

Manure Management Plan and NVZ calculations.

A step by step guide for farmers

Business Name :	<i>Hanmer Farms</i>
Farm Address :	<i>Holebrook Farm Ellesmere Road Bronnington Whitchurch Shropshire SY13 3HX</i>
Date :	<i>21/11/2022</i>

*Department for
Environment
Food & Rural Affairs*

Based on new NVZ regulation booklets 2009

Compliance with NVZ Rules :

Hanmer Farms

Holebrook Farm
Ellesmere Road
Bronnington
Whitchurch
Shropshire

Based on information supplied

Land area held :

344.25 ha. 851 acres

Arable area (inc. maize)

- ha.

Grassland area

344.25 ha.

Grass as % of total area

100%

Land capacity :

	No. units	x	kg N / unit	Total kg N
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Arable area

- x 170

-

Grassland area

344.25 x 250

86,063

Total Organic N capacity :

86,063

Animal Production :

Dairy Cows (> 9,000 lt.)
Dairy Cows (6 - 9,000 lt.)
Dairy Cows (< 6,000 lt.)

-	x	115	-
-	x	101	-
400.0	x	77	30,800

Stock bulls

x 48 -

Suckler beef cow

- x 83 -

0-3 mth. Calves

100.0 x 8 800

3-13 mth. Growing cattle

100.0 x 35 3,500

13 mth. to first calf

100.0 x 61 6,100

0-3 mth. Calves

50.0 x 8 400

Beef bulls

4.0 x 54 216

Beef calves 3-13 mth.

50.0 x 33 1,650

50.0 x -

Laying hens

22.0 x 530 11,660

Total Animal N produced :

55,126

Less

exported muck / cattle

x -

"Spare" land capacity :

30,937

Organic N prodⁿ. kg / ha :

160.1

This farm DOES Comply with the NVZ regulations

Ian Browne.

21-Nov-22

Calculate Manure N to be dealt with on farm (kg N).

Assess N limits for Farm

Stock unit	A Number of stock units	B Total N excreted annually (kg N p.a. / head)	C Total N excreted annually (kg N p.a.)
1 dairy cow (> 9,000 lt.)		X 115 =	
1 dairy cow (6,000 - 9,000 lt.)		X 101 =	
1 dairy cow (< 6,000 lt.)	400	X 77 =	30,800
1 suckler cow (500+ kg)		X 83 =	
1 Breeding stock bull (> 25 mths.)	4	X 48 =	192
1 follower 13 mths. to 1st calf	100	X 61 =	6,100
1 follower 3-13 mths	100	X 35 =	3,500
1 calf (up to 3 mths)	100	X 8 =	800
1 bull (breeding or beef) 3-25 mths	4	X 50 =	200
1 Heifer or steer > 25 mths		X 50 =	
1 Heifer or steer 13-25 mths	50	X 50 =	2,500
1 Heifer or steer 3-13 mths	50	X 33 =	1,650
1 calf (up to 3 mths)	50	X 8 =	400
1 breeding sow place + piglets		X 18.0 =	
1 weaner place (7-13 kg)		X 1.0 =	
1 weaner place (13-31 kg)		X 4.2 =	
1 grower place (31- 66 kg)		X 7.7 =	
1 finisher place dry feed (66+ kg)		X 10.6 =	
1 finisher place wet feed (66+ kg)		X 10.6 =	
1 maiden gilt place		X 11.1 =	
1 Breeding boar (150+ kg)		X 12.0 =	
1 boar place (66-150 kg)		X 17.5 =	
1,000 laying hens in cages		X 400 =	
1,000 free range laying hens	22	X 530 =	11,660
1,000 layer pullets < 17 wks.		X 210 =	
1,000 broiler breeders > 25 wks.		X 700 =	
1,000 broiler breeders < 25 wks.		X 290 =	
1,000 Broiler places		X 330 =	
1,000 male turkey places		X 1230 =	
1,000 female turkey places		X 910 =	
1,000 fattening duck places		X 750 =	
1 ewe + lambs to 6 mths.		X 0.12 =	
1 fattening lamb (6-9 months age)		X 0.05 =	
1 fattening lamb (9+ months age)		X 0.05 =	
1 goat		X 0.10 =	
1 deer hind for breeding		X 0.15 =	
1 deer (other)		X 0.11 =	
1 horse		X 0.74 =	
Imported Manures on to farm : A			0
Exported manures off farm : B			0
(see import & export calculation sheet)			
Total Volume organic N (kg) :			57,802

Total kg N capacity of farm

86,063

from land area calculation sheet

Adequate land area

You need
no more
hectares

Calculate amount of livestock manure imported & exported :

You only need to complete this step if you import / export livestock manure

Complete table below by entering type of manure, quantity moved in year and the total N content of manure

Then multiply up to get total kg N moved in (importing) or out (exporting).

REMEMBER TO RECORD ALL MOVEMENTS OF MANURES ON & OFF THE FARM

Manure type	Quantity <i>t. or m³</i>	Total N content <i>kg N / m³ or kg N / t</i>	Total kg N	Import ? (Y / N)	Imported	Exported
Solid Manures						
		(see note below)				
Cattle farmyard manure		6.0	0	n		0
Pig farmyard manure		7.0	0	n		0
Sheep farmyard manure		6.0	0	n		0
Duck farmyard manure		6.5	0	n		0
Poultry layer manure		16.0	0	n		0
Poultry broiler litter		30.0	0	n		0
Turkey litter		30.0	0	n		0
Slurry						
Dairy cattle slurry		3.0	0	n		0
Beef cattle slurry		2.0	0	n		0
Pig slurry		4.0	0	n		0
Seperated manures						
Separated cattle slurry						
(liquid fraction strainer box)		1.5	0	n		0
(liquid fraction mechanically separated)		3.0	0	n		0
(liquid fraction weeping wall)		2.0	0	n		0
Separated cattle slurry (solid fraction)		4.0	0	n		0
Separated pig slurry (liquid fraction)		3.6	0	n		0
Separated pig slurry (solid fraction)		5.0	0	n		0
Total manure N imported (kg N) : A					0	
Total manure N exported (kg N) : B					0	

Note : you should use suggested figures unless you have an actual analysis available.

Land available & whether safe to spread on ?!

List in this table only fields which have red or white areas. Remember ditches and watercourses have two sides.

Field name or Number	Whole field area in Hectares (ha)	Ditches and water courses		Other red areas (ha)	White areas (ha)
		Total length in metres (m)	* metres ÷ by 1,000 = ha.		
			-		
Holebrook Farm	56.50	1000	1.00	1.50	1.50
Bettisfield park	160.00	1250	1.25	2.00	0.75
Other land	70.00	1000	1.00	5.00	
Penley	60.00		-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		
			-		

Total Farm Area : 346.50

Areas not available for spreading :

<i>x</i>	<i>y</i>	<i>z</i>
3.25	8.50	2.25

* this calculation is derived from ditches x 10 m (red areas) ÷ 10,00 square metres to give hectares.
If we do not multiply by the 10 metres first, we only need to ÷ by 1,000

Note : if you use a 1:2,500 scale map; 1 grid square = 1 hectare and 1 side of a square = 100 metres
if you use a 1:10,000 scale map; 1 grid square = 100 hectares and 1 side = 1,000 metres

B

Area available for spreading (A minus (x+y+z)) : 332.50

Field page 1

Land available & whether safe to spread on ?!

Step 1 - Calculate slurry storage capacity & concrete areas

The aim in this section is to calculate the area of available slurry storage on the farm that is not covered / roofed i.e. that rainfall can fall on and collect in. The same principal applies to all uncovered yard areas that have fouled concrete that drain into the slurry stores. This calculation needs to be repeated for all open silage pits and roofed areas where the rainfall is collected in the slurry storage i.e. requiring additional storage capacity as not diverted to a clean drain.

Slurry store Description (Non earth Bank type)	Length (m)		Width (m)		Floor area (m ²)		Depth (m)	Capacity (m ³)	
Slurry containment at side of cubicle shed	100	X	17.5	=	0	X	2.5	3,850	
		X		=	1,750	X			
		X		=	0	X			
		X		=	0	X			
		X		=	0	X			
		X		=	0	X			
Total surface area :					1,750	Total Capacity :		3,850	m ³

Note the capacity allows for 0.3 m freeboard as a safety margin

Slurry store Description (Earth Bank type)	Length (m)	X	Width (m)	=	Floor area (m ²)	X	Depth (m)	Capacity (m ³)
NEW earth bank lagoon up filed	30	X	30	=	900	X	3.75	2,700
		X		=	0	X		
		X		=	0	X		
		X		=	0	X		
		X		=	0	X		
Total surface area :					900	Total Capacity :		2,700 m ³

Note the capacity allows for 0.75 m freeboard as a safety margin

Slurry store Description (Circular tower type)	Diameter (m)	Floor area (m ²)	Depth (m)	Capacity (m ³)
	=	0	X	
	=	0	X	
	=	0	X	
	=	0	X	
	=	0	X	
	=	0	X	
Total surface area :		0	Total Capacity :	0 m ³
<i>Note</i> diameter can be calculated by dividing the circumference by a factor of 3.142				

Note diameter can be calculated by dividing the circumference by a factor of 3.142

Note the capacity allows for 0.3 m freeboard as a safety margin

Fouled yard areas (collected in slurry stores)	Length (m)	Width (m)	Floor area (m ²)
feed pad	100	X	= 0
		X	= 0
collecting yard	30	X	= 1,000
		X	= 450
Track to collecting yard	45	X	= 0
		X	= 225
All roof water diverted to drains		X	= 0
		X	= 0
		X	= 0
		X	= 0
Total surface area :			1,675 m ²

Total Floor area
that enters slurry stores

5,325 m²

Uncovered silage pits / roofs (draining to slurry stores)	Length (m)	Width (m)	Floor area (m ²)
Silage pits (2 x outdoors)	40	X	= 0
		X	= 1,000
		X	= 0
		X	= 0
		X	= 0
		X	= 0
		X	= 0
Total surface area :			1,000 m ²

Total slurry store
Capacity available

6,550 m³

Step 2 - Calculate slurry production per month (undiluted slurry)

Stock unit	A Number of stock units	B Proportion collected as slurry (%) (alter default values)	C Volume per livestock unit (m ³ / month)	D Volume produced each month (m ³)
1 dairy cow (> 9,000 lt.)		X 100%	X 1.92	=
1 dairy cow (6,000 - 9,000 lt.)		X 75%	X 1.59	=
1 dairy cow (< 6,000 lt.)	400.0	X 85%	X 1.26	= 428.4
1 suckler cow (500+ kg)		X 100%	X 1.35	=
1 Breeding stock bull (> 25 mths.)	4.0	X 0%	X 0.78	= 0.0
1 follower 13 mths. to 1st calf	100.0	X 0%	X 1.20	= 0.0
1 follower 3-13 mths	100.0	X 0%	X 0.60	= 0.0
1 calf (up to 3 mths)	100.0	X 0%	X 0.21	= 0.0
1 bull (breeding or beef) 3-25 mths	4.0	X 0%	X 0.78	= 0.0
1 Heifer or steer > 25 mths		X 0%	X 0.96	=
1 Heifer or steer 13-25 mths	50.0	X 0%	X 0.78	= 0.0
1 Heifer or steer 3-13 mths	50.0	X 0%	X 0.60	= 0.0
1 calf (up to 3 mths)	50.0	X 0%	X 0.21	= 0.0
1 breeding sow place + piglets		X 100%	X 0.33	=
1 weaner place (7-13 kg)		X 100%	X 0.03	=
1 weaner place (13-31 kg)		X 100%	X 0.05	=
1 grower place (31- 66 kg)		X 50%	X 0.14	=
1 finisher place dry feed (66+ kg)		X 50%	X 0.13	=
1 finisher place wet feed (66+ kg)		X 100%	X 0.26	=
1 maiden gilt place		X 50%	X 0.13	=
1 Breeding boar (150+ kg)		X 50%	X 0.26	=
1 boar place (66-150 kg)		X 50%	X 0.15	=
1,000 laying hens in cages		X 0%	X 3.60	=
1,000 free range laying hens		X 0%	X 2.90	=
1,000 layer pullets < 17 wks.		X 0%	X 1.20	=
1,000 broiler breeders > 25 wks.		X 0%	X 3.60	=
1,000 broiler breeders < 25 wks.		X 0%	X 1.20	=
1,000 Broiler places		X 0%	X 1.80	=
1,000 male turkey places		X 0%	X 4.80	=
1,000 female turkey places		X 0%	X 3.60	=
1,000 fattening duck places		X 0%	X 12.00	=
1 ewe + lambs to 6 mths.		X 0%	X 0.12	=
1 fattening lamb (6-9 months age)		X 0%	X 0.05	=
1 fattening lamb (9+ months age)		X 0%	X 0.05	=
1 goat		X 0%	X 0.10	=
1 deer hind for breeding		X 0%	X 0.15	=
1 deer (other)		X 0%	X 0.11	=
1 horse		X 0%	X 0.74	=
Total Volume Slurry produced / month (m ³) :				428

Carried forward ...

Stock unit (from previous sheet)		Number of stock units	Period stock are housed for in days							Total Days	Volume produced over winter (m ³)
			Oct.	Nov.	Dec.	Jan.	Feb.	Mar.			
1 dairy cow (> 9,000 lt.)											
1 dairy cow (6,000 - 9,000 lt.)											
1 dairy cow (< 6,000 lt.)		400.0		20	31	31	28			110	1,545
1 suckler cow (500+ kg)											
1 Breeding stock bull (> 25 mths.)		4.0		30	31	31	28			120	0
1 follower 13 mths. to 1st calf		100.0		15	31	31	28			105	0
1 follower 3-13 mths		100.0		15	31	31	28			105	0
1 calf (up to 3 mths)		100.0					28			28	0
1 bull (breeding or beef) 3-25 mths		4.0			31	31	28			90	0
1 Heifer or steer > 25 mths											
1 Heifer or steer 13-25 mths		50.0									
1 Heifer or steer 3-13 mths		50.0									
1 calf (up to 3 mths)		50.0					28			28	0
1 breeding sow place + piglets											
1 weaner place (7-13 kg)											
1 weaner place (13-31 kg)											
1 grower place (31- 66 kg)											
1 finisher place dry feed (66+ kg)											
1 finisher place wet feed (66+ kg)											
1 maiden gilt place											
1 Breeding boar (150+ kg)											
1 boar place (66-150 kg)											
1,000 laying hens in cages											
1,000 free range laying hens											
1,000 layer pullets < 17 wks.											
1,000 broiler breeders > 25 wks.											
1,000 broiler breeders < 25 wks.											
1,000 Broiler places											
1,000 male turkey places											
1,000 female turkey places											
1,000 fattening duck places											
1 ewe + lambs to 6 mths.											
1 fattening lamb (6-9 months age)											
1 fattening lamb (9+ months age)											
1 goat											
1 deer hind for breeding											
1 deer (other)											
1 horse											

Note pigs and poultry store for 6 months not 5

Total Volume Slurry produced for winter storage (m³) : A1,545

Step 3 - Calculate average volume rainfall per month (entering slurry store)

You only need to complete this step if you identified in **step 1**, that rain falls directly onto uncovered or unroofed existing slurry stores or onto concrete areas draining into these slurry stores.

1 Enter monthly rainfall information (step 1f) in the relevant boxes below and add together to give total rainfall.

Month	October	November	December	January	February	March	Total					
						(pig farms only)						
Rainfall (mm)	65	+	77	+	80	+	69	+	53	+	=	344

2 Divide total rainfall by the relevant number of months (6 for pigs or 5 for other livestock) to get the average monthly rainfall and enter in Box B below.

Average monthly rainfall :	B	68.8	mm
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3 Insert the total area of uncovered slurry storage and concrete areas that drain into them plus add the average rainfall (Box B). Then mutiply up to derive the volume of rainfall entereing slurry storage each month.

Area of Slurry stores plus concrete surface area	Average Monthly Rainfall	Average volume of rainfall entering slurry stores / month
5,325 m ² X	68.8 mm ÷ 1000 =	C 366 m ³

Step 4 - Calculate volume of wash water entering slurry store each month

You only need to complete this step if wash water drains into your slurry stores.

For Dairy Farms :

Typical wash water use from high volume hoses is **0.9 m³ per cow per month** (30 litres / day / cow) or using low volume hoses **0.6 m³ per cow per month** (20 litres / cow / day).

Using the boxes below enter the total number of dairy cows normally kept on your farm during the storage period and multiply by the figure that best represents your wash water use i.e. 0.9 or 0.6 m³. Record this result in Box D. (If you know the actual amount used, enter it instead).

Number of Cows Milking / month (avge. No. milking Oct.-Feb.)	Wash water used / month (m³)	Monthly wash water volume (m³)
294	X 0.9	= D 264.6

Note : for two times or more milkings per day consider 0.9 m³ / month
once a day milking use 0.6 m³ / month.

For Pig Farms :

Typical wash water use is provided in the Table below.

Enter the number of pig places on your unit and multiply the numbers across each row and then add each category up to give the total volume as Total E.

or

If you know the exact amount used every month, you can enter it here in m³ :

Pig category	Wash water (litres / place / week)		Number of Pig places	Conversion Factor to m³ / mth.	Monthly wash water (m ³)
Sows + litter up to 7kg	10.0	X		X 0.0043	
Maiden gilts + boars	0.6	X		X 0.0043	
Weaners (7-12 kg)	2.0	X		X 0.0043	
Weaners (13-30 kg)	2.6	X		X 0.0043	
Growers (31-65 kg)	1.9	X		X 0.0043	
Finishers (66+ kg)	1.6	X		X 0.0043	
Total wash volume / month (m ³) : E					0.0

Step 5 - Calculate Total volume of slurry (including rainfall and wash water) that needs to be stored.

Enter the storage requirements from previous sheets into Table to get the total amount of farm storage that will be required to meet the NVZ regulations.

"True" dairy wash water calculations (using Total D)

	Days that cows are milking in months of ...					Total Wash water (m ³)
	Oct.	Nov.	Dec.	Jan.	Feb.	
Number of days	31	30	31	25	20	1,188.5 m ³

note this tables allows for the fact a herd may dry off completely during the storage period.

Thus total storage requirements are :

Total winter storage of animal slurry for period :	A	1,545 m ³
Average volume of monthly rainfall entering stores :	C	366
Times No. months to store :		6
<i>note only pigs & poultry store for 6 months, other categories store for 5 months</i>		
Total volume rainfall enetering store :		2,198 m ³
"True" dairy wash water for whole storage period :		1,188.5 m ³
Average monthly pig wash water use :	E	0
Times No. months to store :		6
Total Pigs wash water for period :		0 m ³
<u>Total Volume of slurry and dilution to be stored :</u>		4,932 m³

Total available storage :	6,550 m ³
(taken from "yards area calculations" sheet)	
You have spare storage of ...	1,618 m³

Step 6 - Calculate Stackable FYM "Manure" production per month

Stock unit	A Number of stock units	B Proportion collected as slurry (%) (alter default values)	C Volume per livestock unit (m ³ / month)	D Volume produced each month (m ³)
1 dairy cow (> 9,000 lt.)		X 0%	X 1.92	=
1 dairy cow (6,000 - 9,000 lt.)		X 25%	X 1.59	=
1 dairy cow (< 6,000 lt.)	400.0	X 15%	X 1.26	= 75.6
1 suckler cow (500+ kg)		X 0%	X 1.35	=
1 Breeding stock bull (> 25 mths.)	4.0	X 100%	X 0.78	= 3.1
1 follower 13 mths. to 1st calf	100.0	X 100%	X 1.20	= 120.0
1 follower 3-13 mths	100.0	X 100%	X 0.60	= 60.0
1 calf (up to 3 mths)	100.0	X 100%	X 0.21	= 21.0
1 bull (breeding or beef) 3-25 mths	4.0	X 100%	X 0.78	= 3.1
1 Heifer or steer > 25 mths		X 100%	X 0.96	=
1 Heifer or steer 13-25 mths	50.0	X 100%	X 0.78	= 39.0
1 Heifer or steer 3-13 mths	50.0	X 100%	X 0.60	= 30.0
1 calf (up to 3 mths)	50.0	X 100%	X 0.21	= 10.5
1 breeding sow place + piglets		X 0%	X 0.33	=
1 weaner place (7-13 kg)		X 0%	X 0.03	=
1 weaner place (13-31 kg)		X 0%	X 0.05	=
1 grower place (31- 66 kg)		X 50%	X 0.14	=
1 finisher place dry feed (66+ kg)		X 50%	X 0.13	=
1 finisher place wet feed (66+ kg)		X 0%	X 0.26	=
1 maiden gilt place		X 50%	X 0.13	=
1 Breeding boar (150+ kg)		X 50%	X 0.26	=
1 boar place (66-150 kg)		X 50%	X 0.15	=
1,000 laying hens in cages		X 100%	X 4.00	=
1,000 free range laying hens		X 100%	X 3.22	=
1,000 layer pullets < 17 wks.		X 100%	X 2.40	=
1,000 broiler breeders > 25 wks.		X 100%	X 7.20	=
1,000 broiler breeders < 25 wks.		X 100%	X 2.40	=
1,000 Broiler places		X 100%	X 3.60	=
1,000 male turkey places		X 100%	X 9.60	=
1,000 female turkey places		X 100%	X 7.20	=
1,000 fattening duck places		X 100%	X 24.00	=
1 ewe + lambs to 6 mths.		X 100%	X 0.12	=
1 fattening lamb (6-9 months age)		X 100%	X 0.05	=
1 fattening lamb (9+ months age)		X 100%	X 0.05	=
1 goat		X 100%	X 0.10	=
1 deer hind for breeding		X 100%	X 0.15	=
1 deer (other)		X 100%	X 0.11	=
1 horse		X 100%	X 0.74	=
Total Volume Manure (FYM) produced / month (m³) : 362				

Note poultry manures quoted in tonnes and must be divided by 0.9 laying hens and 0.5 other poultry to get volume to store

Step 6 - Calculate Stackable FYM production for whole winter

Carried forward ...

Stock unit (from previous sheet)	Number of stock units	Period stock are housed for in days						Total Days	Volume produced over winter (m ³)
		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.		
1 dairy cow (> 9,000 lt.)		-	-	-	-	-			
1 dairy cow (6,000 - 9,000 lt.)		-	-	-	-	-			
1 dairy cow (< 6,000 lt.)	400.0	-	20	31	31	28		110	273
1 suckler cow (500+ kg)		-	-	-	-	-			
1 Breeding stock bull (> 25 mths.)	4.0	-	30	31	31	28		120	12
1 follower 13 mths. to 1st calf	100.0	-	15	31	31	28		105	413
1 follower 3-13 mths	100.0	-	15	31	31	28		105	207
1 calf (up to 3 mths)	100.0	-	-	-	-	28		28	19
1 bull (breeding or beef) 3-25 mths	4.0	-	-	31	31	28		90	9
1 Heifer or steer > 25 mths		-	-	-	-	-			
1 Heifer or steer 13-25 mths	50.0	-	-	-	-	-			
1 Heifer or steer 3-13 mths	50.0	-	-	-	-	-			
1 calf (up to 3 mths)	50.0	-	-	-	-	28		28	10
1 breeding sow place + piglets		-	-	-	-	-			
1 weaner place (7-13 kg)		-	-	-	-	-			
1 weaner place (13-31 kg)		-	-	-	-	-			
1 grower place (31- 66 kg)		-	-	-	-	-			
1 finisher place dry feed (66+ kg)		-	-	-	-	-			
1 finisher place wet feed (66+ kg)		-	-	-	-	-			
1 maiden gilt place		-	-	-	-	-			
1 Breeding boar (150+ kg)		-	-	-	-	-			
1 boar place (66-150 kg)		-	-	-	-	-			
1,000 laying hens in cages		-	-	-	-	-			
1,000 free range laying hens		-	-	-	-	-			
1,000 layer pullets < 17 wks.		-	-	-	-	-			
1,000 broiler breeders > 25 wks.		-	-	-	-	-			
1,000 broiler breeders < 25 wks.		-	-	-	-	-			
1,000 Broiler places		-	-	-	-	-			
1,000 male turkey places		-	-	-	-	-			
1,000 female turkey places		-	-	-	-	-			
1,000 fattening duck places		-	-	-	-	-			
1 ewe + lambs to 6 mths.		-	-	-	-	-			
1 fattening lamb (6-9 months age)		-	-	-	-	-			
1 fattening lamb (9+ months age)		-	-	-	-	-			
1 goat		-	-	-	-	-			
1 deer hind for breeding		-	-	-	-	-			
1 deer (other)		-	-	-	-	-			
1 horse		-	-	-	-	-			

Note pigs and poultry store for 6 months not 5

Total Manure (FYM) produced for winter storage (m³) : A 943

Typical maximum annual livestock manure & sewage sludge application rates.

Maximum annual application rates to supply 250 kg / ha total nitrogen (200 units / acre)

<i>Manure or sludge type</i>	<i>Metric</i>	<i>Imperial</i>	<i>Total N</i> <i>kg/m³ or kg/tonne</i>
Cattle farmyard manure	42 tonnes / ha	17 tons / acre	6
Pig farmyard manure	36 tonnes / ha	14.5 tons / acre	7
Sheep farmyard manure	42 tonnes / ha	17 tons / acre	6
Duck manure	38 tonnes / ha	15 tons / acre	6.5
Poultry layer manure	16 tonnes / ha	6.5 tons / acre	16
Poultry broiler litter	8 tonnes / ha	3.2 tons / acre	30
Turkey litter	8 tonnes / ha	3.2 tons / acre	30
Dairy cattle slurry -- 2% DM	167 m ³ / ha	14,900 gallons / acre	1.5
Dairy cattle slurry -- 6% DM	83 m ³ / ha	7,400 gallons / acre	3
dairy cattle slurry -- 10% DM	63 m ³ / ha	5,600 gallons / acre	4
Beef cattle slurry -- 2% DM	250 m ³ / ha	22,300 gallons / acre	1
Beef cattle slurry -- 6% DM	109 m ³ / ha	9,700 gallons / acre	2.3
Beef cattle slurry -- 10% DM	71 m ³ / ha	6,400 gallons / acre	3.5
Pig slurry -- 2% DM	83 m ³ / ha	7,400 gallons / acre	3
Pig slurry -- 4% DM	63 m ³ / ha	5,600 gallons / acre	4
Pig slurry -- 6% DM	50 m ³ / ha	4,500 gallons / acre	5
Seperated pig slurry liquids	70 m ³ / ha	6,300 gallons / acre	3.6
Seperated pig slurry solids	50 m ³ / ha	4,500 gallons / acre	5
Dirty water < 1% DM	833 m ³ / ha	74,400 gallons / acre	0.3
Strainer box cattle slurry	167 m ³ / ha	14,900 gallons / acre	1.5
Weeping-wall cattle slurry	125 m ³ / ha	11,200 gallons / acre	2
Mechanically seperated slurry	83 m ³ / ha	7,400 gallons / acre	3
Seperated slurry solids fraction	63 m ³ / ha	5,600 gallons / acre	4
Sewage sludge : digested liquid	125 m ³ / ha	11,200 gallons / acre	2
Sewage sludge : digested cake	33 tonnes / ha	13 tons / acre	7.5
Sewage sludge : thermally dried	7 tonnes / ha	3 tons / acre	35
Sewage sludge : lime stabilised	42 tonnes / ha	17 tons / acre	6