



Slurry Wizard ~ Slurry Data Entry

Stores, yard and roof rainfall, parlour washings and wash water entry

Baseline farm data

Farm name / reference	Woodhouse Gate Farm
Total farmable area (hectares)	161 Ha
Slurry store 10 figure grid reference (e.g. SE3548629596)	SD7131553723
Cattle in herd/ pig herd size (includes calves, heifers, bulls, sows, finishers etc)	240 animals
Cows in milk	220
Milk yield/cow	8500 litres
Depreciation buildings (%)	5 %
Interest rate (%)	6.75 %
Water cost (£m3)	1.8 £m3
Slurry spreading cost (£/cubic metre)	3.0 £m3
Water storage cost (£/cubic metre)	85.0 £m3
Divert water cost (£/square metre)	5.0 £m2
Roofing cost (£/square metre)	120.0 £m2
Slurry store cost (£/cubic metre)	75.0 £m3

Slurry storage capacity for earth bank stores

	Total Depth Do NOT deduct freeboard from the total depth	Slurry store bank slope*	Top length	Bottom length	Top width	Bottom width	Total volume	750mm freeboard	Working volume	Surface area	Tick if Covered Store	Surface area to store (m2)
	(m)	Please select	(m)	(m)	(m)	(m)	(m3)	(m3)	(m3)	(m2)		
Store 1	5	Bank slope of 1:1 (45 degrees)	50	40	15	5	2292	527	1765	750	☐	
Store 2		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 3		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 4		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 5		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 6		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 7		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 8		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 9		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Store 10		Bank slope of 1:0.5 (63 degrees)		0		0	0	0	0	0	☐	0
Totals							2292	527	1765	750		0
Total area							750					

*Slope factor: click on cell for options

Earth bank lagoons must have 750mm of freeboard to protect banks

Slurry storage capacity for rectangular & circular tower stores

	Length (m)	Width (m)	Circumference of circular store (m)	Diameter of circular store (m)	Depth (m) (less 0.3m freeboard)	Capacity (m3)	Surface area (m2)	Surface area to store (m2)	Tick if Covered Store
Slurry channel	40	2			1.7	136	80		☒
Store 2					0	0	0	☐	
Store 3					0	0	0	☐	
Store 4					0	0	0	☐	
Store 5					0	0	0	☐	
Store 6					0	0	0	☐	
Store 7					0	0	0	☐	
Store 8					0	0	0	☐	
Store 9					0	0	0	☐	
Store 10					0	0	0	☐	
Store 11 - circular			54.8	17.4	4	956	239	239	☐
Store 12 - circular				0.0		0	0	0	☐
Store 13 - circular				0.0		0	0	0	☐
Store 14 - circular				0.0		0	0	0	☐
Store 15 - circular				0.0		0	0	0	☐
Total existing capacity						1092	319	239	

Freeboard : reduce the depth to allow for freeboard (0.3 metres for a steel or concrete store)

Slurry storage capacity for slurry bags

	Volume (m3)
Store 1	
Store 2	
Store 3	
Store 4	
Store 5	

Store 6	
Store 7	
Store 8	
Store 9	
Store 10	
Total bag volume	0

Slurry separator

Do you operate a separator for the slurry entering the store(s)	No
% reduction in slurry	

Adjust the % to reflect the average reduction in slurry volume (refer to manufacturers guidance)

Parlour washings to slurry store

Parlour washings to slurry store	Yes
Parlour washing litres per cow per day (l/hd/d)	15

Note: Suggested 5 to 15 l/hd/d robotic milkers (check with manufacturer). 20 l/hd/d low pressure system. 30 l/hd/d high pressure system.

Pig wash water to slurry store

Pig wash water to slurry store		Please select from drop-down list
Do you want to use preset NVZ wash water values?		Please select from drop-down list

Pigs	NVZ Preset Values Wash water l/place/day	User Entry Values Wash water l/place/day	User Entry Values Wash water total l/day
1 sow place inc. litters - Litter up to 7kg - With syn amino acid	1.43		
1 sow place inc. litters - Litter up to 7kg - No syn amino acid	1.43		
Dry sow - Above 150kg	0.08		
Weaner place - 7 to 13kg	0.28		
Weaner place - 13 to 31kg	0.37		
Grower place - 31 to 66kg - Dry fed	0.27		
Grower place - 31 to 66kg - Liquid fed	0.27		
Finisher place - Over 66kg - Dry fed	0.23		
Finisher place - Over 66kg - Liquid fed	0.23		
Maiden gilt place - Over 66kg	0.08		
Boar - 66kg to 150kg	0.08		
Boar - Over 150kg	0.08		

Uncovered areas of dirty yards, silage silos and earth bank surrounds to slurry store

	Length (m)	Width (m)	Area (m2)	Note: For each yard please either enter yard dimensions and the tool will calculate the yard area, or if yard area known please enter the yard area in m2.
Silage clamp	22.5	16	360	
Yard 2			0	
Yard 3			0	
Yard 4			0	
Yard 5			0	
Yard 6			0	
Yard 7			0	
Yard 8			0	
Yard 9			0	
Yard 10			0	
Yard 11			0	
Yard 12			0	
Yard 13			0	
Yard 14			0	
Yard 15			0	
Yard 16			0	
Yard 17			0	
Yard 18			0	
Yard 19			0	
Yard 20			0	
Total yard area			360	

Roof water area to slurry store

	Length (m)	Width (m)	Area (m2)
Roof 1			0
Roof 2			0
Roof 3			0
Roof 4			0
Roof 5			0
Roof 6			0
Roof 7			0

Roof 8			0
Roof 9			0
Roof 10			0
Roof 11			0
Roof 12			0
Roof 13			0
Roof 14			0
Roof 15			0
Total roof area			0



Slurry Wizard ~ Livestock Data Entry

Livestock	Age	Liveweight/milk yield (litres)	Number of livestock	% collected as slurry	Annual N output kg/year	Daily excreta (l/day)	Total collected as slurry (l/day)	Total N (kg/year)
Cattle								
Dairy Cow	After first calf	High (> 9000)	175	100%	115.0	64.00	0	0
Dairy Cow	After first calf	Medium (6000-9000)		100%	101.0	53.00	9275	17675
Dairy Cow	After first calf	Low (< 6000)		100%	77.0	42.00	0	0
Dairy heifer replacement	From 12 months to calving	-		100%	61.0	40.00	0	0
Dairy heifer replacement	2 to 12 months	-		100%	29.0	20.00	0	0
Beef Suckler	Over 24 months	Large (> 500)		100%	83.0	45.00	0	0
Beef Suckler	Over 24 months	Small (< 500)		100%	61.0	32.00	0	0
Grower	Over 24 months	-		100%	50.0	32.00	0	0
Grower	12 to 24 months	-		100%	50.0	26.00	0	0
Grower	2 to 12 months	-		100%	28.0	20.00	0	0
Bulls Beef	Over 2 months	-		100%	54.0	26.00	0	0
Bulls for breeding	Over 24 months	-		100%	48.0	26.00	0	0
Bulls for breeding	2 to 24 months	-		100%	50.0	26.00	0	0
Calf	Under 2 months	-		100%	1.4	7.00	0	0
Total number of cattle			175			Totals for cattle	9275	17675
Pigs								
1 sow place inc. litters	Litter up to 7kg	With syn amino acid		100%	16.0	11.00	0	0
1 sow place inc. litters	Litter up to 7kg	No syn amino acid		100%	18.0	11.00	0	0
Dry sow	Above 150kg	-		100%	17.5	8.67	0	0
Weaner place	7 to 13kg	-		100%	1.0	1.00	0	0
Weaner place	13 to 31kg	-		100%	4.2	1.67	0	0
Grower place	31 to 66kg	Dry fed		100%	7.7	3.33	0	0
Grower place	31 to 66kg	Liquid fed		100%	7.7	6.00	0	0
Finisher place	Over 66kg	Dry fed		100%	10.6	4.33	0	0
Finisher place	Over 66kg	Liquid fed		100%	10.6	8.67	0	0
Maiden gilt place	Over 66kg	-		100%	11.1	4.33	0	0
Boar	66kg to 150kg	-		100%	12.0	5.00	0	0
Boar	Over 150kg	-		100%	17.5	8.67	0	0
Total number of pigs			0			Totals for pigs	0	0
Sheep								
Ewe	Lamb under 6 months	<60kg		100%	7.60	3.33	0	0
Ewe	Lamb under 6 months	>60kg		100%	11.90	5.00	0	0
Lamb	6 to 9 months	-		100%	0.50	1.67	0	0
Lamb	Over 9 months	-		100%	0.70	1.67	0	0
Goats								
Goat	-	-		100%	15.00	3.67	0	0
Deer								
Breeding hinds	-	-		100%	15.20	5.00	0	0
Other deer	-	-		100%	12.00	3.67	0	0
Horses								
Horse	-	-		100%	21.00	24.67	0	0
Layers								
Replacement layer pullets	Under 17 weeks	-		100%	0.21	0.04	0	0
Laying hens - cages	Over 17 weeks	-		100%	0.40	0.12	0	0
Laying hens - free range	Over 17 weeks	-		100%	0.46	0.10	0	0
Broilers								
Broiler places	-	-		100%	0.33	0.05	0	0
Broiler breeder pullets	Under 25 weeks	-		100%	0.29	0.04	0	0
Broiler breeders	Over 25 weeks	-		100%	0.70	0.11	0	0
Turkeys								
Male	-	-		100%	1.23	0.14	0	0
Female	-	-		100%	0.91	0.11	0	0
Other								
Ducks	-	-		100%	0.75	0.08	0	0
Ostriches	-	-		100%	1.40	0.00	0	0
Totals for all animal types							9275	17675



Slurry Wizard ~ Slurry Report

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Farm Nitrogen Loading

110 Kg Nitrogen per Ha

NB This is the nitrogen loading BEFORE the import or export of manure

Action points	
Number of months of storage	6
Maximum likely 2 day rainfall	225
Recommended reception pit size (m3)	97
Farming Rules for Water recommendations	You comply with the guidance for minimum storage of 6 months
Roof water collection recommendations	
Slurry store cover recommendations	

		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
Days		30	31	30	31	31	28	31	30	31	30	31	31	365 days
Total cattle excreta as slurry (m3)		278	288	278	288	288	260	288	278	288	278	288	288	3385 m3
% Cattle excreta to slurry store (100% for housed dairy, 20 to 50% if housed overnight, 10% for grazed dairy)		50	100	100	100	100	100	100						
Total pig excreta as slurry (m3)		-	-	-	-	-	-	-	-	-	-	-	-	
% Pig excreta to slurry store		100	100	100	100	100	100	100	100	100	100	100	100	
Total other livestock excreta as slurry (m3)		-	-	-	-	-	-	-	-	-	-	-	-	
% Other excreta to slurry store		100	100	100	100	100	100	100	100	100	100	100	100	
Excreta to slurry store (m3)		139	288	278	288	288	260	288	-	-	-	-	-	1,827 m3
Slurry separated (m3)	No	-	-	-	-	-	-	-	-	-	-	-	-	- m3
Parlour washings (m3)	Yes	99	102	99	102	102	92	102	99	102	99	102	102	1,205 m3
Pig wash water (m3)	0.0	-	-	-	-	-	-	-	-	-	-	-	-	- m3

		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
Grid reference average rainfall (mm)		118	173	149	196	184	125	141	82	78	75	71	102	1,494 mm
Own average rainfall (mm)														mm
Adjusted likely rainfall, (mm)		136	199	171	225	211	143	163	95	90	86	82	117	1,718 mm

		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
Storage required		Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	
Yard run off area to slurry store (m3)	360 m2	49	72	61	81	76	52	59	34	32	31	30	42	619 m3
Slurry store rainfall to store (m3)	239 m2	32	47	41	54	50	34	39	23	22	21	20	28	411 m3
Roof water area to store (m3)	0 m2	-	-	-	-	-	-	-	-	-	-	-	-	- m3
Total cubic metres (m3)		320	509	480	525	516	438	487	-	-	-	-	-	3,274 m3
Cumulative production (m3)		320	828	1,308	1,833	2,349	2,787	3,274	3,274	3,274	3,274	3,274	3,274	3,274 m3
Total storage capacity (m3)	2857	2,857	2,857	2,857	2,857	2,857	2,857	2,857	2,857	2,857	2,857	2,857	2,857	2,857 m3
Capacity less production (m3)		2,538	2,029	1,549	1,025	508	70	-417	-417	-417	-417	-417	-417	-417 m3

0

Cost/Benefits	Net Benefit £/year
Divert roof water	0.0
Divert roof water & harvest	0.0
Roof dirty yard	-209.9
Roof dirty yard & harvest water	-5304.8

The cost/benefit is based on a slurry storage cost of £75/cubic metre