

SCHEDULES

SCHEDULE 1

Regulations 3(2), 9(2) to (5), 10,11, 12(4)
and (7), 13(2),20(3) and (6) and 25(2)

Criteria for nutrient management

Table 1a

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

<i>Livestock type</i>	<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Cattle		
Dairy cow	91	17
Dairy heifer (over 2 years)	54	10
Dairy heifer (1-2 years)	47	7.9
Beef suckler cow (over 2 years)	54	10
Breeding bull	54	10
Cattle (over 2 years)	54	10
Cattle (1-2 years)	47	7.9
Bull beef (0-13 months)	30	7.5
Bull beef (6-13 months)	23	5.8
Calf (0-1 year)	19	4.7
Calf (0-6 months)	7.0	1.7
Calf (6-12 months)	12	3.0
Sheep		
Ewe (over 1 year)	9.0	1.0
Ram (over 1 year)	9.0	1.0
Lamb (0-6 months)	1.2	0.3
Lamb (6-12 months)	3.2	0.3
Lamb (0-1 year)	4.4	0.6
Deer		
Deer (red) 6 months - 2 years	12	2.0
Deer (red) over 2 years	15	4.0

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<i>Livestock type</i>	<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Deer (fallow) 6 months - 2 years	7.0	1.0
Deer (fallow) over 2 years	13	2.0
Deer (sika) 6 months - 2 years	6.0	1.0
Deer (sika) over 2 years	10	2.0
Horses		
Horse (over 3 yrs)	50	9.0
Horse (2-3 yrs)	44	8.0
Horse (1-2 yrs)	36	6.0
Horse (under 1 yrs)	25	3.0
Donkey / small pony	30	5.0
<i>Livestock type</i>	<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Goats		
Milking goats	15	1.7
Non milking Goat	9.0	1.0
Kid (0-1 year)	4.4	0.6
Kid (6-12 months)	3.2	0.3
Kid (0-6 months)	1.2	0.3

Table 1b

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

<i>Livestock type</i>	<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Adult pigs		
Boar	18	4.2
Maiden gilt	11	5.7
Breeding sow ⁽¹⁾	16	8.7
	<i>Nitrogen (N) produced per pig (kg N)</i>	<i>Phosphorus (P) produced per pig (kg P)</i>
Pigs weaned at 3-4 weeks		

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

<i>Livestock type</i>		<i>Nitrogen (N) produced per head per year (kg N/yr)</i>	<i>Phosphorus (P) produced per head per year (kg P/yr)</i>
Approximate start weight (kg)	Approximate sale / transfer weight (kg)		
6-8	18 (7.5 weeks)	0.09	0.08
6-8	35 (11 weeks)	0.38	0.23
6-8	10 (23 weeks)	2.38	1.09
Growing and finishing pigs			
Approximate start weight (kg)	Approximate sale / transfer weight (kg)		
18	35	0.29	0.15
18	105	2.30	1.00
35	105	2.00	0.85

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

Table 1c

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

<i>Livestock type</i>	<i>Nitrogen (N) produced per 1000 birds per crop (kg N)</i>	<i>Phosphorus (P) produced per 1000 birds per crop (kg P)</i>
Broilers (1000's)	40	8.4
Male turkeys (1000's)	611 ⁽¹⁾	254 ⁽¹⁾
Female turkeys (1000's)	363 ⁽¹⁾	104 ⁽¹⁾
Fattening ducks (1000's)	139 ⁽¹⁾	65 ⁽¹⁾
Broiler breeders (1000s) 0-18 wks	5.9 ⁽¹⁾	2.1 ⁽¹⁾
Broiler breeders (1000s) 18-60 wks	21 ⁽¹⁾	7.6 ⁽¹⁾
Broiler breeders (1000s) 0-60 wks	19 ⁽¹⁾	6.8 ⁽¹⁾
Pullets (1000s)	5.7 ⁽¹⁾	2.1 ⁽¹⁾
Layers (1000s)	12 ⁽¹⁾	4.6 ⁽¹⁾

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

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Table 2

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

<i>Liquid/slurry manure types</i>	<i>Dry matter content (%)⁽¹⁾</i>	<i>Total nitrogen (N) content by volume (kg N/m³)⁽¹⁾⁽²⁾</i>	<i>Total phosphorus (P) content by volume (kg P/m³)⁽¹⁾⁽²⁾</i>	<i>Proportion of total phosphorus to total nitrogen</i>
Liquids				
Dirty water	0.5	0.5	0.04 ⁽³⁾	0.08
Cattle slurries				
	2	1.6	0.26	0.16
Cattle slurry	6	2.6	0.52	0.20
	10	3.6	0.79	0.22
Separated cattle slurries (liquid portion)				
Strainer box	1.5	1.5	0.13	0.09
Weeping wall	3	2.0	0.22	0.11
Mechanical separator	4	3.0	0.52	0.17
Pig slurries				
	2	3.0	0.44	0.15
Pig slurry	4	3.6	0.79	0.22
	6	4.4	1.13	0.26
Separated pig slurry (liquid portion)	3	3.6	0.70	0.19
<i>Solid manure type</i>	<i>Dry matter content (%)</i>	<i>Total nitrogen content by weight (kg N/t)</i>	<i>Total phosphorus content by weight (kg P/t)</i>	<i>Proportion of total phosphorus to total nitrogen</i>
Poultry manures				
Broiler litter	66	33	7.0	0.21
Layer manure	30 ⁽⁴⁾	16 ⁽⁴⁾	5.7 ⁽⁴⁾	0.36
Turkey litter	60 ⁽⁴⁾	30 ⁽⁴⁾	11 ⁽⁴⁾	0.37
Duck manure	25 ⁽⁴⁾	6.5 ⁽⁴⁾	2.4 ⁽⁴⁾	0.37

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

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

(3) Guideline value for information only.

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

<i>Solid manure type</i>	<i>Dry matter content (%)</i>	<i>Total nitrogen content by weight (kg N/t)</i>	<i>Total phosphorus content by weight (kg P/t)</i>	<i>Proportion of total phosphorus to total nitrogen</i>
Farmyard manures				
Cattle manure	25	6.0	1.4	0.23
Sheep manure	25	7.0	1.4	0.20
Goat manure	25	6.0	1.2	0.20
Pig manure	25	7.0	2.6	0.37
Horse manure	30	7.0	2.2	0.31
Miscellaneous manures				
Spent mushroom compost	35	8.0	1.5	0.19
Separated cattle slurry (solid portion)	20	4.0	0.87	0.22
Separated pig slurry (solid portion)	20	5.0	2.0	0.40
<i>Other organic manures</i>	Dry matter content, total nitrogen content and total phosphorus content to be declared in accordance with the Waste Regulations. Proportion of total phosphorus to total nitrogen to be calculated from these analyses			
<i>Chemical fertilisers</i>	Dry matter content, total nitrogen content and total phosphorus content as certified by the producer. Proportion of total phosphorus to total nitrogen to be calculated from these analyses			

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

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

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Table 4

Regulations 10 and 12 - Nitrogen application standards for grassland crops

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

- (1) This table does not imply any departure from regulation 9(1) which prohibits the application to the agricultural area on a holding of livestock manure in amounts which exceed 170 kg N/ha/year, including that deposited by the animals themselves, or, in the case of grassland holdings granted a derogation in accordance with regulation 12, 250 kg of N/ha/year, including that deposited by the animals themselves.
- (2) The dairy cattle figures (dairy cows and heifer replacements) apply where it can be demonstrated that more than 50 % of the livestock manure applied to the agricultural area, both by land application and by the animals themselves, arises from dairy cattle. In all other cases the figures for other livestock will apply.

Table 5

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

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

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

Table 6

Regulation 20 - Livestock manure production figures

<i>Livestock type</i>	<i>Volume of excreta produce per animal per week (m³)⁽¹⁾</i>
Cattle	
Dairy cow	0.37
Suckler cow	0.23
Cattle (over 2 years)	0.23
Cattle (1 – 2 years)	0.18

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

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

<i>Livestock type</i>	<i>Volume of excreta produce per animal per week (m³)⁽¹⁾</i>	
Calf (6-12 months)		0.09
Calf (0-6 months)		0.05
Sheep		
Adult ewe / ram		0.03
Fattening lamb (6-12 months)		0.01
Adults pigs		
Maiden gilt / boar		0.05
Dry/lactating sows and served gilts		0.08
Pigs weaned at 3-4 weeks		
<i>Approximate start weight (kg)</i>	<i>Approximate sale / transfer weight (kg)</i>	
6-8	18 (7.5 weeks)	0.01
6-8	35 (11 weeks)	0.03
6-8	105 (23 weeks) (Meal fed)	0.06
6-8	105 (23 weeks) (Liquid fed)	0.08
Growing and finishing pigs		
<i>Approximate start weight (kg)</i>	<i>Approximate sale / transfer weight (kg)</i>	
18	35	0.02
35	105 (Meal fed)	0.03
35	105 (Liquid fed)	0.05
Poultry		
1000 laying hens		0.81 ⁽²⁾

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

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

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

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

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

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

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

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- (a) the total amount of phosphorus in produce, for example, meat, milk and crops (calculated using values from Table 7); and
 - (b) the total amount of phosphorus in organic manure (calculated using values from Table 2).
- (4) Inputs of phosphorus to agricultural land in precipitation and losses of phosphorus from the holding to any waterway or water contained in any underground strata are excluded from the balance calculation.

Table 7

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

<i>Agricultural product</i>	<i>Phosphorus content (% fresh weight)</i>
Poultry concentrate	0.5 (or actual declared content)
Pig concentrate	0.48 (or actual declared content)
Ruminant concentrate	0.55 (or actual declared content)
All other concentrates	0.58 (or actual declared content)
Cattle	0.66
Milk	0.10
Sheep	0.54
Wool	0.04
Pigs	0.50
Poultry	0.58
Eggs	0.22
Straw	0.10
Silage	0.06
Hay	0.30
Potatoes	0.04
Oats	0.29
Barley	0.30
Wheat	0.26
Maize	0.25
Full fat soya	0.45
Linseed	0.81
Rape	1.10
Soya	0.68
Sunflower	0.93
Gluten	0.96
Citrus	0.1
Wheat distillers	0.77

<i>Agricultural product</i>	<i>Phosphorus content (% fresh weight)</i>
Corn distillers	0.77
Peas	0.44
Palm kernal	0.63
Pollard	1.00
Soya hulls	0.14
Sugar beet	0.1