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WELSH STATUTORY INSTRUMENTS

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**2021 No. 77 (W. 20)**

**AGRICULTURE, WALES  
WATER, WALES**

The Water Resources (Control of Agricultural  
Pollution) (Wales) Regulations 2021

<i>Made</i>	- - - -	<i>21 January 2021</i>
<i>Laid before Senedd Cymru</i>		<i>27 January 2021</i>
<i>Coming into force</i>	- -	<i>1 April 2021</i>

The Welsh Ministers make the following Regulations in exercise of the powers conferred by sections 92 and 219(2)(d) to (f) of the Water Resources Act 1991<sup>(1)</sup>.

**PART 1**

**Introduction**

**Title, application and commencement**

**1.—(1)** The title of these Regulations is the Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021.

(2) These Regulations apply in relation to Wales.

(3) These Regulations come into force on 1 April 2021.

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<sup>(1)</sup> 1991 c. 57. Section 92 was amended by the Environment Act 1995 (c. 25) section 120 and paragraph 128 and 144 of Schedule 22 to that Act, and by S.I. 2010/675 and S.I. 2013/755 (W. 90). There are amendments to section 219 which are not relevant to these Regulations. By virtue of article 2 of, and Schedule 1 to, the National Assembly for Wales (Transfer of Functions) Order 1999 (S.I. 1999/672) functions of the Secretary of State under section 92 were transferred to the National Assembly for Wales in relation to those parts of Wales which are outside the catchment areas of the rivers Dee, Wye and Severn. In relation to those parts of Wales which are within those catchment areas, functions under section 92 are exercisable by the National Assembly for Wales concurrently with the Secretary of State. By virtue of section 162 of, and paragraph 30 of Schedule 11 to, the Government of Wales Act 2006 (c. 32) functions under sections 92 and 219 now vest in the Welsh Ministers.

### Transitional measures for holdings not previously in a nitrate vulnerable zone

2. In a holding or part of a holding that was not previously situated within a nitrate vulnerable zone as shown on the relevant map marked “Nitrate Vulnerable Zones Index Map 2013”(2)—

- (a) regulations 4 to 11, 15, 23, 27 and 33 to 43 do not apply until 1 January 2023, and
- (b) regulations 17 to 21, 25 and 26, and 28 to 31 do not apply until 1 August 2024.

### Interpretation

3.—(1) In these Regulations—

“agricultural area” (“*ardal amaethyddol*”) means any agricultural land used for agricultural purposes;

“agriculture” (“*amaethyddiaeth*”) has the meaning given in section 109(3) of the Agriculture Act 1947(3);

“construct” (“*adeiladu*”) includes install;

“controlled waters” (“*dyfroedd a reolir*”) has the meaning given in section 104 of the Water Resources Act 1991;

“crop with high nitrogen demand” (“*cnwd â galw mawr am nitrogen*”) includes, but not limited to, grass, potatoes, sugar beet, maize, wheat, oilseed rape, barley, brassicas, rye and triticale;

“fertilisation plan” (“*cynllun gwrteithio*”) means a plan prepared under regulation 6(1)(c);

“grass” (“*porfa*”) means—

- (a) permanent grassland or temporary grassland (temporary means for less than four years),
- (b) that exists between the sowing and ploughing of the grass, and
- (c) includes crops under-sown with grass,

but does not include grassland with 50 % or more clover;

“grazing livestock” (“*da byw sy’n pori*”) means any animal specified in Table 1 in Schedule 1;

“holding” (“*daliad*”) means all land and its associated buildings that are at the disposal of the occupier and which are used for the growing of crops in soil or rearing of livestock for agricultural purposes;

“land that has a low run-off risk” (“*tir y mae’r risg o oferu drosto yn isel*”) means land that—

- (a) has an average slope of less than 3° (3 degrees),
- (b) does not have land drains (other than a sealed impermeable pipe), and
- (c) is at least 50 metres from a watercourse or conduit leading to a watercourse;

“livestock” (“*da byw*”) means any animal (including poultry) specified in Schedule 1;

“manufactured nitrogen fertiliser” (“*gwrtaith nitrogen a weithgynhyrchwyd*”) means any nitrogen fertiliser (other than organic manure) manufactured by an industrial process;

“manufactured phosphate fertiliser” (“*gwrtaith ffosffad a weithgynhyrchwyd*”) means any phosphate fertiliser (other than organic manure) manufactured by an industrial process;

“nitrogen fertiliser” (“*gwrtaith nitrogen*”) means any substance containing one or more nitrogen compounds used on land to enhance growth of vegetation and includes organic manure;

(2) Under regulation 7(3) of the Nitrate Pollution Prevention (Wales) Regulations 2013 (S.I. 2013/2506) (W. 245) such a map was required to be deposited at the offices of the Welsh Government at Cathays Park, Cardiff, CF10 3NQ. The map can be viewed at <http://lle.gov.wales/catalogue/item/NitrateVulnerableZonesNVZ/?lang=en> and at the offices of the Welsh Government at Cathays Park, Cardiff, CF10 3NQ.

(3) 1947 c. 48. There are amendments to subsection (3) but none is relevant.

“non-grazing livestock” (“*da byw nad ydynt yn pori*”) means any animal specified in Table 2 in Schedule 1;

“notice” (“*hysbysiad*”) means notice in writing;

“NRBW” (“*CANC*”) means the Natural Resources Body for Wales;

“organic manure” (“*tail organig*”) means any nitrogen fertiliser or phosphate fertiliser derived from animal, plant or human sources and includes livestock manure;

“phosphate fertiliser” (“*gwrtaiith ffosffad*”) means any substance containing one or more phosphorus compounds used on land to enhance growth of vegetation and includes organic manure;

“poultry” (“*dofednod*”) means poultry specified in Schedule 1;

“reception pit” (“*pydew derbyn*”) 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;

“sandy soil” (“*pridd tywodlyd*”) means any soil over sandstone, and any other soil where—

- (a) in the layer up to 40 cm deep, there are—
  - (i) more than 50 % by weight of particles from 0.06 to 2 mm in diameter,
  - (ii) less than 18 % by weight of particles less than 0.02 mm diameter, and
  - (iii) less than 5 % by weight of organic carbon, and
- (b) in the layer from 40 to 80 cm deep, there are—
  - (i) more than 70 % by weight of particles from 0.06 to 2 mm in diameter,
  - (ii) less than 15 % by weight of particles less than 0.02 mm diameter, and
  - (iii) less than 5 % by weight of organic carbon;

“shallow soil” (“*pridd tenau*”) is soil that is less than 40 cm deep;

“silage” (“*silwair*”) includes a crop being made into silage;

“silage effluent” (“*elifiant silwair*”) means effluent from silage;

“silo” (“*seilo*”) means a structure used for making or storing silage;

“slurry” (“*slyri*”) means liquid or semi-liquid matter composed of—

- (a) excreta produced by livestock (other than poultry) while in a yard or building (including that held in wood chip corrals), or
- (b) a mixture wholly or mainly consisting of livestock excreta, livestock bedding, rainwater and washings from a building or yard used by livestock,

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

“slurry storage tank” (“*tanc storio slyri*”) includes a lagoon, a pit (other than a reception pit) or tower used for the storage of slurry;

“spreading” (“*taenu*”) includes application to the surface of the land, injection into the land or mixing with the surface layers of the land but does not include the direct deposit of excreta on to land by animals;

“watercourse” (“*cwrs dŵr*”) has the meaning given in section 221 of the Water Resources Act 1991.

(2) A reference in these Regulations to a slurry storage system includes a slurry storage tank and—

- (a) any reception pit and any effluent tank used in connection with the tank, and

(b) any channels and pipes used in connection with the tank, any reception pit or any effluent tank.

(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.

## PART 2

### Limiting the application of organic manure

#### **Application of livestock manure – total nitrogen limit for the whole holding**

4.—(1) The occupier of a holding must ensure that, in any year beginning 1 January, the total amount of nitrogen in livestock manure applied to the holding, whether directly by an animal or by spreading, does not exceed 170 kg multiplied by the area of the holding in hectares.

(2) The amount of nitrogen produced by livestock must be calculated in accordance with Schedule 1.

(3) In calculating the area of the holding for the purposes of ascertaining the amount of nitrogen permitted to be spread on the holding, no account is taken of surface waters, any hardstanding, buildings, roads or any woodland unless that woodland is used for grazing.

#### **Spreading organic manure — nitrogen limits per hectare**

5.—(1) Subject to paragraph (2), the occupier of a holding must ensure that, in any 12 month period, the total amount of nitrogen in organic manure spread on any given hectare on the holding does not exceed 250 kg.

(2) The occupier of a holding must ensure that the total amount of nitrogen in organic manure exclusively in the form of certified compost applied to any given hectare on the holding does not exceed—

- (a) 1000 kg in any four year period if it is applied as mulch to orchard land, or
- (b) 500 kg in any two year period if it is applied to any other land.

(3) For the purposes of paragraphs (1) and (2), the total amount of nitrogen in organic manure must be calculated by reference to the methods described in regulation 9 for establishing nitrogen content.

(4) In this regulation—

- (a) “orchard land” means land on which any fruit listed in Schedule 2 is grown;
- (b) “certified compost” means green compost or green/food compost in relation to which the supplier confirms in writing that it meets the standards set out in the publication *PAS 100:2011* on composted materials dated January 2011 and contains no livestock manure;
- (c) the occupier must retain written confirmation that the organic manure complies with sub-paragraph (b).

## PART 3

### Crop requirements

#### Planning the spreading of nitrogen fertiliser

- 6.—(1) An occupier of a holding who intends to spread nitrogen fertiliser must—
- (a) calculate the amount of nitrogen in the soil that is likely to be available for uptake by the crop during the growing season (“the soil nitrogen supply”),
  - (b) calculate the optimum amount of nitrogen that should be spread on the crop, taking into account the amount of nitrogen available from the soil nitrogen supply, and
  - (c) produce a plan for the spreading of nitrogen fertiliser for that growing season.
- (2) In the case of any crop other than permanent grassland, the occupier must comply with paragraph (1) before spreading any nitrogen fertiliser for the first time for the purpose of fertilising a crop planted or intended to be planted.
- (3) In the case of permanent grassland the occupier must comply with paragraph (1) each year beginning 1 January before the first spreading of nitrogen fertiliser.
- (4) The plan must be in permanent form.
- (5) The plan must record—
- (a) the reference or name of the relevant field,
  - (b) the area of the field planted or intended to be planted, and
  - (c) the type of crop.
- (6) For the area planted or intended to be planted the plan must record—
- (a) the soil type,
  - (b) the previous crop (if the previous crop was grass, whether it was managed by cutting or grazing),
  - (c) the soil nitrogen supply calculated in accordance with paragraph (1) and the method used to establish this figure,
  - (d) the anticipated month that the crop will be planted,
  - (e) the anticipated yield (if arable), and
  - (f) the optimum amount of nitrogen that should be spread on the crop, taking into account the amount of nitrogen available from the soil nitrogen supply.

#### Additional information to be recorded during the year

- 7.—(1) Before spreading organic manure, the occupier must on each occasion calculate the amount of nitrogen from that manure that is likely to be available for crop uptake in the growing season in which it is spread.
- (2) The occupier must, before spreading, record—
- (a) the area on which the organic manure will be spread,
  - (b) the quantity of organic manure to be spread,
  - (c) the planned date for spreading (month),
  - (d) the type of organic manure,
  - (e) the total nitrogen content, and

- (f) the amount of nitrogen likely to be available from the organic manure intended to be spread for crop uptake in the growing season in which it is spread.
- (3) Before spreading nitrogen fertiliser, the occupier must record—
- (a) the amount required, and
  - (b) the planned date for spreading (month).

### **Total nitrogen spread on a holding**

8. Irrespective of the figure in the plan, an occupier must ensure that the total amount of—
- (a) nitrogen from manufactured nitrogen fertiliser, and
  - (b) nitrogen available for crop uptake from organic manure, in the growing season in which it is spread calculated in accordance with regulation 9,

does not in any 12 month period exceed the limits set out in regulation 10.

### **Calculating the amount of nitrogen available for crop uptake from organic manure**

9.—(1) The occupier must establish the total amount of nitrogen in livestock manure, for the purposes of regulation 8, by—

- (a) using the table in Part 1 of Schedule 3, or
- (b) sampling and analysis in accordance with Part 2 of Schedule 3.

(2) Once the total amount of nitrogen in the livestock manure has been determined, the following percentages are assumed in order to establish the amount of nitrogen in the livestock manure that is available for crop uptake in the growing season in which it is spread.

#### **Available percentage**

<i>Type of livestock manure</i>	<i>Amount of nitrogen available for crop uptake in the growing season in which it is spread</i>
Cattle slurry	40 %
Pig slurry	50 %
Poultry manure	30 %
Other livestock manure	10 %

(3) In relation to all other organic manure, the occupier must establish the total amount of nitrogen available for crop uptake in the growing season in which it is spread, for the purposes of regulation 8—

- (a) by reference to technical analyses provided by the supplier,
- (b) to the extent that such information is unavailable, by reference to the values given in the Nutrient Management Guide (RB209)(4), or
- (c) by sampling and analysis in accordance with Part 2 of Schedule 3.

(4) <https://ahdb.org.uk/RB209>. A copy can be obtained from AHDB (the Agricultural and Horticultural Development Board).

**Maximum nitrogen limits by crop**

10. The total amount of nitrogen permitted to be spread on any crop listed in the first column below is the figure given in the second column below, adjusted in accordance with the notes to the table and multiplied by the total area in hectares of that crop sown on the holding.

**Maximum nitrogen**

<i>Crop</i>	<i>Permitted amount of nitrogen (kg)<sup>(a)</sup></i>	<i>Standard yield (tonne/ha)</i>
Asparagus	150	n/a
Autumn or early winter sown wheat	220 <sup>(b)(e)(d)</sup>	8.0
Beetroot	350	n/a
Brussels sprouts	350	n/a
Cabbage	350	n/a
Calabrese	350	n/a
Cauliflower	350	n/a
Carrots	150	n/a
Celery	250	n/a
Courgettes	250	n/a
Dwarf bean	250	n/a
Field beans	0	n/a
Forage maize	150	n/a
Grass	300 <sup>(f)</sup>	n/a
Leeks	350	n/a
Lettuce	250	n/a
Onions	250	n/a
Parsnips	250	n/a
Peas	0	n/a
Potatoes	270	n/a
Radish	150	n/a

(a) An additional 80 kg per hectare is permitted to all crops grown in fields if the current or previous crop has had straw or paper sludge applied to it.

(b) An additional 20 kg per hectare is permitted on fields with shallow soil (other than shallow soils over sandstone).

(c) An additional 20 kg per hectare is permitted for every tonne that the expected yield exceeds the standard yield.

(d) An additional 40 kg per hectare is permitted to milling wheat varieties.

(e) This is inclusive of any nitrogen that is applied as an exemption to the closed period for manufactured nitrogen fertiliser. The permitted amount may be increased by up to 30 kg per hectare for every half tonne that expected yield exceeds the standard yield.

(f) An additional 40 kg per hectare is permitted to grass that is cut at least three times a year.

<i>Crop</i>	<i>Permitted amount of nitrogen (kg)<sup>(a)</sup></i>	<i>Standard yield (tonne/ha)</i>
Runner beans	250	n/a
Spring-sown wheat	180 <sup>(c)(d)</sup>	7.0
Spring barley	150 <sup>(c)</sup>	5.5
Sugar beet	150	n/a
Sugar beet	120	n/a
Swedes	150	n/a
Sweetcorn	250	n/a
Turnips	250	n/a
Winter barley	180 <sup>(b)(c)</sup>	6.5
Winter oilseed rape	250 <sup>(e)</sup>	3.5

- (a) An additional 80 kg per hectare is permitted to all crops grown in fields if the current or previous crop has had straw or paper sludge applied to it.
- (b) An additional 20 kg per hectare is permitted on fields with shallow soil (other than shallow soils over sandstone).
- (c) An additional 20 kg per hectare is permitted for every tonne that the expected yield exceeds the standard yield.
- (d) An additional 40 kg per hectare is permitted to milling wheat varieties.
- (e) This is inclusive of any nitrogen that is applied as an exemption to the closed period for manufactured nitrogen fertiliser. The permitted amount may be increased by up to 30 kg per hectare for every half tonne that expected yield exceeds the standard yield.
- (f) An additional 40 kg per hectare is permitted to grass that is cut at least three times a year.

## PART 4

### Controlling the spreading of nitrogen fertiliser

#### Risk maps

11.—(1) An occupier of a holding who spreads organic manure on that holding must maintain a map of the holding (“a risk map”) in accordance with this regulation.

(2) If circumstances change the occupier must update the risk map within three months of the change.

(3) The risk map must show—

- (a) each field, with its area in hectares,
- (b) all surface waters,
- (c) any boreholes, springs or wells on the holding or within 50 metres of the holding boundary,
- (d) areas with sandy or shallow soils,
- (e) land with an incline greater than 12°,
- (f) land within 10 metres of surface waters,
- (g) land within 50 metres of a borehole, spring or well,
- (h) land drains (other than a sealed impermeable pipe),
- (i) sites suitable for temporary field heaps if this method of storing manure is to be used, and



- (j) land that has a low run-off risk (this is optional for an occupier who does not intend to spread manure on low run-off risk land during the storage period in accordance with regulation 29).
- (4) If an occupier spreads organic manure by using precision spreading equipment up to 6 metres from surface water as permitted by regulation 14(1), the risk map must identify land within 6 metres of surface waters.
- (5) The occupier must keep a copy of the risk map.

### **When to spread fertiliser**

**12.**—(1) An occupier who intends to spread nitrogen fertiliser must first undertake a field inspection to consider the risk of nitrogen getting into surface water.

(2) No person may spread nitrogen fertiliser on that land if there is a significant risk of nitrogen getting into surface water, taking into account in particular—

- (a) the slope of the land, particularly if the slope is more than 12°,
- (b) any ground cover,
- (c) the proximity to surface water,
- (d) the weather conditions,
- (e) the soil type, and
- (f) the presence of land drains.

(3) No person may spread nitrogen fertiliser if the soil is waterlogged, flooded, snow covered, frozen or has been frozen for more than 12 hours in the previous 24 hours.

### **Spreading manufactured nitrogen fertiliser near surface water**

**13.** No person may spread manufactured nitrogen fertiliser within 2 metres of surface water.

### **Spreading organic manure near surface water, boreholes, springs or wells**

**14.**—(1) No person may spread organic manure within 10 metres of surface water unless using precision spreading equipment in which case no person may spread organic manure within 6 metres of surface water.

(2) But livestock manure (other than slurry and poultry manure) may be spread there if—

- (a) it is spread on land managed for breeding wader birds or as a species-rich semi-natural grassland and the land is—
  - (i) notified as a Site of Special Scientific Interest under the Wildlife and Countryside Act 1981<sup>(5)</sup>, or
  - (ii) subject to an agri-environment commitment entered into under Council Regulation (EC) 1698/2005<sup>(6)</sup>, or Regulation (EU) 1305/2013<sup>(7)</sup>,
- (b) it is spread between 1 June and 31 October inclusive,
- (c) it is not spread directly on to surface water, and
- (d) the total annual amount does not exceed 12.5 tonnes per hectare.

(3) No person may spread organic manure within 50 metres of a borehole, spring or well.

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(5) 1981 c. 69.

(6) EUR 1698/2005.

(7) EUR 1305/2013, as amended by S.I. 2019/748 and 764.

(4) For the purposes of this regulation, “precision spreading equipment” is defined as a trailing shoe, dribble bar or injector system.

### **Controlling how nitrogen fertiliser is spread**

**15.**—(1) Subject to paragraph (2), any person spreading slurry must use spreading equipment with a low spreading trajectory, that is, below 4 metres from the ground.

(2) Spreading equipment with a spreading trajectory of more than 4 metres from the ground may be used on land that has a low run off risk where such equipment can achieve an average slurry application rate of not more than 2 mm per hour when it is operating continuously.

(3) Any person spreading nitrogen fertiliser must do so in as accurate a manner as possible.

### **Incorporating organic manure into the ground**

**16.**—(1) Any person who applies organic manure onto the surface of bare soil or stubble (other than soil that has been sown) must ensure that it is incorporated into the soil in accordance with this regulation.

(2) Poultry manure must be incorporated as soon as practicable, and within 24 hours at the latest.

(3) Slurry and liquid digested sewage sludge (that is, liquid from the treatment of sewage sludge by anaerobic digestion) must be incorporated as soon as practicable, and within 24 hours at the latest, unless it was applied using equipment of a type described in regulation 14(4).

(4) Any other organic manure (other than organic manure spread as a mulch on sandy soil) must be incorporated into the soil as soon as practicable, and within 24 hours at the latest, if the land is within 50 metres of surface water and slopes in such a way that there may be run-off to that water.

## **PART 5**

### **Closed periods for spreading nitrogen fertiliser**

#### **Meaning of “organic manure with high readily available nitrogen”**

**17.** In this Part, “organic manure with high readily available nitrogen” means organic manure in which more than 30 % of the total nitrogen content is available to the crop at the time of spreading.

#### **Closed periods for spreading organic manure with high readily available nitrogen**

**18.** Subject to regulations 19 and 20, no person may spread organic manure with high readily available nitrogen on land between the following dates, all inclusive (“the closed period”)—

#### **The closed period**

<i>Soil Type</i>	<i>Grassland</i>	<i>Tillage land</i>
Sandy or shallow soil	1 September to 31 December	1 August to 31 December
All other soils	15 October to 15 January	1 October to 31 January

#### **Exemptions: crops sown before 15 September**

**19.** Spreading organic manure with high readily available nitrogen on tillage land with sandy or shallow soil is permitted between 1 August and 15 September inclusive provided that the crop is sown on or before 15 September.

### **Exemptions for organic holdings**

**20.** An occupier of a holding who has submitted his or her undertaking to the control system referred to in Article 27 of Council Regulation (EC) 834/2007<sup>(8)</sup> may spread organic manure with high readily available nitrogen at any time on—

- (a) crops listed in the table in Schedule 4 (permitted crops for the closed period), or
- (b) other crops in accordance with written advice from a person who is a member of the Fertiliser Advisers Certification and Training Scheme<sup>(9)</sup>,

provided that each hectare on which organic manure is spread does not receive more than 150 kg total nitrogen between the start of the closed period and the end of February.

### **Restrictions following the closed period**

**21.** From the end of the closed period until the end of February—

- (a) the maximum amount of slurry that may be spread at any one time is 30 cubic metres per hectare and the maximum amount of poultry manure that may be spread at any one time is 8 tonnes per hectare, and
- (b) there must be at least three weeks between each spreading.

### **Times in which spreading manufactured nitrogen fertiliser is prohibited**

**22.**—(1) No person may spread manufactured nitrogen fertiliser on land during the following periods (all dates inclusive)—

- (a) in the case of grassland, from 15 September to 15 January, or
- (b) in the case of tillage land, from 1 September to 15 January.

(2) Spreading fertiliser during these periods is permitted on the crops specified in the Table in Schedule 4, provided that the maximum rate in column 2 is not exceeded.

(3) Spreading during those periods on crops not in Schedule 4 is permitted on the basis of written advice from a person who is a member of the Fertiliser Advisers Certification and Training Scheme.

## **PART 6**

### **Storage of organic manure and silage**

#### **Storage of organic manure**

**23.** An occupier of a holding who stores any organic manure (other than slurry), or any bedding contaminated with any organic manure, must store it—

- (a) in a vessel,
- (b) in a covered building,
- (c) on an impermeable surface, or
- (d) in the case of solid manure that can be stacked in a free standing heap and that does not drain liquid from the material, on a temporary field site.

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<sup>(8)</sup> EUR 834/2007, as amended by S.I. 2019/693 and 831.

<sup>(9)</sup> The scheme is administered by Basis Registration Ltd, and a list of qualified persons is available from them on request or at their website, [www.basis-reg.com](http://www.basis-reg.com).

### **Making or storage of silage**

**24.**—(1) Subject to paragraph (3), a person who has custody or control of silage that is being made or stored must ensure that—

- (a) the silage is kept in a silo that satisfies the requirements of Schedule 5, or
- (b) the silage is compressed into bales that—
  - (i) are wrapped and sealed into impermeable membranes, or enclosed in impermeable bags, and
  - (ii) are stored at least 10 metres from any inland freshwaters or coastal waters that effluent escaping from the bales could enter, or
- (c) if the silage is a crop being made into field silage (that is, silage made on open land by a method different from the baling method referred to in sub-paragraph (b)) or silage that is being stored on open land—
  - (i) NRBW is given notice of the place where the silage is to be made or stored at least 14 days before the place is first used for that purpose, and
  - (ii) the place is at least 10 metres from any inland freshwaters or coastal waters, and at least 50 metres from the nearest relevant water abstraction point of any protected water supply source that silage effluent could enter if it escaped.

(2) For paragraph (1)(c)(ii), a water supply source is a protected water supply source if—

- (a) any relevant water abstraction from the source is licensed under Part 2 of the Water Resources Act 1991<sup>(10)</sup>, or
- (b) the person making or storing the silage was aware of the source's location—
  - (i) before the making of the silage began, or
  - (ii) if the silage was made elsewhere, before it was stored on the land in question.

(3) Paragraph (1) does not apply to silage while it is stored temporarily in a container, trailer or vehicle in connection with its transport about the farm or elsewhere.

(4) A person who has custody or control of a silage bale must not open or remove the wrapping of the bale within 10 metres of any inland freshwaters or coastal waters which silage effluent could enter as a result.

(5) In this regulation—

- (a) “relevant water abstraction” means the abstraction of water for use for—
  - (i) human consumption, or
  - (ii) domestic purposes (within the meaning given by section 218 of the Water Industry Act 1991<sup>(11)</sup>) other than human consumption, or
  - (iii) manufacturing food or drink for human consumption, and
- (b) “water supply source” means inland freshwaters or ground waters from which a relevant water abstraction is made or licensed to be made.

### **Storage of slurry**

**25.**—(1) Subject to paragraph (2), a person having custody or control of slurry must have a slurry storage system that satisfies the requirements of Schedule 6 and the slurry must be stored in that system.

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<sup>(10)</sup> 1991 c. 57.

<sup>(11)</sup> 1991 c. 56.

(2) Paragraph (1) does not apply to slurry while it is stored temporarily in a tanker that is used for transporting slurry on roads or about a farm.

### **Exemptions to the storage requirements**

- 26.**—(1) Regulations 24(1) and 25(1) do not apply to a silo or slurry storage system—
- (a) which, before 1 March 1991, was being used for the purpose of making silage or storing slurry,
  - (b) where it was not used before 1 March 1991 for that purpose, it was constructed before that date for such use, or
  - (c) in relation to which—
    - (i) a contract for its construction, substantial enlargement or substantial reconstruction was entered into before 1 March 1991, or
    - (ii) such work was commenced before that date, andin either case the work was completed before 1 September 1991.

### **Temporary field sites**

- 27.**—(1) A temporary field site must not be—
- (a) in a field liable to flooding or becoming waterlogged,
  - (b) within 50 metres of a borehole, spring or well or within 10 metres of surface water or a land drain (other than a sealed impermeable pipe),
  - (c) located in any single position for more than 12 consecutive months, or
  - (d) located in the same place as an earlier one constructed within the last two years.
- (2) Solid poultry manure that does not have bedding mixed into it and is stored on a temporary field site must be covered with an impermeable material.
- (3) Further—
- (a) topsoil must not be removed from the ground upon which a temporary field site is to be constructed,
  - (b) a temporary field site must not be located within 30 metres of a watercourse on land identified on the risk map as having an incline of greater than 12°, and
  - (c) the surface area of a temporary field site must be as small as reasonably practicable to minimise the leaching effect of rainfall.

### **Separation of slurry**

**28.** Separation of slurry into its solid and liquid fractions must either be carried out mechanically or on an impermeable surface where the liquid fraction drains into a suitable receptacle.

### **Storage capacity**

**29.**—(1) An occupier of a holding who keeps any of the animals specified in Schedule 1 must provide sufficient storage for all slurry produced on the holding during the storage period, and all poultry manure produced in a yard or building on the holding during the storage period.

(2) The volume of the manure produced by the animals on the holding must be calculated in accordance with Schedule 1.

(3) A slurry store must have the capacity to store, in addition to the manure, any rainfall, washings or other liquid that enters the vessel (either directly or indirectly) during the storage period.

- (4) Storage facilities are not necessary for slurry or poultry manure—
  - (a) sent off the holding, or
  - (b) spread on land that has a low run-off risk (provided that this is done in accordance with the restrictions on spreading in these Regulations); but in this case storage facilities for an additional one week’s manure must be provided as a contingency measure in the event of spreading not being possible on some dates.
- (5) For the purposes of this regulation the “storage period” (all dates inclusive) is—
  - (a) the period between 1 October and 1 April for pigs and poultry;
  - (b) the period between 1 October and 1 March in any other case.

#### **Notice requiring works etc.**

**30.**—(1) NRBW may serve, on a person who has custody or control of silage or slurry or is responsible for a silo or slurry storage system, in circumstances in which these Regulations apply, a notice (“regulation 30 notice”) requiring the person to carry out works, or take precautions or other steps, specified in the notice.

(2) The works, precautions or other steps must be, in the opinion of NRBW, appropriate, having regard to the requirements of these Regulations, for reducing to a minimum any significant risk of pollution of controlled waters.

- (3) The notice must—
  - (a) specify or describe the works, precautions or other steps that the person is required to carry out or take,
  - (b) state the period within which any such requirement is to be complied with, and
  - (c) inform the person of the effect of regulation 31.
- (4) The period for compliance stated in the notice is—
  - (a) 28 days, or
  - (b) such longer period as is reasonable in the circumstances.
- (5) A person on whom a regulation 30 notice has been served must comply with the requirements of that notice.
- (6) NRBW may at any time (including a time after the period for compliance has ended)—
  - (a) withdraw the notice,
  - (b) extend the period for compliance with any requirement of the notice, or
  - (c) with the consent of the person on whom the notice is served, modify the requirements of the notice.
- (7) NRBW must withdraw the notice, extend the period for compliance, or modify the requirements of the notice if so directed by the Welsh Ministers under regulation 31(5).

#### **Appeals against regulation 30 notices**

**31.**—(1) A person served with a regulation 30 notice may, within the period of 28 days beginning on the day after the date on which the notice is served (or such longer period as the Welsh Ministers allow), appeal to the Welsh Ministers against the notice.

(2) An appeal under this regulation must be made by the appellant serving notice on the Welsh Ministers.

- (3) The notice must contain or be accompanied by a statement of the grounds of appeal.

(4) Before determining an appeal under this regulation, the Welsh Ministers must, if requested to do so by the appellant or NRBW, afford them an opportunity of appearing before and being heard by a person appointed by the Welsh Ministers for the purpose.

(5) On determining an appeal under this regulation, the Welsh Ministers may direct NRBW to—

- (a) withdraw the regulation 30 notice,
- (b) modify any of its requirements,
- (c) extend the period for compliance with any requirement, or
- (d) dismiss the appeal.

(6) The period for compliance with a regulation 30 notice against which an appeal has been made is, subject to any direction under paragraph (5), extended so that it expires on the date on which the Welsh Ministers finally determines the appeal or, if the appeal is withdrawn, the date on which it is withdrawn.

#### **Notice of construction etc.**

**32.**—(1) This regulation applies to any silo or slurry storage system whose construction is to be begun on or after 28 April 2021 (“a new or improved store”).

(2) A person who proposes to have custody or control of silage or slurry that is to be kept in a new or improved store must give NRBW notice specifying the type of silo or storage system and its location, at least 14 days before work constructing the new or improved store is to be begun.

(3) In this regulation, “construction” includes substantial enlargement and reconstruction.

## **PART 7**

### **Calculations and records**

#### **Recording the size of the holding**

**33.**—(1) The occupier of a holding must maintain a record of the total size of the holding calculated in accordance with regulation 4(3).

(2) If the size of the holding changes this record must be updated within one month.

#### **Records relating to storage of manure during the storage period**

**34.**—(1) The occupier of a holding with livestock must maintain a record—

- (a) of the amount of manure that will be produced by the anticipated number of animals that will be kept in a building or on hardstanding during the storage period referred to regulation 29, using the figures in Schedule 1;
- (b) the amount of storage capacity (slurry vessels and hardstanding) required to enable compliance with regulation 29, taking into account—
  - (i) the amount of manure intended to be exported from the holding,
  - (ii) the amount of manure intended to be spread on land that has a low run-off risk, and
  - (iii) in the case of a slurry vessel the amount of liquid other than slurry likely to enter the vessel;
- (c) the current capacity for storage on the holding.

(2) An occupier who introduces animals on to a holding for the first time must comply with paragraph (1) within one month of the introduction of the animals.

(3) If the amount of storage capacity changes the occupier must record the change within one week.

#### **Annual records relating to storage**

**35.**—(1) Before 30 April each year the occupier of a holding with livestock must record, for the previous storage period referred to in regulation 29 the number and category of animals in a building or on a hardstanding during the storage period.

(2) The occupier must also record the sites used for field heaps and the dates of use.

#### **Record of nitrogen produced by animals on the holding**

**36.**—(1) Before 30 April every year the occupier must make a record of—

- (a) the number and category (in accordance with the categories in Schedule 1) of animals on the holding during the previous calendar year, and
- (b) the number of days that each animal spent on the holding.

(2) The occupier must then calculate the amount of nitrogen in the manure produced by the animals on the holding during that year using the Table in Schedule 1.

(3) Alternatively, in the case of permanently housed pigs or poultry, the occupier may use—

- (a) software approved by the Welsh Ministers, or
- (b) in the case of a system of keeping livestock that only produces solid manure, sampling and analysis in accordance with Part 2 of Schedule 3.

(4) The occupier must make a record of the calculations and how the final figures were arrived at.

(5) An occupier who used software approved by the Welsh Ministers must keep a printout of the result.

#### **Livestock manure brought on to or sent off the holding**

**37.**—(1) Subject to paragraph (3), an occupier who brings livestock manure on to a holding must, within one week record—

- (a) the type and amount of livestock manure,
- (b) the date it is brought on to the holding,
- (c) the nitrogen content, and
- (d) if known the name and address of the supplier.

(2) An occupier who sends livestock manure off a holding must within one week record—

- (a) the type and amount of livestock manure,
- (b) the date it is sent off the holding,
- (c) the nitrogen content,
- (d) the name and address of the recipient, and
- (e) details of a contingency plan to be used in the event that an agreement for a person to accept the livestock manure fails.

(3) If the nitrogen content of the livestock manure brought on to a holding is not known, the occupier must ascertain it, as soon as is reasonably practicable after arrival, and record it within one week of ascertaining it.

(4) All nitrogen content of the livestock manure must be ascertained using either the standard figures in Part 1 of Schedule 3 or by sampling and analysis as set out in Part 2 of that Schedule.



### **Sampling and analysis**

**38.** Any person using sampling and analysis to determine nitrogen content in organic manure must keep the original report from the laboratory.

### **Records of crops sown**

**39.** An occupier who intends to spread nitrogen fertiliser must record within one week of sowing a crop—

- (a) the crop sown, and
- (b) the date of sowing.

### **Records of spreading nitrogen fertiliser**

**40.**—(1) Subject to paragraph (3), within one week of spreading organic manure the occupier must record—

- (a) the area on which organic manure is spread;
- (b) the quantity of organic manure spread;
- (c) the date or dates;
- (d) the methods of spreading;
- (e) the type of organic manure;
- (f) the total nitrogen content;
- (g) the amount of nitrogen that was available to the crop.

(2) Subject to paragraph (3), within one week of spreading manufactured nitrogen fertiliser the occupier must record—

- (a) the date of spreading, and
- (b) the amount of nitrogen spread.

(3) Paragraphs (1) and (2) do not apply to the occupier of a holding in any calendar year in which 80 % of the agricultural area of a holding is sown with grass, and—

- (a) the total amount of nitrogen in organic manure applied to the holding, whether directly by animal or a result of spreading, is no more than 100 kg per hectare,
- (b) the total amount of nitrogen in manufactured nitrogen fertiliser applied to the holding is no more than 90 kg per hectare, and
- (c) the occupier does not bring any organic manure onto the holding.

### **Subsequent records**

**41.**—(1) An occupier who has used nitrogen fertiliser must record the yield achieved by an arable crop within one week of ascertaining it.

(2) Before 30 April each year an occupier must record how any grassland was managed in the previous calendar year.

### **Keeping of advice**

**42.** An occupier must keep a copy of any advice from a person who is a member of the Fertiliser Advisers Certification and Training Scheme that is relied on for any purpose under these Regulations for five years.

### **Duration of records**

43. Any person required to make a record under these Regulations must keep it for five years.

## **PART 8**

### **Monitoring and review**

#### **Monitoring and review**

44.—(1) The Welsh Ministers must establish a monitoring programme to assess the effectiveness of the measures imposed by these Regulations as a means of reducing or preventing water pollution from agricultural sources.

(2) At least every four years, the Welsh Ministers must review the effectiveness of the measures imposed by these Regulations as a means of reducing or preventing water pollution from agricultural sources and if necessary revise them.

(3) When carrying out a review under paragraph (2), the Welsh Ministers must take into account—

- (a) available scientific and technical data, particularly with reference to respective nitrogen contributions originating from agricultural and other sources, and
- (b) regional environmental conditions.

#### **Alternative measures**

45.—(1) If proposals for an alternative suite of measures for delivering the outcomes in regulation 44(1) are received within 18 months of these Regulations coming into force, the Welsh Ministers must consider whether those measures would deliver the outcomes more effectively than the measures contained in these Regulations.

(2) If the Welsh Ministers are satisfied that proposals submitted under paragraph (1) would be more effective in delivering the outcomes in regulation 44(1), they must publish a statement within two years of these Regulations coming into force, explaining what action will be taken.

## **PART 9**

### **Enforcement**

#### **Offences and penalties**

46.—(1) Subject to paragraph (2), any person who contravenes any provision of these Regulations is guilty of an offence and liable on summary conviction, or on conviction on indictment, to a fine.

(2) A person who contravenes regulation 32 is guilty of an offence and liable on summary conviction to a fine not exceeding level 2 on the standard scale.

(3) Subject to paragraph (4) 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 have been attributable to any neglect on the part of—

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

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

(4) Paragraph (3) does not apply to contraventions under regulations 24(1), 24(4), 25(1), 30(5) or 32.

(5) For the purposes of this regulation, “director”, in relation to a body corporate whose affairs are managed by its members, means a member of the body corporate.

## **Enforcement**

47. These Regulations are enforced by NRBW.

## **PART 10**

### **Miscellaneous**

#### **Revocations**

48.—(1) The Water Resources (Control of Pollution) (Silage and Slurry) (Wales) Regulations 2010(12) are revoked as follows—

- (a) in relation to a holding or part of a holding that was situated in a nitrate vulnerable zone as shown on the relevant map marked “Nitrate Vulnerable Zones Index Map 2013”(13), on 1 April 2021;
- (b) in relation to all other holdings—
  - (i) regulations 3 and 9 on 1 April 2021
  - (ii) all remaining provisions on 1 August 2024.

(2) The following are revoked—

- (a) the Nitrate Pollution Prevention (Wales) Regulations 2013;
- (b) the Nitrate Pollution Prevention (Wales) (Amendment) Regulations 2015(14);
- (c) the Nitrate Pollution Prevention (Wales) (Amendment) Regulations 2019(15).

#### **Consequential amendments**

49.—(1) In the Environmental Permitting (England and Wales) Regulations 2016(16), in Schedule 2, in paragraph 17(2)(b), for “the Nitrate Pollution Prevention (Wales) Regulations 2013” substitute “the Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021”.

(2) In the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017(17), in Part 2 of Schedule 2—

- (a) for paragraph 21 substitute—

“21. The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021.”;
- (b) for paragraph 24 substitute—

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(12) [S.I. 2010/1493 \(W. 136\)](#).

(13) Under regulation 7(3) of the Nitrate Pollution Prevention (Wales) Regulations 2013 ([S.I. 2013/2506 \(W. 245\)](#)) such a map was required to be deposited at the offices of the Welsh Government at Cathays Park, Cardiff, CF10 3NQ.

(14) [S.I. 2015/2020 \(W. 308\)](#).

(15) [S.I. 2019/863 \(W. 155\)](#).

(16) [S.I. 2016/1154](#).

(17) [S.I. 2017/407](#).

“24. The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021.”

(3) In the Conservation of Habitats and Species (England and Wales) Regulations 2017(18), in regulation 104, omit paragraph (1)(b) and the “or” before it.

21 January 2021

*Lesley Griffiths*  
Minister for Environment, Energy and Rural  
Affairs, one of the Welsh Ministers

## SCHEDULE 1

Regulations 3, 4, 29, 34 and 36

Amount of manure, nitrogen and phosphate produced  
by grazing livestock and non-grazing livestock**Table 1****Grazing livestock**

<i>Category</i>	<i>Daily manure produced by each animal (litres)</i>	<i>Daily nitrogen produced by each animal (grams)</i>	<i>Daily phosphate produced by each animal (grams)</i>
<b>Cattle</b>			
Calves (all categories except veal) up to 3 months:	7	23	12.7
Dairy cows—			
from 3 months and less than 13 months:	20	95	34
from 13 months up to first calf:	40	167	34
After first calf and—			
annual milk yield more than 9000 litres:	64	315	142
annual milk yield between 6000 and 9000 litres:	53	276	121
annual milk yield less than 6000 litres:	42	211	93
Beef cows or steers <sup>(a)</sup> —			
from 3 months and less than 13 months:	20	91	33
from 13 months and less than 25 months:	26	137	43
From 25 months—			
females or steers for slaughter:	31	137	60
females for breeding—			
weighing 500 kg or less:	32	167	65
weighing more than 500 kg:	45	227	86

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

**Status:** This is the original version (as it was originally made).

<i>Category</i>	<i>Daily manure produced by each animal (litres)</i>	<i>Daily nitrogen produced by each animal (grams)</i>	<i>Daily phosphate produced by each animal (grams)</i>
<b>Bulls</b>			
Non-breeding, months and over:	3 26	148	24
<b>Breeding—</b>			
from 3 months and less than 25 months:	26	137	43
from 25 months:	26	132	60
<b>Sheep</b>			
From 6 months up to 9 months old:	1.8	5.5	0.76
From 9 months old to first lambing, first tugging or slaughter:	1.8	3.9	2.1
<b>After lambing or tugging<sup>(b)</sup>—</b>			
weight less than 60 kg:	3.3	21	8.8
weight from 60 kg:	5	3	10.0
<b>Goats, deer and horses</b>			
Goats:	3.5	41	18.8
<b>Deer—</b>			
breeding:	5	42	17.6
other:	3.5	33	11.7
Horses:	24	58	56

(a) Castrated male.

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

**Table 2**

**Non-grazing livestock**

<i>Category</i>	<i>Daily manure produced by each animal (litres)</i>	<i>Daily nitrogen produced by each animal (grams)</i>	<i>Daily phosphate produced by each animal (grams)</i>
<b>Cattle</b>			
Veal calves:	7	23	12.7
<b>Poultry<sup>(a)</sup></b>			
Chickens used for production of eggs for human consumption—			

(a) Note: all figures for poultry include litter.

<i>Category</i>	<i>Daily manure produced by each animal (litres)</i>	<i>Daily nitrogen produced by each animal (grams)</i>	<i>Daily phosphate produced by each animal (grams)</i>
less than 17 weeks:	0.04	0.64	0.47
from 17 weeks (caged):	0.12	1.13	1.0
from 17 weeks (not caged)	0.12	1.5	1.1
Chickens raised for meat:	0.06	1.06	0.72
Chickens raised for breeding—			
less than 25 weeks:	0.04	0.86	0.78
from 25 weeks:	0.12	2.02	1.5
Turkeys—			
male:	0.16	3.74	3.1
female:	0.12	2.83	2.3
Ducks:	0.10	2.48	2.4
Ostriches:	1.6	3.83	18.5
<b>Pigs</b>			
Weight from 7 kg and less than 13 kg:	1.3	4.1	1.3
Weight from 13 kg and less than 31 kg:	2	14.2	6.0
Weight from 31 kg and less than 66 kg—			
dry fed:	3.7	24	12.1
liquid fed:	7.1	24	12.1
Weight from 66 kg and—			
Intended for slaughter—			
dry fed:	5.1	33	17.9
liquid fed:	10	33	17.9
sows intended for breeding that have not yet had their first litter:	5.6	38	20
sows (including their litters up to a weight of 7 kg per piglet) fed on a diet supplemented with synthetic amino acids:	10.9	44	37
sows (including their litters up to a weight of 7 kg per	10.9	49	37

(a) Note: all figures for poultry include litter.

**Status:** This is the original version (as it was originally made).

<i>Category</i>	<i>Daily manure produced by each animal (litres)</i>	<i>Daily nitrogen produced by each animal (grams)</i>	<i>Daily phosphate produced by each animal (grams)</i>
piglet) fed on a diet without synthetic amino acids:			
breeding boars from 66 kg up to 150 kg:	5.1	33	17.9
breeding boars, from 150 kg	8.7	48	28

(a) Note: all figures for poultry include litter.

## SCHEDULE 2

Regulation 5

## Fruit species

<i>Botanical Name</i>	<i>Common Name</i>
<i>Cydonia oblonga</i>	Quince
<i>Malus domestica</i>	Apple
<i>Mespilus germanica</i>	Medlar
<i>Morus</i> spp.	Mulberry
<i>Prunus armenica</i>	Apricot
<i>Prunus avium</i>	Sweet cherry
<i>Prunus cerasus</i>	Sour (cooking) cherry
<i>Prunus ceracifera</i>	Cherry plum
<i>Prunus domestica</i>	Plum
<i>Prunus domestica</i> subsp. <i>insititia</i>	Damson, Bullace
<i>Prunus persica</i>	Peach
<i>Prunus persica</i> var. <i>nectarina</i>	Nectarine
<i>Prunus x gondouinii</i>	Duke cherry
<i>Prunus spinosa</i>	Sloe
<i>Pyrus communis</i>	Pear
<i>Pyrus pyrifolia</i>	Asian pear



## SCHEDULE 3

Regulations 9, 36 and 37

## Calculating nitrogen in organic manure

## PART 1

## Standard Table

**Total amount of nitrogen in livestock manure**

<i>Manure other than slurry</i>	<i>Total nitrogen in each tonne (kg)</i>
Manure other than slurry from—	
cattle:	6
pigs:	7
sheep:	7
ducks:	6.5
horses:	7
goats:	6
Manure from laying hens:	19
Manure from turkeys or broiler chickens:	10
<i>Slurry</i>	<i>Total nitrogen in each cubic metre (kg)</i>
cattle:	2.6
pigs:	3.6
Separated cattle slurry (liquid fraction)—	
strainer box:	1.5
weeping wall:	2
mechanical separator:	3
Separated cattle slurry (solid fraction):	4
Separated pig slurry (liquid fraction):	3.6
Separated pig slurry (solid fraction):	5
Dirty water:	0.5

## PART 2

## Sampling and analysis of organic manure

**Slurry and other liquid and semi-liquid organic manure**

1.—(1) In relation to slurry and other liquid and semi-liquid organic manure, at least five samples, each of 2 litres, must be taken.

*Status: This is the original version (as it was originally made).*

- (2) Subject to sub-paragraph (3), the five samples must be taken from a vessel, and—
  - (a) if reasonably practicable, the slurry must be thoroughly mixed before the samples are taken, and
  - (b) each sample must be taken from a different location.
- (3) If a tanker used for spreading is fitted with a suitable valve, the samples may be taken while spreading, and each sample must be taken at intervals during the spreading.
- (4) Whether taken as described in sub-paragraph (2) or (3), the five samples must be poured into a larger container, stirred thoroughly and a 2 litre sample must be taken from that container and poured into a smaller clean container.
- (5) The 2 litre sample produced in accordance with sub-paragraph (4) must then be sent for analysis.

**Solid manures**

- 2.—(1) In relation to solid manures, the samples must be taken from a manure heap.
- (2) At least ten samples of 1 kg each must be taken, each from a different location in a heap.
- (3) Each sub-sample must be taken at least 0.5 metres from the surface of the heap.
- (4) If samples are being collected to calculate compliance with the whole farm limit for pigs and poultry, four samples for analysis must be taken in a calendar year (one taken in each quarter) from manure heaps not more than 12 months old.
- (5) The sub-samples must be placed on a clean, dry tray or sheet.
- (6) Any lumps must be broken up and the sub-samples must be thoroughly mixed together.
- (7) A representative sample of at least 2 kg must then be sent for analysis.

SCHEDULE 4

Regulations 20 and 22

Permitted crops for the closed period

<i>Crop</i>	<i>Maximum nitrogen rate (kg/hectare)</i>
Oilseed rape, winter <sup>(a)</sup>	30
Asparagus	50
Brassica <sup>(b)</sup>	100
Grass <sup>(a)(c)</sup>	80
Over-wintered salad onions	40
Parsley	40
Bulb onion	40

- (a) Nitrogen must not be spread on crops after 31 October.
- (b) An additional 50 kg of nitrogen per hectare may be spread every four weeks during the closed period up to the end of harvest.
- (c) A maximum of 40 kg of nitrogen per hectare may be spread at any one time.

## SCHEDULE 5

Regulation 24

### Requirements for silos

1. The requirement to be satisfied in relation to a silo is that it complies with the following provisions of this Schedule.

2. The base of the silo must—

- (a) extend beyond any walls of the silo,
- (b) be provided at its perimeter with channels designed and constructed so as to collect any silage effluent that escapes from the silo, and
- (c) have adequate provision for the drainage of that effluent from those channels to an effluent tank through a channel or pipe.

3. The capacity of the effluent tank must not be less than—

- (a) in the case of a silo with a capacity of less than 1,500 cubic metres, 20 litres for each cubic metre of silo capacity, and
- (b) in the case of a silo with a capacity of 1,500 cubic metres or more, 30 cubic metres plus 6.7 litres for each cubic metre of silo capacity in excess of 1,500 cubic metres.

4.—(1) The base of the silo must be—

- (a) designed in accordance with the code of practice for design of concrete structures for retaining aqueous liquids published by the British Standards Institution and numbered BS 8007: 1987**(19)**, or
- (b) constructed using appropriate hot-rolled asphalt in accordance with the code of practice for selection and use of construction materials published by the British Standards Institution and numbered BS 5502: Part 21: 1990**(20)**.

(2) The base of the silo, the base and walls of its effluent tank and channels and walls of any pipes must be impermeable.

5. The base and walls of the silo, its effluent tank and channels and the walls of any pipes must, so far as reasonably practicable, be resistant to attack by silage effluent.

6. No part of the silo, its effluent tank or channels or any pipes may be situated within 10 metres of any inland freshwaters or coastal waters into which silage effluent could enter if it were to escape.

7. If the silo has retaining walls—

- (a) the retaining walls must be capable of withstanding minimum wall loadings calculated on the assumptions and in the manner indicated by paragraph 15.6 of the code of practice on buildings and structures for agriculture published by the British Standards Institution and numbered BS 5502: Part 22: 2003**(21)**,
- (b) the silo must 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 must be displayed on the retaining walls in accordance with paragraph 18 of that code of practice.

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

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**(19)** Publication date: 30 October 1987. ISBN 0-580-16134-X.

**(20)** Publication date: 31 December 1990. ISBN 0-580-18348-3.

**(21)** Publication date: 10 June 2003. ISBN 0-580-38654-6.

9. If any part of an effluent tank is below ground level, the tank must be designed and constructed so that it is likely to continue to satisfy the requirements of paragraphs 4 and 5 for at least 20 years without maintenance.

## SCHEDULE 6

Regulation 25

### Requirements for slurry storage systems

1. The requirements 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, must 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, must be protected against corrosion in accordance with paragraph 7 of the code of practice on buildings and structures for agriculture published by the British Standards Institution and numbered BS 5502: Part 50: 1993<sup>(22)</sup>.
4. The base and walls of the slurry storage tank and of any reception pit must be capable of withstanding characteristic loads calculated on the assumptions and in the manner indicated by paragraph 5 of the code of practice on buildings and structures for agriculture published by the British Standards Institution and numbered BS 5502: Part 50: 1993.
- 5.—(1) Any facilities used for the temporary storage of slurry before it is transferred to a slurry storage tank must have adequate capacity to store—
  - (a) the maximum quantity of slurry that (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
  - (b) a lesser capacity that NRBW agrees in writing is adequate to avoid any significant risk of pollution of controlled waters.
- (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 must be adequate to hold the maximum quantity of slurry that can be released by opening the sluice.
6. In the case of a slurry storage tanks with walls made of earth, the tank must have at least 750 mm of freeboard and 300 mm of freeboard in all other cases.
7. No part of the slurry storage tank or any effluent tank, channels or reception pit may be situated within 10 metres of any inland freshwaters or coastal waters into which slurry could enter if it were to escape unless precautions are taken that NRBW agrees in writing are adequate to avoid any significant risk of pollution of controlled waters.
8. The slurry storage tank and any effluent tank, channels, pipes and reception pit must be designed and constructed so that with proper maintenance they are likely to continue to satisfy the requirements of paragraphs 2 to 4 for at least 20 years.
9. If the walls of the slurry storage tank are not impermeable, the base of the tank must—
  - (a) extend beyond the walls;
  - (b) be provided with channels designed and constructed so as to collect any slurry that escapes from the tank;

<sup>(22)</sup> Publication date: 15th April 1993. ISBN 0-580-22053-2.

- (c) have adequate provision for the drainage of the slurry from those channels to an effluent tank through a channel or pipe.

**10.**—(1) Subject to sub-paragraph (3), if the slurry storage tank or any effluent tank or reception pit is fitted with a drainage pipe there must be two valves in series on the pipe with each valve separated from the other by a minimum distance of 1 metre.

(2) Each valve must be capable of shutting off the flow of slurry through the pipe and must be kept shut and locked in that position when not in use.

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

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## EXPLANATORY NOTE

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

These Regulations revoke and replace—

- (a) the Nitrate Pollution Prevention (Wales) Regulations 2013 ([S.I. 2013/2506 \(W. 245\)](#)) which control the application of nitrogen fertiliser in nitrate sensitive areas, and
- (b) the Water Resources (Control of Pollution) (Silage and Slurry) (Wales) Regulations 2010 ([S.I. 2010/1493 \(W. 136\)](#)) which regulate the custody and control of silage and slurry and provided the design and construction standards applicable for its storage.

These Regulations make provision concerning the protection of waters against pollution by nitrates from agricultural sources.

### Principal Changes

Whereas the requirements under the Nitrate Pollution Prevention (Wales) Regulations 2013 applied only to holdings situated in designated Nitrate Vulnerable Zones, these requirements will now apply to all holdings in Wales. The majority of the measures in the Water Resources (Control of Pollution) (Silage and Slurry) (Wales) Regulations 2010 will continue to apply under these Regulations but the capacity requirements for the storage of organic manure and silage in those Regulations are superseded and mirror those in the Nitrate Pollution Prevention (Wales) Regulations 2013.

Furthermore, persons proposing to build or improve their storage facility for slurry or silage will be required to notify the Natural Resources Body for Wales (“NRBW”) 14 days before construction work is begun, replacing the previous requirement for notification prior to the storage facility’s actual use.

Occupiers of organic holdings wishing to benefit from the exemption to the closed periods for spreading organic manure with high readily available nitrogen (regulation 20) must now submit an undertaking to the control system referred to in Article 27 of Council Regulation ([EC](#)) 834/2007 rather than register with the Advisory Committee on Organic Standards which has now been dissolved.

## **The Regulations**

Part 1 of these Regulations contains introductory provisions including transitional provision for all holdings not previously within a Nitrate Vulnerable Zone which are now required to comply with the relevant provisions and requirements under these Regulations.

Part 2 of these Regulations imposes annual limits on the amount of nitrogen from organic manure that may be applied or spread.

Part 3 establishes requirements relating to the amount of nitrogen to be spread on a crop, and requires an occupier to plan in advance how much nitrogen fertilizer will be spread.

Part 4 requires an occupier to provide a risk map of the holding, and imposes conditions on how, where and when to spread nitrogen fertilizer.

Part 5 establishes closed periods during which it is prohibited to spread nitrogen fertilizer.

Part 6 makes provision for the storage of organic manure and prescribes the capacity and construction requirements for such storage systems. It provides for exemptions from the requirements for certain storage systems; for NRBW to serve notices requiring the carrying out of works or precautions for reducing the risk of pollution to controlled waters and provides an appeal process against such notices. It also requires NRBW to be notified of certain works to be carried out to such storage systems.

Part 7 specifies what records must be kept.

Part 8 requires the Welsh Ministers to review these Regulations within set time scales, including a review after two years to consider any submissions on an alternative suite of measures to those in these Regulations for preventing or reducing pollution caused by agriculture.

Part 9 of these Regulations provides for enforcement and for contravention of certain regulations to be a criminal offence. These Regulations are enforced by NRBW.

Part 10 contains miscellaneous provisions including revocations.

These Regulations repeal and re-enact (without modification) technical regulations in the Water Resources (Control of Pollution) (Silage and Slurry) (Wales) Regulations 2010.

British Standard publications referred to in these Regulations can be obtained from the British Standard Institute either online at <https://shop.bsigroup.com/Contact-Us/> or by writing to BSI Customer Services, 389 Chiswick High Road, London, W4 4AL, UK.

The Welsh Ministers' Code of Practice on the carrying out of Regulatory Impact Assessments was considered in relation to these Regulations. As a result, a regulatory impact assessment has been prepared as to the likely costs and benefits of complying with these Regulations. A copy can be obtained from the Welsh Government, Cathays Park, Cardiff, CF10 3NQ.