2008 No.

AGRICULTURE, ENGLAND

WATER

The Action Programme for Nitrate Vulnerable Zones Regulations 2008

Made - - - - ***
Laid before Parliament ***
Coming into force - - 6th April 2008

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SCHEDULE — Calculations of manure and nitrogen

The Secretary of State, in exercise of the powers conferred by section 2(2) of the European Communities Act 1972(a), being designated(b) in relation to measures relating to water resources, after having taken into account available scientific and technical data, mainly with reference to the respective nitrogen contributions originating from agricultural and other sources, and the environmental conditions of the nitrate vulnerable zones in England and Wales, makes the following Regulations:

PART 1
Introduction

Citation, application and commencement

1. These Regulations may be cited as the Action Programme for Nitrate Vulnerable Zones Regulations 2008; they apply in England and come into force on 6th April 2008.

Interpretation

2.—(1) In these Regulations—

(a) 1972 c. 68.
(b) S.I. 2003/2901.
“spreading” includes 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 on to land by animals;

“nitrogen fertilizer” means any substance containing one or more nitrogen compounds used on land to enhance growth of vegetation, and includes manufactured fertilizer, organic manure and any other material containing nitrogen;

“organic manure” includes livestock manure and nitrogen fertilizer, not being livestock manure or manufactured fertilizer, derived from organic matter, and includes sewage sludge and other organic materials;

“organic manure with high available nitrogen” means organic manure in which more than 30% of the total nitrogen content will be released in the year in which it is spread on land (for example cattle and pig slurry, poultry manure, and liquid digested sludge) and organic manure with low available nitrogen is any other organic manure.

**Transitional measures – new nitrate vulnerable zones**

3. In land that was not part of a nitrate vulnerable zone immediately before these Regulations come into force, Part 3 (other than regulation 17) does not apply until one year after these Regulations come into force.

**Transitional measures – storage capacity and spreading times**

4.—(1) Regulation 19 (storage capacity for livestock manure) does not apply until two years after these Regulations come into force.

(2) Regulation 17 (times in which spreading organic manure is prohibited) does not apply on a holding for two years after these Regulations come into force or until storage capacity is established on the holding if earlier.

(3) In an existing nitrate vulnerable zone the provisions relating to storage capacity and periods when spreading organic manure is prohibited of the Action Programme for Nitrate Vulnerable Zones (England and Wales) Regulations 1998(a) apply instead until then.

**PART 2**

**Designation of nitrate vulnerable zones**

5. The areas marked as such on the digital map marked [ ], dated [ ] (b) are designated as nitrate vulnerable zones for the purposes of these Regulations.

**Application for a declaration**

6.—(1) This regulation applies in relation to land that was not part of a nitrate vulnerable zone immediately before these Regulations came into force.

(2) The occupier of any holding within a nitrate vulnerable zone may apply to the Secretary of State for a declaration that the holding or part of the holding does not drain into water (surface or ground) that has been identified as water that is or could be affected by pollution.

(3) An application must be made in writing within three months of the coming into force of these Regulations.

(4) The Secretary of State must appoint an independent person to consider the application.

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(a) S.I. 1998/1202.
(b) This map can be accessed on [ ].
(5) The applicant may rely on his written application or may request an oral hearing.

(6) The Secretary of State may provide evidence and may appear and give evidence at an oral hearing.

(7) The burden of proof is on the applicant, and the standard of proof is the balance of probabilities.

(8) Each party must bear his own costs of an oral hearing unless the independent person finds that—
   (a) the appeal was wholly without merit; or
   (b) the costs of an appeal are increased as a result of the unreasonable behaviour of any party,
in which case the independent person may order the party at fault to pay the whole or any part of
the other party’s costs.

(9) The independent person must report in writing to the Secretary of State.

(10) If the Secretary of State grants the declaration applied for, these Regulations must not be
enforced on that holding or part of the holding.

### Review of nitrate vulnerable zones

7.—(1) The Secretary of State must review the designation of nitrate vulnerable zones within
four years of the coming into force of these Regulations and at least every four years subsequently,
to take into account changes and factors unforeseen at the time of the previous designation.

(2) In order to do this, at least every four years the Secretary of State must monitor the nitrate
concentration in freshwaters over a period of one year—
   (a) at sampling stations that are representative of surface water, at least monthly and more
       frequently during flood periods;
   (b) at sampling stations that are representative of groundwater, at regular intervals and taking
       into account the provisions of Council Directive 98/83/EC on the quality of water
       intended for human consumption(a),

except for those sampling stations where the nitrate concentration in all previous samples has been
below 25 mg/l and no new factor likely to increase the nitrate content has appeared, in which case
the monitoring programme need be repeated only every eight years.

(3) Nitrate concentration must be measured in accordance with Article 4a(3) of Council
Decision 77/795/EEC establishing a common procedure for the exchange of information on the
quality of surface fresh water in the Community(b).

(4) He must review the eutrophic state of fresh surface waters, estuarial and coastal waters every
four years.

(5) He must identify water that is or could be affected by pollution if the controls in these
Regulations are not applied in that area, using the criteria in Annex I to Council Directive
91/676/EEC concerning the protection of waters against pollution caused by nitrates from
agricultural sources(c).

(6) He must identify land that drains into those waters, or water similarly identified in Wales or
Scotland, and if necessary revise or add to the designation of nitrate vulnerable zones.

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PART 3
Application of fertilizer in a nitrate vulnerable zone

Application of livestock manure – nitrogen limits

8.—(1) The occupier of a holding must ensure that, in any calendar year, the total amount of nitrogen in livestock manure applied to whole the holding, whether directly by an animal or by spreading, does not exceed 170 kg N/ha.

(2) In calculating the amount of nitrogen in livestock manure produced by animals on the holding an occupier must use—
   (a) the Table in the Schedule;
   (b) software approved for the purpose by the Secretary of State; or
   (c) manure analysis carried out in a laboratory approved for the purpose by the Secretary of State.

(3) Areas of woodland, roads and hardstanding are excluded in calculating the area of a holding.

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

(5) Failure to comply with this regulation is an offence.

Spreading organic manure – nitrogen limits

9.—(1) The occupier of a holding must ensure that, in any calendar year, the total amount of nitrogen in organic manure spread on any field does not exceed 250 kg N/ha.

(2) Failure to comply with this regulation is an offence.

Imported and exported manure

10.—(1) An occupier who imports organic manure of any kind on to a holding must ascertain and record the amount of nitrogen in the manure.

(2) He must record the method used.

(3) An occupier who imports livestock manure on to a holding must record—
   (a) the name and address of the supplier; and
   (b) the type (animal origin and whether slurry or solid manure) and quantity.

(4) An occupier who exports livestock manure from a holding must record—
   (a) the type (animal origin and whether slurry or solid manure) and quantity;
   (b) the name and address of the recipient; and
   (c) details of a contingency plan to be used in the event that an export agreement fails.

(5) Failure to comply with this regulation is an offence.

Crop requirement limitation

11.—(1) Before planting any crop, an occupier of a holding must assess how much nitrogen it needs.

(2) He must then—
   (a) ascertain how much nitrogen is present in the soil;
   (b) ascertain how much readily available nitrogen is in the manure that he intends to spread;
   (c) ascertain how much nitrogen is in the manufactured manure he intends to spread; and
   (d) assess how much of each type of nitrogen fertilizer he needs to spread to reach the crop requirement.

(3) He must record the above.
(4) He must record the amount of nitrogen spread each time he spreads nitrogen.
(5) He must not spread nitrogen in excess of the assessment.
(6) Irrespective of the figure in the assessment, he must not spread nitrogen on average on the holding in excess of the following.

<table>
<thead>
<tr>
<th>Crop</th>
<th>N max limit (kg N/ha)</th>
<th>Standard yield (t/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn or early winter sown wheat</td>
<td>220&lt;sup&gt;a,b,c&lt;/sup&gt;</td>
<td>8.0</td>
</tr>
<tr>
<td>Spring-sown wheat</td>
<td>180&lt;sup&gt;b,c&lt;/sup&gt;</td>
<td>7.0</td>
</tr>
<tr>
<td>Winter barley</td>
<td>180&lt;sup&gt;a,b&lt;/sup&gt;</td>
<td>6.5</td>
</tr>
<tr>
<td>Spring barley</td>
<td>150&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.5</td>
</tr>
<tr>
<td>Winter oilseed rape</td>
<td>250&lt;sup&gt;d&lt;/sup&gt;</td>
<td>3.5</td>
</tr>
<tr>
<td>Sugar beet</td>
<td>120</td>
<td>n/a</td>
</tr>
<tr>
<td>Potatoes</td>
<td>270</td>
<td>n/a</td>
</tr>
<tr>
<td>Forage maize</td>
<td>150</td>
<td>n/a</td>
</tr>
<tr>
<td>Field beans</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>Peas</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>Grass</td>
<td>360 until 1st January 2012, and 330 from that date&lt;sup&gt;e,f&lt;/sup&gt;</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Notes
(a) An additional 20 kg N/ha is permitted on fields with a shallow soil type.
(b) An additional 20 kg N/ha is permitted for every tonne that the expected yield exceeds the standard yield.
(c) An additional 40 kg N/ha is permitted to milling wheat varieties.
(d) The spring application can be increased by up to 30 kg N/ha if the expected yield is over 4.0t/ha.
(e) An additional 40 kg N/ha is permitted to grass that is cut throughout the season.
(f) An additional 40 kg N/ha is permitted to grass in areas of a very good grass growth class.
(7) In calculating the maximum average for a holding the following figures are assumed for the percentage of nitrogen in organic manure.

**Minimum percentages**

<table>
<thead>
<tr>
<th></th>
<th>Until 1st January 2012</th>
<th>From 1st January 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle slurry</td>
<td>20%</td>
<td>35%</td>
</tr>
<tr>
<td>Pig slurry</td>
<td>25%</td>
<td>45%</td>
</tr>
<tr>
<td>Poultry manure or litter</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Farmyard manure</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>

(8) Failure to comply with this regulation is an offence.

**Written risk assessments**

12.—(1) Within one year of the coming into force of these Regulations an occupier of a holding who spreads organic manure on his holding must make a written risk assessment of potential nitrate pollution to water from the spreading.
(2) If circumstances change he must up-date the assessment within three months of the change.
(3) It must include a map of the holding showing—
   (a) every field and watercourse (including all ditches and field drains);
   (b) field areas in hectares;
(c) any boreholes, springs or wells that supply water for farm dairies or human consumption, including any on neighbouring land near to the boundary;
(d) water bodies;
(e) soil type and condition, including whether or not the soil is sandy or shallow; and
(f) drainage.
(4) He must mark in red hatching all areas—
   (a) within 50m of a spring, well or borehole, or
   (b) within 10 metres of surface water.
(5) He must mark in orange hatching all areas with a slope of more than 12° if the land is such that, if organic manure is spread on it, nitrogen may get into surface water.
(6) He must keep a copy.
(7) Failure to comply with this regulation is an offence.

Field inspections

13.—(1) Before an occupier spreads organic manure on land hatched orange on his map, he must undertake a field inspection to consider the risk of nitrogen getting into surface water.
   (2) Failure to comply with this regulation is an offence.

Areas in which the spreading of fertilizers is prohibited

14.—(1) It is an offence to spread nitrogen fertilizer, either organic or manufactured, on land with a slope of more than 12° if, taking into account ground cover and rainfall there is a significant risk of nitrogen getting into surface water.
   (2) It is an offence to spread organic manure in land hatched red on the map.
   (3) It is an offence to spread manufactured fertilizer within 2 metres of surface water.

Conditions in which the spreading of fertilizer is prohibited

15. It is an offence to spread nitrogen fertilizer if—
   (a) the soil is waterlogged, flooded, frozen or snow covered, or
   (b) weather conditions are such that run-off is likely.

Controlling how nitrogen fertilizer is spread

16.—(1) No person may spread nitrogen fertilizer in a manner that will cause nitrogen to enter surface water, either directly or indirectly.
   (2) No person may spread organic manure using high trajectory, high pressure equipment.
   (3) Any person spreading nitrogen fertilizer must do so in as uniform and accurate a manner as possible.
   (4) Organic manure with low available nitrogen spread on bare soil or stubble within 50m of a watercourse which could receive run-off from that land must be incorporated into the soil within 24 hours.
   (5) Organic manure with high available nitrogen spread on bare soil or stubble by broadcast methods must be incorporated into the soil within 24 hours.
   (6) Failure to comply with this regulation is an offence.

Times in which spreading organic manure is prohibited

17. It is an offence to spread organic manure with high available nitrogen on land during the following dates:
### Grassland

<table>
<thead>
<tr>
<th>Average Annual Rainfall (mm per year)</th>
<th>Grassland</th>
<th>Arable land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandy and Shallow soils</td>
<td>All other soils</td>
<td>Sandy and Shallow soils</td>
</tr>
<tr>
<td>Over 1050</td>
<td>1 Sep – 31 Dec</td>
<td>1 Oct – 31 Jan</td>
</tr>
</tbody>
</table>

**Exemptions:**

In the autumn on arable land, spreading on sandy and shallow soils is permitted if the manure is spread and a crop is drilled by 15th September.

**Times in which spreading manufactured fertilizer is prohibited**

18.—(1) It is an offence to spread manufactured nitrogen fertilizers on land during the following periods—

(a) in the case of grassland, from 15 September to 31 January, or

(b) in the case of arable land, from 1 September to 31 January.

(2) Spreading fertilizer during these periods is permitted to the following crops:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Maximum nitrogen rate (kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter oilseed rape</td>
<td>30</td>
</tr>
<tr>
<td>Grazed grass</td>
<td>80</td>
</tr>
<tr>
<td>Asparagus</td>
<td>50</td>
</tr>
<tr>
<td>Purple sprouting broccoli</td>
<td>100</td>
</tr>
<tr>
<td>Over-wintered spring cabbage</td>
<td>100</td>
</tr>
<tr>
<td>Winter hardy or roscoff cauliflowers</td>
<td>100</td>
</tr>
<tr>
<td>Leeks</td>
<td>40</td>
</tr>
<tr>
<td>Bulb onions or over-wintered salad onions</td>
<td>40</td>
</tr>
<tr>
<td>Parsley</td>
<td>40</td>
</tr>
</tbody>
</table>

(3) Spreading during those periods is also permitted on the basis of written advice from a consultant who is a member of the Fertilizer Advisers Certification and Training Scheme(a).

### PART 4

Storage facilities

**Storage capacity for livestock manure**

19.—(1) An occupier of a holding who keeps cattle, pigs or poultry on that holding must have sufficient storage facilities to store—

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(a) The scheme is administered by Basis Registration Ltd, and a list of qualified persons is available on their website.
(a) all organic manure with high available nitrogen produced by those animals during a period of 26 weeks for pigs or poultry and 22 weeks for cattle;
(b) any rainfall that enters the store (either directly or indirectly) during that period; and
(c) any washings that enter the store during that period.
(2) He must calculate how much storage capacity he needs.
(3) He must first calculate the volume of manure the animals will produce during a period of 26 weeks for pigs or poultry and 22 weeks for cattle in accordance with the tables in the Schedule.
(4) He may then deduct from that figure—
   (a) in the case of cattle and pigs, the proportion of the excreta not collected as slurry and the volume of solids separated from slurry by mechanical separation;
   (b) in the case of poultry, the proportion of the excreta not collected as slurry and the volume of solids separated from slurry by mechanical separation provided he has facilities to store the solid excreta in accordance with the regulation 20;
   (c) any manure exported off the holding.
(5) In calculating the rainfall the calculation must be based on the rainfall that enters the store (either directly or indirectly) for the wettest 26 weeks of the year (for pigs or poultry) or the wettest 22 weeks for cattle, subject to any drainage facilities for rainfall in the store.
(6) Failure to comply with this regulation is an offence.

Storage of solid manure

20.—(1) An occupier must store solid manure—
   (a) in the building in which the livestock are kept;
   (b) at a suitable, temporary field site; or
   (c) on concrete.
(2) A temporary field site must not be—
   (a) within 50m of a spring, well or borehole or within 10m of surface water or a field drain;
   (b) located in any single position for more than 12 successive months;
   (c) located in the same place as an earlier one constructed within the last two years.
(3) In the case of pig buildings with scraped dunging passages, if the material consists of excreta and straw, there must be sufficient concrete yard area to retain it for at least one month, and a means of draining liquids into a slurry store.
(4) Failure to comply with this regulation is an offence.

Records relating to storage

21.—(1) The occupier must make a full record of his calculation of storage capacity.
(2) The record must include the bases on which he calculated—
   (a) the amount of excreta produced;
   (b) the amount of rainfall entering the store; and
   (c) the amount of washings entering the store.
(3) If an occupier excludes from the calculation excreta not stored on the holding, he must record the arrangements he has made for the disposal of the manure.
(4) If an occupier separates solids from manure and stores the solids separately, he must record the volume of the solids separated and the arrangements for storage of the solids.
(5) An occupier must record the location of storage of separated excreta and manure with low available nitrogen and, in the case of storage at a temporary field site, the date the site was used.
(6) Failure to comply with this regulation is an offence.
PART 5
Review

Monitoring and review

22.—(1) At least every four years the Secretary of State must review the effectiveness of the restrictions in nitrate vulnerable zones imposed by these Regulations as a means of reducing or preventing water pollution caused by nitrates from agricultural sources and if necessary revise them.

(2) In order to do this he must establish a monitoring programme to assess the effectiveness of the restrictions in these Regulations.

(3) When he carries out this review he 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.

Public participation

23.—(1) When the Secretary of State carries out this review he must ensure that the public is given early and effective opportunities to participate in the review.

(2) He must make adequate arrangements for public participation to enable the public to prepare and participate effectively.

(3) He must ensure that—

(a) the public is consulted about any proposals and that relevant information about such proposals is made available to the public, including information about the right to participate in decision-making and about the body to which comments or questions may be submitted;

(b) the public is entitled to express comments and opinions when all options are open before decisions on the plans and programmes are made.

(4) He must allow a reasonable time for consultation.

(5) He must take account of the consultation in reaching his decision.

(6) Following consultation he must inform the public about the decisions taken and the reasons and considerations upon which those decisions are based, including information about the public participation process.

(7) He must identify the public entitled to be consulted, including non-governmental organisations promoting environmental protection.

PART 6
Enforcement

Duration of records

24. Any person required to make a record under these Regulations must keep them for five years, and failure to do so is an offence.

Obstruction

25. A person is guilty of an offence if he—

(a) intentionally obstructs any person acting in the execution of these Regulations;
(b) without reasonable cause, fails to give to any person acting in the execution of these
Regulations any assistance or information which that person may reasonably require of
him for the performance of his functions under these Regulations;
(c) furnishes to any person acting in the execution of these Regulations any information
which he knows to be false or misleading; or
(d) fails to produce a record when required to do so to any person acting in the execution of
these Regulations.

Penalties
26.—(1) A person guilty of an offence under these Regulation is liable—
(a) on summary conviction, to a fine not exceeding the statutory maximum or to
imprisonment for a term not exceeding three months or both, or
(b) on conviction on indictment, to a fine or to imprisonment for a term not exceeding two
years or both.
(2) 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,
he, as well as the body corporate, is guilty of the offence and liable to be proceeded against and
punished accordingly.
(3) 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
27. These Regulations are enforced by the Environment Agency.

Revocations and savings
28. The following are revoked in so far as they apply in England—
(a) the Protection of Water Against Agricultural Nitrate Pollution (England and Wales)
Regulations 1996(a);
(b) the Action Programme for Nitrate Vulnerable Zones (England and Wales) Regulations
1998(b) except that they continue in force in so far as they continue to apply for the
purposes of the transitional measures in these Regulations;
(c) the Nitrate Vulnerable Zones (Additional Designations) (England) (No 2) Regulations
2002(c); and
(d) the Protection of Water Against Agricultural Nitrate Pollution (England and Wales)
(Amendment) Regulations 2006(d).

Name
Parliamentary Under Secretary of State
Department for Environment, Food and Rural Affairs
2007

(a) S. I. 1996/888.
(b) S. I. 1998/1202.
(c) S. I. 2002/2614.
(d) S. I. 2006/1289.
## SCHEDULE

### Regulation 8

Calculations of manure and nitrogen

### Cattle

<table>
<thead>
<tr>
<th>Stock</th>
<th>Age</th>
<th>Weight (kg)</th>
<th>Daily Excreta kg or l</th>
<th>Annual N output (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy cow</td>
<td>&gt; 2 years</td>
<td>&gt; 9000</td>
<td>64</td>
<td>110</td>
</tr>
<tr>
<td>Dairy cow</td>
<td>&gt; 2 years</td>
<td>≥ 6000 ≤ 9000</td>
<td>53</td>
<td>99</td>
</tr>
<tr>
<td>Dairy cow</td>
<td>&gt; 2 years</td>
<td>&lt; 6000</td>
<td>42</td>
<td>75</td>
</tr>
<tr>
<td>Dairy heifer replacement</td>
<td>13 - 24 months</td>
<td></td>
<td>40</td>
<td>59</td>
</tr>
<tr>
<td>Dairy heifer replacement</td>
<td>3 – 12 months</td>
<td></td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Beef suckler</td>
<td>&gt; 2 years</td>
<td>&gt; 500</td>
<td>45</td>
<td>82</td>
</tr>
<tr>
<td>Beef suckler</td>
<td>&gt; 2 years</td>
<td>≤ 500</td>
<td>32</td>
<td>61</td>
</tr>
<tr>
<td>Grower</td>
<td>&gt; 2 years</td>
<td></td>
<td>32</td>
<td>50</td>
</tr>
<tr>
<td>Grower</td>
<td>13 – 24 months</td>
<td></td>
<td>26</td>
<td>50</td>
</tr>
<tr>
<td>Grower</td>
<td>3 – 12 months</td>
<td></td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>Bull beef</td>
<td>3 – 15 months</td>
<td></td>
<td>26</td>
<td>54</td>
</tr>
<tr>
<td>Bulls for breeding</td>
<td>&gt; 2 years</td>
<td></td>
<td>26</td>
<td>47</td>
</tr>
<tr>
<td>Bulls for breeding</td>
<td>3 – 24 months</td>
<td></td>
<td>26</td>
<td>50</td>
</tr>
<tr>
<td>Calf</td>
<td>&lt; 3 months</td>
<td></td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

### Pigs

<table>
<thead>
<tr>
<th>Stock</th>
<th>Age</th>
<th>Weight(kg)</th>
<th>Daily excreta (kg or l)</th>
<th>Annual N output kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 sow including litters</td>
<td>Litter to 3 weeks (7kg)</td>
<td>10.9</td>
<td>15.9</td>
<td></td>
</tr>
<tr>
<td>Weaner – 1st stage</td>
<td>22-40 days</td>
<td>7-12</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Stock Type</td>
<td>Class or age</td>
<td>Age</td>
<td>Weight (kg)</td>
<td>Daily excreta (kg or l)</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Weaner – 2nd stage</td>
<td></td>
<td>41-73 days</td>
<td>13-30</td>
<td>2.1</td>
</tr>
<tr>
<td>Grower</td>
<td></td>
<td>74-120 days</td>
<td>31-65</td>
<td>3.7</td>
</tr>
<tr>
<td>Finisher</td>
<td></td>
<td>121-164 days</td>
<td>66-100</td>
<td>5.1</td>
</tr>
<tr>
<td>Maiden gilt</td>
<td></td>
<td>121 – 315 days</td>
<td>Adult</td>
<td>6.4</td>
</tr>
<tr>
<td>Boar</td>
<td></td>
<td></td>
<td></td>
<td>8.7</td>
</tr>
</tbody>
</table>

**Other mammals**

<table>
<thead>
<tr>
<th>Stock Type</th>
<th>Class or age</th>
<th>Age</th>
<th>Weight (kg)</th>
<th>Daily excreta (kg or l)</th>
<th>Annual N output (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep</td>
<td>Hill ewe + lamb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lamb @ 30-35 kg</td>
<td></td>
<td>40 – 55</td>
<td>4.1</td>
<td>7.4</td>
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<tr>
<td></td>
<td>Lamb @ 35-40 kg</td>
<td></td>
<td>60 – 80</td>
<td>4.1</td>
<td>11.1</td>
</tr>
<tr>
<td></td>
<td>Store lamb – lowland</td>
<td>Short store</td>
<td>35 – 50</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Store lamb – lowland</td>
<td>Long store</td>
<td>35 – 50</td>
<td>1.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Goat</td>
<td>Milking goats</td>
<td></td>
<td>65</td>
<td>4.1</td>
<td>15.1</td>
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<tr>
<td>Deer</td>
<td>Breeding hinds</td>
<td></td>
<td></td>
<td>5.0</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Calves – finishers</td>
<td></td>
<td></td>
<td>3.5</td>
<td>11.8</td>
</tr>
<tr>
<td>Horse</td>
<td>Adult horse</td>
<td></td>
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<td>24.5</td>
<td>18.2</td>
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</table>

**Poultry**

<table>
<thead>
<tr>
<th>Stock Type</th>
<th>Age</th>
<th>Daily Excreta</th>
<th>Annual N output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replacement layer pullets</td>
<td>≤ 16 weeks</td>
<td>0.04</td>
<td>0.21</td>
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<tr>
<td>Laying hens – cages</td>
<td>&gt; 16 weeks</td>
<td>0.12</td>
<td>0.40</td>
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<tr>
<td>Laying hens – free range</td>
<td>&gt; 16 weeks</td>
<td>0.12</td>
<td>0.46</td>
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<tr>
<td>Stock</td>
<td>Age</td>
<td>Daily Excreta</td>
<td>Annual N output</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Broilers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broiler places</td>
<td>40 days</td>
<td>0.06</td>
<td>0.33</td>
</tr>
<tr>
<td>Broiler breeder pullets</td>
<td>&lt; 24 weeks</td>
<td>0.04</td>
<td>0.29</td>
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<tr>
<td>Broiler breeders</td>
<td>25 – 60 weeks</td>
<td>0.12</td>
<td>0.70</td>
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<tr>
<td>Turkeys</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>0.16</td>
<td>1.23</td>
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<tr>
<td>Female</td>
<td></td>
<td>0.12</td>
<td>0.91</td>
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<tr>
<td>Ducks</td>
<td></td>
<td>0.4</td>
<td>0.75</td>
</tr>
<tr>
<td>Ostriches</td>
<td></td>
<td>n/a</td>
<td>0.78</td>
</tr>
</tbody>
</table>

**EXPLANATORY NOTE**

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

These Regulations revoke and replace, in so far as they apply in England—

(a) the Protection of Water Against Agricultural Nitrate Pollution (England and Wales) Regulations 1996;

(b) the Action Programme for Nitrate Vulnerable Zones (England and Wales) Regulations 1998;

(c) the Nitrate Vulnerable Zones (Additional Designations) (England) (No 2) Regulations 2002; and

(d) the Protection of Water Against Agricultural Nitrate Pollution (England and Wales) (Amendment) Regulations 2006.


**Principal changes**

The principal changes are as follows.

The Regulations extend the areas designated as nitrate vulnerable zones.

The permitted annual level of nitrate application of livestock manure to grassland in a nitrate vulnerable zone is reduced from 250 kg/ha to 170 kg/ha (previously the lower limit applied to land other than grassland).

They change the period during which organic fertilizer in a nitrate vulnerable zone may not be spread and increase the amount of organic manure storage capacity required.

**The Regulations**

They designate nitrate vulnerable zones (Part 2).

They impose restrictions on the amount of nitrate fertilizer that may be spread on a nitrate vulnerable zone, and impose conditions on how, where and when it may be used (Part 3).

They make provision for times when nitrate fertilizer may be spread, and impose requirements for storage facilities for slurry (Parts 3 and 4).

They contain provisions for revision of the measures (Part 5) and enforcement (Part 6).
They are enforced by the Environment Agency.

A full impact assessment has been prepared for these Regulations and placed in the libraries of both Houses of Parliament and copies can be obtained on the Defra website.