Nutrients Action Programme (NAP) Derogation Fertilisation Plan

Year

For Northern Ireland farmers operating under the requirements of the Nutrients Action Programme Derogation from the livestock manure limit of 170kg Nitrogen per hectare per year.

Sustainability *at the heart of a living, working, active landscape valued by everyone.*

Department of Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

NIEA Northern Ireland Environment Agency
www.daera-ni.gov.uk

INVESTORS IN PEOPLE

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You can download this guidance booklet from our website.
Follow these links: www.daera-ni.gov.uk/nutrientsactionprogramme2019-2022
www.daera-ni.gov.uk/articles/nitrates-directive

Contents

This is an example format of a **fertilisation plan for Nutrients Action Programme (NAP) Derogated farms**.

The information can be presented in other formats if preferred, for example a print out from the relevant CAFRE farm nutrient calculators, available at www.daera-ni.gov.uk/onlineservices which supply most of the information required.

The fertilisation plan must be kept up to date on the farm. This plan is not submitted to NIEA. It must be prepared and made available for inspection on farm by 1 March of the current calendar year.

Please refer to the Nutrients Action Programme (NAP) Derogation Guidance Booklet 2019-2022 for additional information.

1 Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm

Table 1: Livestock manure nitrogen (N) and phosphorus (P) to be produced by dairy cattle per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E).
3. Total the N produced per year in column (C).
4. Total the P produced per year in column (E).

Livestock type	**Average number per year**	**N produced per head per year (kg N)**	**N produced (kg per year)**	**P produced per head per year (kg P)**	**P produced (kg per year)**
Dairy Cattle	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Dairy cow		100		19	
Dairy heifer (over 2 years)		45		8.3	
Dairy heifer (1-2 years)		39		7.2	
Breeding bull		52		9.6	
Dairy calves: to prevent the same animal being counted twice use either "0-1 year" **OR** "0-6 months" and/or "6-12 months" categories.					
0-1 year		19		4.7	
OR					
6-12 months		12		3.0	
0-6 months		7		1.7	
		Total N produced from dairy cattle	=	**Total P produced from dairy cattle**	=

1 Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 2: Livestock manure nitrogen (N) and phosphorus (P) to be produced by beef cattle per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E).
3. Total the N produced/year in column (C).
4. Total the P produced/year in column (E).

Livestock type	Average number per year	N produced per head per year (kg N)	N produced (kg per year)	P produced per head per year (kg P)	P produced (kg per year)
Beef cattle	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Suckler cows		52		9.6	
Cattle (over 2 years)		45		8.3	
Cattle (1-2 years)		39		7.2	
Breeding bull		52		9.6	
Beef calves: to prevent the same animal being counted twice use either "0-1 year" **OR** "0-6 months" and/or "6-12 months" categories.					
0-1 year		19		4.7	
OR					
6-12 months		12		3.0	
0-6 months		7		1.7	
Bull beef calves: to prevent the same animal being counted twice use either "0-13 months" **OR** "0-6 months" and /or "6-13 months" categories					
0-13 months		30		7.5	
OR					
6-13 months		23		5.8	
0-6 months		7		1.7	
		Total N produced from beef cattle	**=**	**Total P produced from beef cattle**	**=**

Table 3: Livestock manure nitrogen (N) and phosphorus (P) to be produced by sheep per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E).
3. Total the N produced in column (C).
4. Total the P produced in column (E).

Livestock type	**Average number per year**	**N produced per head per year (kg N)**	**N produced (kg per year)**	**P produced per head per year (kg P)**	**P produced (kg per year)**
Sheep	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Ewe (over 1 year)		9		1.0	
Ram (over 1 year)		9		1.0	
Lambs: to prevent the same animal being counted twice use either "0-1 year" **OR** "0-6 months" and/or "6-12 months" categories.					
0-1 year		4.4		0.6	
OR					
6-12 months		3.2		0.3	
0-6 months		1.2		0.3	
		Total N produced from sheep	**=**	**Total P produced from sheep**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 4: Livestock manure nitrogen (N) and phosphorus (P) to be produced by deer and goats per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E)
3. Total the N produced/year in column (C).
4. Total the P produced/year in column (E).

Livestock type	**Average number per year**	**N produced per head per year (kg N)**	**N produced (kg per year)**	**P produced per head per year (kg P)**	**P produced (kg per year)**
Deer	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Deer (red) over 2 years		15		4	
Deer (red) 6 months-2 years		12		2	
Deer (fallow) over 2 years		13		2	
Deer (fallow) 6 months-2 years		7		1	
Deer (sika) over 2 years		10		2	
Deer (sika) 6 months-2 years		6		1	
Goats					
Milking goat		15		1.7	
Non-milking goat		9		1.0	
Kids: to prevent the same animal being counted twice use either "0-1 year" **OR** "0-6 months" and/or "6-12 months" categories.					
0-1 year		4.4		0.6	
OR					
6-12 months		3.2		0.3	
0-6 months		1.2		0.3	
		Total N produced from deer/goats	**=**	**Total P produced from deer/goats**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 5: Livestock manure nitrogen (N) and phosphorus (P) to be produced by horses per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E).
3. Total the N produced/year in column (C).
4. Total the P produced/year in column (E).

Livestock type	**Average number per year**	**N produced per head per year (kg N)**	**N produced (kg per year)**	**P produced per head per year (kg P)**	**P produced (kg per year)**
Horses	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Horse over 3 years old		50		9	
Horse 2-3 years old		44		8	
Horse 1-2 years old		36		6	
Horse foal under 1 year old		25		3	
Donkey/small pony		30		5	
		Total N produced from horses	**=**	**Total P produced from horses**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Tables 6 and 7: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by pigs per year

Only complete if you keep these livestock.

Select from either “Units with breeding stock only” or “Units with growing/finishing pigs only”, depending on your production system.

Table 6: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by units with breeding stock only per year

1. Only complete the table on next page if you keep the pig types shown. This includes sows, gilts, boars and pigs from weaning to sale/transfer or slaughter.
2. Enter the planned average number of pigs on the unit at any one time in column A.
3. Enter the planned total number of pigs to be sold/transferred off the unit in the year for each weight range in Column F. You can select more than one weight.
4. Multiply the planned number per year by the N and P produced per year.
5. Total the N produced/year in column (C).
6. Total the P produced/year in column (E).

Table 6: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by units with breeding stock only per year (continued).

Livestock type	Breeding and rearing units ONLY				
	Number on unit per year[1]	**N produced per head per year (kg N)**	**Total N produced (kg per year)**	**P produced per head per year (kg P)**	**Total P produced (kg per year)**
Pigs	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Boars[1]		18		4.2	
Maiden gilts[1]		11		5.7	
Lactating sows[2], dry sows, served gilts[1]		16		8.7	
Sale/transfer weight of pigs (kg)	**Number sold/transferred per year**	**N produced per head per year (kg N)**	**Total N produced (kg per year)**	**P produced per head per year (kg P)**	**Total P produced (kg P per year)**
	(A)	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
18		0.09		0.08	
35		0.38		0.23	
105		2.38		1.09	
		Total N produced from pig breeding stock	**=**	**Total P produced from pig breeding stock**	**=**

[1]Average number on the unit at any one time and not the total number entering the herd.
[2]Lactating sow figure includes suckling pigs to weaning.

1 Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 7: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by units with growing/finishing pigs only per year.

1. Only complete the table below if you just finish pigs and **do not** have breeding stock.
2. Enter the planned number of pigs to be sold or sent to slaughter in the year in Column A.
3. Multiply the planned number per year by the N and P produced per year.
4. Total the N produced per year in the appropriate column and total the P produced per year in the appropriate column.

Livestock type	Growing and finishing farms ONLY				
	Number sold or sent to slaughter per year	**N produced per head per year (kg N)**	**Total N produced (kg per year)**	**P produced per head per year (kg P)**	**Total P produced (kg per year)**
Pigs	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
7 kg-18 kg		0.09		0.08	
7 kg-35 kg		0.38		0.23	
7 kg-105 kg		2.38		1.09	
18 kg-35kg		0.29		0.15	
18 kg-105 kg		2.30		1.00	
35 kg-105 kg		2.00		0.85	
		Total N produced from growing/ finishing pig units	=	**Total P produced from growing/ finishing pig units**	=

Tables 8 & 9: Livestock manure nitrogen (N) and phosphorus (P) to be produced by poultry per year

Only complete this table if you keep these livestock.

1. Select either Table 8 or Table 9 depending on your production system.
2. Enter either the number of birds produced on your farm per year in column (A), Table 8 or the unit capacity in column (C), Table 9.
3. If using Table 9 enter the number of weeks occupancy in Column (B) and multiply this by the unit capacity (A) to give the planned number of birds produced per year (C).
4. Multiply the number of birds by the N and P produced per 1,000 birds.
5. Total the N produced per year in the appropriate column and total the P produced per year in the appropriate column.

Table 8: Livestock manure nitrogen (N) and phosphorus (P) to be produced by poultry per year

Livestock type	Number of birds produced per year	N produced per 1,000 birds (kg N)	N produced (kg N per year)	P produced per 1,000 birds (kg P)	P produced (kg P per year)
Poultry	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Broilers conventional (1,000s)		40		8.4	
Broilers hot water heating (1000s)		33.8		7.0	
Free range broilers (1,000's)		44.9		11.4	
Turkeys (0-6 weeks) (1,000s)		229		55	
Turkeys (6 weeks-kill) (1,000s)		305		73.8	
Turkeys (0-kill) (1,000's)		534		129	
Fattening ducks (1,000s)		139		65	
		Total N produced from poultry	**=**	**Total P produced from poultry**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 9: Livestock manure nitrogen (N) and phosphorus (P) to be produced by poultry per year.

Livestock type	Unit Capacity (1,000s)	Number of weeks occupancy	Number of birds produced	N produced per 1,000 birds per week (kg N)	N produced (kg per year)	P produced per 1,000 birds per week (kg P)	P produced (kg per year)
Poultry	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (C)x(D)	**(F)**	**(G)** (C)x(F)
Broiler breeders (1,000s) 0-18 wks				2.9		2.0	
Broiler breeders (1,000s) 18-60 wks				7.2		3.9	
Broiler breeders (1,000s) 0-60 wks				5.9		3.3	
Pullets (1,000s)				4.7		1.7	
Layers (1,000s)				12		4.6	
Free range laying hens (1,000's)				5.4		2.2	
				Total N produced from poultry	**=**	**Total P produced from poultry**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 10: Nitrogen (N) and phosphorus (P) produced from livestock manure

Transferring the answers from the relevant pages enter the amount of livestock manure N and P from each of the enterprises on your farm.

	N produced (kg per year)	P produced (kg per year)
Dairy cattle livestock manure (total from page 3)		
Beef cattle livestock manure (total from page 4)	+	+
Sheep livestock manure (total from page 5)	+	+
Deer and goat livestock manure (total from page 6)	+	+
Horse livestock manure (total from page 7)	+	+
Pig livestock manure (total from page 9 and 10)	**+**	**+**
Poultry livestock manure (total from page 11 and 12)	**+**	**+**
	=	**=**
Total for all enterprises	**(Total N produced kg per year)**	**(Total P produced kg per year)**

Remember you can use the CAFRE farm nutrient calculators, available at www.daera-ni.gov.uk/onlineservices to do these calculations.

2 Organic manure planned to be imported and exported

1. Only complete this part if manure is to be imported/exported to or from your farm.
2. Select the type of slurry/manure and dry matter (DM) and insert the volume or tonnage. Typical DM is 6% for cattle slurry and 4% for pig slurry.

Table 11: Slurry Imports and Exports

Slurry type	**Nitrogen (N) content**	**Imported volume (m^3)**	**Exported volume (m^3)**
Cattle slurry - 2% DM	1.6		
Cattle slurry - 6% DM	2.6		
Cattle slurry - 10% DM	3.6		
Pig slurry - 2% DM	3.0		
Pig slurry - 4% DM	3.6		
Pig slurry - 6% DM	4.4		
Separated cattle slurry (liquid portion):			
- Strainer box	1.5		
- Weeping wall	2.0		
- Mechanical separator	3.0		
Separated pig slurry (liquid portion)	3.6		
Other (e.g. digestate)			

$1m^3$ = 220 gallons

Table 12: Manure imports and exports

Manure type	Nitrogen (N) content	Imported quantity (tonnes)	Exported quantity (tonnes)
Cattle FYM - 25% DM	6.0		
Sheep manure FYM - 25% DM	7.0		
Pig manure FYM - 25% DM	7.0		
Broiler litter - conventional - 66% DM	33		
Broiler litter - hot water heating - 72% DM	33.8		
Free range broilers - 57% DM	26.4		
Broiler breeders 0-18 weeks - 55% DM	17.5		
Broiler breeders 18-60 weeks - 60% DM	20.7		
Broiler breeders 0-60 weeks - 59% DM	20.2		

1m^3 = 220 gallons

Manure type	Nitrogen (N) content	Imported quantity (tonnes)	Exported quantity (tonnes)
Turkeys 0-6 weeks - 58% DM	24.8		
Turkeys 6 weeks - kill - 58% DM	24.8		
Turkeys 0-kill - 58% DM	24.8		
Pullets - 72% DM	32.7		
Layer manure - 30% DM	16		
Free range laying hens - 46% DM	18.8		
Duck manure - 25% DM	6.5		
Horse manure FYM - 25% DM	5.0		
Goat manure FYM - 40% DM	9.5		
Spent mushroom compost	8.0		
Separated cattle slurry (solid portion)	4.0		
Separated pig slurry (solid portion)	5.0		
Other			

3 Map of Farm

Provide a farm map which shows the following:

- the field areas;
- crops grown in each field;
- crop grown last year if this year's crop is arable;
- Soil Nitrogen Status (SNS) index for arable crops (refer to the NAP 2019-2022 Guidance Booklet **Annex H**) or alternatively a table as below could be completed along with the farm map.

Farm Survey Number	Field number	Field area (ha)	Crop grown this year	Previous crop	SNS index (arable fields only except N-max crops*)

*N-max crops refer to winter/spring wheat, barley and oats. N-max is an upper limit for high yielding crops. For further information refer to **Section 5** and the NAP 2019-2022 Guidance Booklet, **Annex I**.

Farm Survey Number	Field number	Field area (ha)	Crop grown this year	Previous crop	SNS index (arable fields only except N-max crops*)

*N-max crops refer to winter/spring wheat, barley and oats. N-max is an upper limit for high yielding crops. For further information refer to **Section 5** and the NAP 2019-2022 Guidance Booklet, **Annex I**.

3 Map of Farm (continued)

Farm Survey Number	Field number	Field area (ha)	Crop grown this year	Previous crop	SNS index (arable fields only except N-max crops*)

*N-max crops refer to winter/spring wheat, barley and oats. N-max is an upper limit for high yielding crops. For further information refer to **Section 5** and the NAP 2019-2022 Guidance Booklet, **Annex I**.

4 Planning the amount of nitrogen (N) to be applied to grassland

This will estimate the amount of nitrogen (N) you are likely to apply to the grassland area over the year. If in practice this changes, plans should be amended within seven days.

Column (A)	Enter the total area of grassland.
Column (B)	Enter the maximum N requirement for your grassland area.
Column (C)	Enter the type(s) of organic manure, **not including livestock manure**, to be applied.
Column (D)	Enter in the amount of this organic manure to be applied to the grassland area.
Column (E)	Enter the available N content of these organic manures (per m^3 or tonne of manure) by calculating 40% of the total N content (i.e. multiplying by 0.4) (**Annex G** of the NAP 2019-2022 Guidance Booklet; total N content should be provided by producer or waste transfer note/copy of exemption from waste management licensing). For example, sewage sludge with a total N content of 3 kg N per m^3 has 1.2 kg available N per m^3.
Column (F)	Multiply columns (D) and (E) to give total amount of available N to be applied in organic manures.
Column (G)	Enter the type(s) of chemical fertiliser to be applied on grassland during the year.
Column (H)	Enter the total amount of chemical fertiliser product to be applied for each fertiliser type(s).
Column (I)	Calculate the amount of N to be applied for all type(s) of chemical fertiliser. For example if 25,000 kg of 27:0:0 is to be applied, kg of N to be applied = 27 x 25,000 ÷ 100 = 6,750 kg of N.
Column (J)	Add columns (F) and (I) to give total N to be applied.
Column (K)	Divide total in column (J) by whole area of grassland in column (A). Application to be less than requirement in column (B).

Nitrogen (N) planning sheet for grassland										
Crop details		Organic manure excluding livestock manures (for example sewage sludge)				Chemical N fertiliser			Organic and Chemical N fertiliser	
Area of grassland on the farm (ha)	N requirement of grassland (kg per ha) NAP 2019-2022 Guidance Booklet, see Section 6 for grassland and crops.	Type of manure	Total amount of manure to be applied to whole area of grass (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to whole area of grass (kg) (D)x(E)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to whole area (kg)	Total amount of N from fertiliser to be applied to whole area (kg)	Total amount of N to be applied to whole area (kg) (F)+(I)	Total N to be applied per ha (kg) Total (J) ÷ (A)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
								Total		

* refers to **Annex G** in the NAP 2019-2022 Guidance Booklet.

Nitrogen (N) planning sheet for grassland										
Crop details		Organic manure excluding livestock manures (for example sewage sludge)				Chemical N fertiliser			Organic and Chemical N fertiliser	
Area of grassland on the farm (ha)	N requirement of grassland (kg per ha) NAP 2019-2022 Guidance Booklet, see Section 6 for grassland and crops.	Type of manure	Total amount of manure to be applied to whole area of grass (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to whole area of grass (kg) (D)x(E)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to whole area (kg)	Total amount of N from fertiliser to be applied to whole area (kg)	Total amount of N to be applied to whole area (kg) (F)+(I)	Total N to be applied per ha (kg) Total (J) ÷ (A)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
								Total		

* refers to **Annex G** in the NAP 2019-2022 Guidance Booklet.

5 Planning the amount of nitrogen to be applied to N-max crops (winter/spring wheat, barley and/or oats)

In contrast to grassland **all** organic manures must be taken into consideration including livestock manures. N-max is an upper limit of nitrogen (N) that can be applied to crops of winter/spring wheat, barley and oats.

Column (A)	Enter crop type - either winter/spring wheat, barley and/or oats.
Column (B)	Enter the total area for each crop type to be grown.
Column (C)	Enter the maximum N requirement for each crop area as per the N-max limit for crop requirement (**Annex I** of the NAP 2019-2022 Guidance Booklet) **including any adjustment for yield.**
Column (D)	Enter the type(s) of organic manure, **including livestock manure**, to be applied.
Column (E)	Enter in the amount of manure to be applied.
Column (F)	Enter the available N content (per m^3 or tonne of manure) of the manure to be applied (**Annex G** of the NAP 2019-2022 Guidance Booklet).
Column (G)	Multiply columns (E) and (F) to give total amount of available N to be applied in organic manures.
Column (H)	Enter the type(s) of chemical fertiliser to be applied.
Column (I)	Enter the total amount of chemical fertiliser product to be applied for each fertiliser type(s).
Column (J)	Total up the amount of N to be applied for all type(s) of chemical fertiliser applied. For example if 1,600 kg of 27:0:0 is to be applied, kg of N to be applied = 27 x 1,600 ÷ 100 = 432 kg of N.
Column (K)	Add columns (G) and (J) to give total N to be applied to the area.
Column (L)	Divide total in column (K) by area of crop in column (B). Application to be less than requirement in column (C).

5 Planning the amount of nitrogen to be applied to N-max crops (winter/spring wheat, barley and/or oats) (continued)

Nitrogen (N) planning sheet for N-max crops											
Crop details			Organic manure including livestock manures				Chemical nitrogen (N) fertiliser			Organic and Chemical N fertiliser	
Crop	Total area of crop (ha)	Crop N-max require-ment (kg per ha) Annex I*	Type of manure	Total amount of manure to be applied to field(s) (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to field(s) (kg) (E) x (F)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to field(s) (kg)	Total amount of N from fertiliser to be applied to field(s) (kg)	Total amount of N to be applied to field(s) (kg) (G)+(J)	Total N to be applied per ha (kg) Total (K) ÷ (B)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
									Total		
									Total		

* refers to **Annexes I and G** in the NAP 2019-2022 Guidance Booklet.

5 Planning the amount of nitrogen to be applied to N-max crops (winter/spring wheat, barley and/or oats) (continued)

Nitrogen (N) planning sheet for N-max crops											
Crop details			Organic manure including livestock manures				Chemical nitrogen (N) fertiliser			Organic and Chemical N fertiliser	
Crop	Total area of crop (ha)	Crop N-max require-ment (kg per ha) Annex I*	Type of manure	Total amount of manure to be applied to field(s) (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to field(s) (kg) (E) x (F)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to field(s) (kg)	Total amount of N from fertiliser to be applied to field(s) (kg)	Total amount of N to be applied to field(s) (kg) (G)+(J)	Total N to be applied per ha (kg) Total (K) ÷ (B)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
									Total		
									Total		

* refers to **Annexes I and G** in the NAP 2019-2022 Guidance Booklet.

6 Planning the amount of nitrogen to be applied to other arable crops (excluding N-max crops and grass)

Column (A)	Enter crop type from **Annex H** of the NAP 2019-2022 Guidance Booklet.
Column (B)	For each crop area on the farm with the same cropping history enter the soil nitrogen supply (SNS) index as determined per **Annex H** of the NAP 2019-2022 Guidance Booklet.
Column (C)	Enter the area to be grown for each crop type with the same cropping history.
Column (D)	Enter the maximum N requirement for each crop area (**Annex H** of the NAP 2019-2022 Guidance Booklet) taking into consideration the SNS index stated in column B.
Column (E)	Enter the type(s) of organic manure, **including livestock manure**, to be applied.
Column (F)	Enter in the amount of manure to be applied.
Column (G)	Enter the available N content (per m^3 or tonne of manure) of the manure to be applied (**Annex G** of the NAP 2019-2022 Guidance Booklet).
Column (H)	Multiply columns (F) and (G) to give total amount of available N to be applied in organic manures.
Column (I)	Enter the type(s) of chemical fertiliser to be applied.
Column (J)	Enter the total amount of chemical fertiliser product to be applied for each fertiliser type(s).
Column (K)	Total up the amount of N to be applied for all type(s) of chemical fertiliser applied. For example if 1,600 kg of 27:0:0 is to be applied, kg of N to be applied = 27 x 1,600 ÷ 100 = 432 kg of N.
Column (L)	Add columns (H) and (K) to give total N to be applied to the area.
Column (M)	Divide total in column (L) by area of crop in column (C). Application to be less than requirement in column (D).

6 Planning the amount of nitrogen to be applied to other arable crops (excluding N-max crops and grass) (continued)

Nitrogen (N) planning sheet for other arable crops (excluding N-max crops and grass)												
Crop details				Organic manure including livestock manures				Chemical nitrogen (N) fertiliser			Organic and Chemical N fertiliser	
Crop	SNS	Total area of crop (ha)	Crop N require-ment (kg per ha) Annex H*	Type of manure	Total amount of manure to be applied to field(s) (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to field(s) (kg) (F) x (G)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to field(s) (kg)	Total amount of N from fertiliser to be applied to field(s) (kg)	Total amount of N to be applied to field(s) (kg) (H) + (K)	Total N to be applied per ha (kg) Total (L) ÷ (C)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
										Total		
										Total		

* refers to **Annexes H and G** in the NAP 2019-2022 Guidance Booklet.

6 Planning the amount of nitrogen to be applied to other arable crops (excluding N-max crops and grass) (continued)

Nitrogen (N) planning sheet for other arable crops (excluding N-max crops and grass)												
Crop details				Organic manure including livestock manures				Chemical nitrogen (N) fertiliser			Organic and Chemical N fertiliser	
Crop	SNS	Total area of crop (ha)	Crop N require-ment (kg per ha) Annex H*	Type of manure	Total amount of manure to be applied to field(s) (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to field(s) (kg) (F) x (G)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to field(s) (kg)	Total amount of N from fertiliser to be applied to field(s) (kg)	Total amount of N to be applied to field(s) (kg) (H) + (K)	Total N to be applied per ha (kg) Total (L) ÷ (C)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
										Total		
										Total		

* refers to **Annexes H and G** in the NAP 2019-2022 Guidance Booklet.

7 Planning the amount of phosphate (P_2O_5) to be applied to crops including grass

Where no chemical P_2O_5 fertiliser is to be applied, there is no legal obligation to demonstrate a crop requirement for P_2O_5 from application of most livestock manures. You are only required to complete this table if you are planning to apply chemical phosphate (P_2O_5) fertiliser.

1. All organic manures, **including livestock manures**, must be taken into consideration.
2. The values for available P_2O_5content of organic manures vary depending on soil phosphorus (P) index and crop type.
3. The P_2O_5 content of chemical fertilisers is taken to be 100% available.
4. When applying nutrients to grass or crops remember to consider all nutrients such as potash and sulphur.

Column (A)	Identify the crop to be grown. A list of the main crops and their requirements are listed in **Annex J** of the NAP 2019-2022 Guidance Booklet.
Column (B)	Enter area of field.
Column (C)	Enter Soil P index from soil analysis if available. (If not available then assume an index of 2+ for grass or 2 for all other crops).
Column (D)	According to the soil P index found on soil analysis results enter the P_2O_5 requirement in kg/ha from **Annex J** of the NAP 2019-2022 Guidance Booklet.
Column (E)	Enter the type(s) of organic manure, **including livestock manure**, to be applied.
Column (F)	Enter in the amount of manure to be applied in m^3 or tonnes.
Column (G)	Enter the available P_2O_5 content (per m^3 or tonne of manure) of the manure to be applied (**Annex G** of the NAP 2019-2022 Guidance Booklet).
Column (H)	Multiply columns (F) and (G) to give total amount of available P_2O_5 to be applied in organic manures.
Column (I)	Enter the type of chemical fertiliser to be applied.
Column (J)	Enter the amount of chemical fertiliser to be applied per ha.
Column (K)	Enter the amount of chemical P_2O_5 to be applied. For example type of fertiliser to be applied was 27:6:12, this contains 6% P_2O_5. If 300 kg is to be applied per ha then the amount of P_2O_5 would be 6 x 300 ÷ 100 = 18 kg per ha.
Column (L)	Add columns (H) and (K) to give total amount of available P_2O_5 to be applied per ha and divide by the area of the field in column (B) to calculate the application rate per ha.

7 Planning the amount of phosphate (P_2O_5) to be applied to crops including grass (continued)

Phosphate (P_2O_5) planning sheet												
Grass/crop details					Organic manure (including livestock manures)				Chemical (P_2O_5) fertiliser			
Field No.	Crop	Area of crop (ha)	Soil P index (from analysis)	P_2O_5 require-ment by crop kg per ha according to soil P index Annex J*	Type of organic manure to be applied Annex G*	Total amount of organic manure to be applied (m^3 or t)	Available P_2O_5 content of organic manure to be applied (kg per m^3 or t) Annex G*	Total amount of available P_2O_5 supplied to crop in organic manure (kg) (F) x (G)	Type of fertiliser product to be applied	Total amount of fertiliser product to be applied (kg)	Total amount of P_2O_5 from fertiliser to be applied (kg) (I) x (J)	Total P_2O_5 to be applied per ha (kg) ((H)+(K)) ÷ (B)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)

1m^3 = 220 gallons

1 hectare = 2.47 acres

* refers to **Annexes J and G** in the NAP 2019-2022 Guidance Booklet.

7 Planning the amount of phosphate (P_2O_5) to be applied to crops including grass (continued)

Phosphate (P_2O_5) planning sheet												
Grass/crop details					Organic manure (including livestock manures)				Chemical (P_2O_5) fertiliser			
Field No.	Crop	Area of crop (ha)	Soil P index (from analysis)	P_2O_5 require-ment by crop kg per ha according to soil P index Annex J*	Type of organic manure to be applied Annex G*	Total amount of organic manure to be applied (m^3 or t)	Available P_2O_5 content of organic manure to be applied (kg per m^3 or t) Annex G*	Total amount of available P_2O_5 supplied to crop in organic manure (kg) (F) x (G)	Type of fertiliser product to be applied	Total amount of fertiliser product to be applied (kg)	Total amount of P_2O_5 from fertiliser to be applied (kg) (I) x (J)	Total P_2O_5 to be applied per ha (kg) ((H)+(K)) ÷ (B)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)

1m^3 = 220 gallons

1 hectare = 2.47 acres

* refers to **Annexes J and G** in the NAP 2019-2022 Guidance Booklet.

Planning the amount of phosphate (P_2O_5) to be applied to crops including grass (continued)

Phosphate (P_2O_5) planning sheet												
Grass/crop details					Organic manure (including livestock manures)				Chemical (P_2O_5) fertiliser			Total P_2O_5 to be applied per ha (kg) ((H)+(K)) ÷ (B)
Field No.	Crop	Area of crop (ha)	Soil P index (from analysis)	P_2O_5 require-ment by crop kg per ha according to soil P index Annex J*	Type of organic manure to be applied Annex G*	Total amount of organic manure to be applied (m^3 or t)	Available P_2O_5 content of organic manure to be applied (kg per m^3 or t) Annex G*	Total amount of available P_2O_5 supplied to crop in organic manure (kg) (F) x (G)	Type of fertiliser product to be applied	Total amount of fertiliser product to be applied (kg)	Total amount of P_2O_5 from fertiliser to be applied (kg) (I) x (J)	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)

1m^3 = 220 gallons

1 hectare = 2.47 acres

* refers to **Annexes J and G** in the NAP 2019-2022 Guidance Booklet.

8 Description and animal housing

What type of animal housing is on your farm?

Slurry based ☐

Straw bedded ☐

If other please specify: _____

_____

_____

_____

_____

_____

9 Description and volume of manure storage

Table 13: Total capacity of rectangular tanks and lagoons/middens

Tank	Description	Length **l** (m)	Breadth **b** (m)	Adjusted Depth **d** (m) (depth - freeboard)[(i)]	Volume of facilities **(l x b x d)** (m^3)
1					
2					
3					
4					
5					
6					
7					
8					
Total capacity of rectangular tanks and lagoons/ middens.					

Table 14: Total capacity of rectangular tanks and lagoons/middens

Tank	Description	Radius **rad** (m)	Adjusted height **h** (m) (Height - freeboard)[(i)]	Volume of facilities for slurry **= 3.14 x rad x rad x h** (m^3)
1				
2				
3				
4				
Total capacity of above ground circular stores.				

[(i)] Freeboard is the term given to the unfilled depth (safety margin) at the top of a slurry or effluent tank or compound. Freeboard allowances are 750 mm for earth bank lagoons and 300 mm for all other structures. Freeboard is not a legal requirement for structures which are exempt under the NAP 2019 Regulations (structures completed before 1 December 2003, unless substantially reconstructed). It is, however, considered best management practice to adhere to freeboard requirements in all structures.(structures completed before 1 December 2003, unless substantially reconstructed). It is, however, considered best management practice to adhere to freeboard requirements in all structures.

Notes

Notes

Notes

Contact details

Department of Agriculture, Environment and Rural Affairs (DAERA)

Internet: www.daera-ni.gov.uk

Environment Awareness: 0300 200 7842

Education and Training: 0300 200 7841

Department of Argriculture, Environment and Rural Affairs Northern Ireland Environment Agency

Internet: www.daera-ni.gov.uk/northern-ireland-environment-agency

Water Management Unit, 17 Antrim Road, Lisburn, BT28 3AL

Agriculture Regulations Team: 028 9262 3280

Water Pollution Hotline *(A 24-hour confidential hotline for reporting pollution incidents)*
0800 80 70 60 Fax Number 028 9267 6054

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