i>	<i>Approximate sale /transfer weight (kg)</i>	
6-8	18 (7.5 weeks)	0.01
6-8	35 (11 weeks)	0.03
6-8	105 (23 weeks) (Meal fed)	0.06
6-8	105 (23 weeks) (Liquid fed)	0.08
Growing and finishing pigs		
<i>Approximate start weight (kg)</i>	<i>Approximate sale / transfer weight (kg)</i>	
18	35	0.02
35	105 (Meal fed)	0.03
35	105 (Liquid fed)	0.05
Poultry		
1000 laying hens	0.81 ⁽²⁾	

⁽¹⁾ The standard figures for slurry produced by animals do not include water for cleaning buildings.

⁽²⁾ Values that may change if further research into poultry manure nutrient content is carried out.

Regulation 12(7) - Criteria as to calculation of phosphorus balance

1.—(1) Phosphorus balance is the difference between phosphorus inputs to the holding less the total of phosphorus outputs leaving the holding. It is calculated per unit area of agricultural land on the holding for each calendar year.

(2) Phosphorus inputs include, when imported on to the holding—

- (a) the total amount of phosphorus in chemical fertiliser;
- (b) the total amount of phosphorus in feedstuffs (calculated using values from Table 7); and
- (c) the total amount of phosphorus in organic manure (calculated using values from Table 2).

(3) Phosphorus outputs include, when exported from the holding—

- (a) the total amount of phosphorus in produce, for example, meat, milk and crops (calculated using values from Table 7); and
- (b) the total amount of phosphorus in organic manure (calculated using values from Table 2).

(4) Inputs of phosphorus to agricultural land in precipitation and losses of phosphorus from the holding to any waterway or water contained in any underground strata are excluded from the balance calculation.

Table 7**Regulation 12(7) - Phosphorus (P) content of agricultural products and feedstuffs**

<i>Agricultural product</i>	<i>Phosphorus content (% fresh weight)</i>
Poultry concentrate	0.5 (or actual declared content)
Pig concentrate	0.48 (or actual declared content)
Ruminant concentrate	0.55 (or actual declared content)
All other concentrates	0.58 (or actual declared content)
Cattle	0.66
Milk	0.10
Sheep	0.54
Wool	0.04
Pigs	0.50
Poultry	0.58
Eggs	0.22
Straw	0.10
Silage	0.06
Hay	0.30
Potatoes	0.04
Oats	0.29
Barley	0.30
Wheat	0.26
Maize	0.25
Full fat soya	0.45
Linseed	0.81
Rape	1.10
Soya	0.68
Sunflower	0.93
Gluten	0.96
Citrus	0.1
Wheat distillers	0.77
Corn distillers	0.77
Peas	0.44
Palm kernel	0.63
Pollard	1.00
Soya hulls	0.14
Sugar beet	0.1
Grass fresh	0.06
Whole crop wheat fresh	0.09
Whole crop wheat silage	0.09
Forage maize fresh	0.07
Forage maize silage	0.07

SCHEDULE 4

Regulation 19(1)

Requirements for slurry storage systems

1. The requirements which have to be satisfied in relation to a slurry storage system are as follows.
2. The base of the slurry storage tank, the base and walls of any effluent tank, channels and reception pit and the walls of any pipes shall be impermeable.

3. The base and walls of the slurry storage tank, any effluent tank, channels and reception pit and the walls of any pipes shall be protected against corrosion in accordance with paragraph 7.2 of the Code of Practice on Buildings and Structures for Agriculture published by the British Standards Institution and numbered BS 5502-50:1993+A2:2010 (a).

4. The base and walls of the slurry storage tank and any reception pit shall be capable of withstanding characteristic loads calculated on the assumptions and in the manner indicated by paragraph 5 of that Code of Practice.

5.—(1) Any facilities used for the temporary storage of slurry before it is transferred to a slurry storage tank shall have adequate capacity to store the maximum quantity of slurry which (disregarding any slurry which will be transferred directly into a slurry storage tank) is likely to be produced on the premises in any two day period or such smaller capacity as the Department may agree in writing is adequate to avoid any significant risk of pollution of a waterway.

(2) Where slurry flows into a channel before discharging into a reception pit and the flow of slurry out of the channel is controlled by means of a sluice, the capacity of the reception pit shall be adequate to store the maximum quantity of slurry which can be released by opening the sluice.

6.—(1) Subject to sub-paragraph (2), the capacity of storage facilities for slurry of a holding shall be sufficient and adequate to provide for the storage of all the slurry which is likely to require storage on the holding for such period as may be necessary to ensure compliance with these Regulations.

(2) The matters to which regard is to be had under sub-paragraph (1) are—

- (a) the likely quantities of rainfall (including any fall of snow, hail or sleet) which may fall or drain into the slurry storage tank during the likely maximum storage period;
- (b) the need to make provision for not less than 750 millimetres of freeboard in the case of a tank with walls made of earth and 300 millimetres of freeboard in all other cases; and
- (c) soil quality in the vicinity of the slurry storage tank.

7. No part of the slurry storage tank or any effluent tank, channels or reception pit shall be situated within—

- (a) 10 metres if constructed before 1st January 2020; or
- (b) 50 metres if constructed after 31st December 2019

of any waterway into which slurry could enter if it were to escape unless precautions are taken that the Department agrees in writing are adequate to avoid any significant risk of pollution.

8. The slurry storage tank and any effluent tank, channels, pipes and reception pit shall be designed and constructed so that with proper maintenance they are likely to satisfy the requirements of paragraphs 2 to 4 for a period of at least 20 years.

9. Where the walls of the slurry storage tank are not impermeable, the base of the tank shall extend beyond its walls and shall be provided with channels designed and constructed so as to collect any slurry which may escape from the tank and adequate provision shall be made for the drainage of the slurry from the channels to an effluent tank through a channel or pipe.

10.—(1) Subject to sub-paragraph (2), where the slurry storage tank, any effluent tank or reception pit is fitted with a drainage pipe, there shall be two valves in series on the pipe and each valve shall be capable of stopping the flow of slurry through the pipe and shall be kept shut and locked in that position when not in use.

(2) Sub-paragraph (1) does not apply in relation to a slurry storage tank which drains through the pipe into another slurry storage tank of equal or greater capacity or where the tops of the tanks are at the same level.

11. In the case of a slurry storage tank with walls which are made of earth, the tank shall not be filled to a level which allows less than 750 millimetres of freeboard, and in all other cases the tank shall not be filled to a level which allows less than 300 millimetres of freeboard.

(a) Publication date: 15th April 1993. ISBN 978-0-580-71245-6.

12.—(1) Any slurry storage tank constructed, substantially enlarged or substantially reconstructed after 31st December 2019, which is not contained within or underneath a roofed building, shall be covered in a manner which minimises emissions of odour and ammonia.

(2) All existing slurry storage tanks, which are not contained within or underneath a roofed building, shall be fitted with a floating or fixed cover by 1st January 2022.

SCHEDULE 5

Regulation 25(1)(a)

Requirements for silos

1. The requirements which have to be satisfied in relation to a silo are that—

- (a) it complies with the following provisions; or
- (b) it is designed and constructed in accordance with the standard on cylindrical forage tower silos published by the British Standards Institution and numbered BS 5061: 1974(a).

2. The base of the silo shall, where the silo has retaining walls made other than of earth, extend beyond those walls and shall in all cases be provided with channels so constructed as to collect any silage effluent which may escape from the silo and adequate provision shall be made for the drainage of that effluent from the channels to an effluent tank through a channel or pipe.

3.—(1) Subject to sub-paragraph (2), the capacity of the effluent tank—

- (a) in the case of a silo with a capacity of less than 1500 cubic metres, shall be not less than 3 cubic metres for each 150 cubic metres or part thereof of silo capacity;
- (b) in the case of a silo with a capacity of 1500 cubic metres or more, shall be not less than 30 cubic metres plus 1 cubic metre for each 150 cubic metres or part thereof of silo capacity in excess of 1500 cubic metres.

(2) The effluent collection system associated with silos may, with the agreement of the Department, incorporate a system of pumps and sumps, together with detailed sizing, pumping and management requirements, designed to reduce the capacity of the effluent tank.

4. The base of the silo, the base and walls of its effluent tank and channels and the walls of any pipes shall be impermeable.

5. The base and any walls of the silo, its effluent tank and channels and the walls of any pipes shall, so far as reasonably practicable, be resistant to attack by silage effluent and, where the walls are made of earth, they shall be lined with an impermeable membrane.

6. No part of the silo, its effluent tank or channels or any associated pipes shall be situated within 10 metres of any waterway into which silage effluent could enter if it were to escape.

7. If the silo has retaining walls—

- (a) the retaining walls shall be capable of withstanding minimum wall loadings calculated on the assumptions and in the manner indicated by paragraph 15.6.1 to 15.6.3 of the Code of Practice on Buildings and Structures for Agriculture published by the British Standards Institution and numbered BS 5502-22:2003+A1:2013 (b);
- (b) the silo shall at no time be loaded to a depth exceeding the maximum depth consistent with the design assumption made in respect of the loadings of the retaining walls; and
- (c) notices shall be displayed on the retaining walls in accordance with paragraph 18 of the Code of Practice referred to in sub-paragraph (a).

8. Subject to paragraph 9, the silo, its effluent tank and channels and any pipes shall be designed and constructed so that with proper maintenance they are likely to satisfy the requirements of paragraphs 2 to 5 and, if applicable, 7(a) for a period of at least 20 years.

(a) Publication date: 11th April 1974. ISBN 0-580-08070-6.

(b) Publication date: 10th June 2003. ISBN 978-0-580-78768-3.

9. Where any part of an effluent tank is installed below ground level, it shall be designed and constructed in accordance with the Code of Practice referred to in paragraph 7(a) so that with proper maintenance it is likely to satisfy the requirements of paragraphs 4 and 5 for a period of at least 20 years.

SCHEDULE 6

Regulation 8(2)(f)

Risk assessment for fertiliser application to steeply sloping land

10. If application of organic manure (including livestock manure) or chemical fertiliser to steeply sloping land is proposed, a risk assessment must be undertaken in addition to meeting all relevant requirements of these Regulations. The factors set out in Table 1 shall be considered in making this risk assessment. Table 2 shall be consulted to ascertain whether fertiliser application is permitted.

Table 1

Fertiliser application to steeply sloping ground - risk assessment factors

Factor	Risk	Liquid organic manures	Solid organic manures	Chemical nitrogen fertiliser
Distance from spreading area to waterway other than lake	<i>High</i>	less than 20 m	less than 20 m	less than 5 m
	<i>Medium</i>	20-30 m	20-30 m	5-10 m
	<i>Low</i>	greater than 30 m	greater than 30 m	greater than 10 m
Distance from spreading area to lake	<i>High</i>	less than 30 m	less than 30 m	less than 5 m
	<i>Medium</i>	30-40 m	30-40 m	5-10 m
	<i>Low</i>	greater than 40 m	greater than 40 m	greater than 10 m
Level of fertiliser applied	<i>High</i>	more than 25m ³ /ha	more than 25 tonnes/ha	greater than 120 kg/N/ha
	<i>Medium</i>	15-25m ³ /ha	15-25 tonnes/ha	80-120 kg/N/ha
	<i>Low</i>	less than 15 m ³ /ha	less than 15 tonnes/ha	less than 80 kg/N/ha
Soil conditions	<i>High</i>	very wet, compacted soil	very wet, compacted soil	very wet, compacted soil
	<i>Medium</i>	wet, poached soil	wet, poached soil	wet, poached soil
	<i>Low</i>	dry, firm trafficable soil	dry, firm trafficable soil	dry, firm trafficable soil

Factor	Risk	Liquid organic manures	Solid organic manures	Chemical nitrogen fertiliser
Forecast weather conditions for next 48 hours	<i>High</i>	heavy rainfall (more than 4 mm per hour)	heavy rainfall (more than 4 mm per hour)	heavy rainfall (more than 4 mm per hour)
	<i>Medium</i>	moderate rainfall (0.5 – 4 mm per hour)	moderate rainfall (0.5 – 4 mm per hour)	moderate rainfall (0.5 – 4 mm per hour)
	<i>Low</i>	low rainfall (less than 0.5 mm per hour)	low rainfall (less than 0.5 mm per hour)	low rainfall (less than 0.5 mm per hour)
Arable land only - time to incorporation	<i>High</i>	more than 48 hours	more than 5 days	n/a
	<i>Medium</i>	12-48 hours	3-5 days	n/a
	<i>Low</i>	less than 12 hours	less than 3 days	n/a

Table 2

Risk assessment determination

Risk level	Number of factors applicable	Is the land application of fertiliser permitted?
<i>High Risk</i>	One or more factors	No
<i>Medium Risk</i>	Two or more factors	No
	One factor	Yes
<i>Low risk</i>	One or more factors	Yes