



Slurry Wizard ~ Slurry Data Entry

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

Baseline farm data

Farm name / reference	Plane Tree Farm
Total farmable area (hectares)	57 Ha
Slurry store 10 figure grid reference (e.g. SE3548629596)	SD6781541656
Cattle in herd/ pig herd size (includes calves, heifers, bulls, sows, finishers etc)	120 animals
Cows in milk	105
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)	60	50	25	15	5542	1078	4464	1500	☐	1500
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	5542	1078	4464	1500	1500
							Total area	1500				

*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
Store 1	27.4	9.1			2.7	673	249		☒
Channel	18.2	1.2			0.7	15	22		☒
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				0.0		0	0	0	☐
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						688	271	0	

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)	30

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	Yes
Do you want to use preset NVZ wash water values?	No – Use own daily total value

Please select from drop-down list

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	0.2	
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)
Silage clamps	77	20.5	1579
Dirty yard area			170
Yard 3			-
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			1749

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.

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)	120	100%	115.0	64.00	0	0
Dairy Cow	After first calf	Medium (6000-9000)		100%	101.0	53.00	6360	12120
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			120		Totals for cattle		6360	12120
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	550	50%	10.6	4.33	1191	5830
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			550		Totals for pigs		1191	5830
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		7551	17950



Slurry Wizard ~ Slurry Report

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Farm Nitrogen Loading

315 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	208
Recommended reception pit size (m3)	384
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)		191	197	191	197	197	178	197	191	197	191	197	197	2321 m3
% Cattle excreta to slurry store (100% for housed dairy, 20 to 50% if housed overnight, 10% for grazed dairy)		100	100	100	100	100	100	100	100	100	100	100	100	
Total pig excreta as slurry (m3)		36	37	36	37	37	33	37	36	37	36	37	37	
% Pig excreta to slurry store		50	50	50	50	50	50	50	50	50	50	50	50	
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)		209	216	209	216	216	195	216	209	216	209	216	216	2,539 m3
Slurry separated (m3)	No	-	-	-	-	-	-	-	-	-	-	-	-	- m3
Parlour washings (m3)	Yes	95	98	95	98	98	88	98	95	98	95	98	98	1,150 m3
Pig wash water (m3)	Yes	-	-	-	-	-	-	-	-	-	-	-	-	- m3

		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
Grid reference average rainfall (mm)		122	167	147	181	160	107	130	80	82	90	82	109	1,459 mm
Own average rainfall (mm)														mm
Adjusted likely rainfall, (mm)		141	193	169	208	184	123	149	92	95	103	94	126	1,677 mm

		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
Storage required		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	
Yard run off area to slurry store (m3)	1749 m2	246	337	296	364	322	215	260	162	166	181	165	220	2,933 m3
Slurry store rainfall to store (m3)	1500 m2	211	289	254	312	277	185	223	139	142	155	141	189	2,516 m3
Roof water area to store (m3)	0 m2	-	-	-	-	-	-	-	-	-	-	-	-	- m3
Total cubic metres (m3)		760	939	853	989	912	683	-	-	-	-	-	-	5,136 m3
Cumulative production (m3)		760	1,699	2,552	3,541	4,453	5,136	5,136	5,136	5,136	5,136	5,136	5,136	5,136 m3
Total storage capacity (m3)	5152	5,152	5,152	5,152	5,152	5,152	5,152	5,152	5,152	5,152	5,152	5,152	5,152	5,152 m3
Capacity less production (m3)		4,392	3,453	2,600	1,611	699	16	16	16	16	16	16	16	16 m3

0

Cost/Benefits	Net Benefit £/year
Divert roof water	0.0
Divert roof water & harvest	0.0
Roof dirty yard	-2335.5
Roof dirty yard & harvest water	-26496.6

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