Slurry Wizard

Data entry

Farm name/reference	Carreg y Ffranc
Herd size	260 cows
Milk yield/cow	10000 litres
Depreciation buildings	5 %
Depreciation plant	10 %
Interest rate	4 %
Electricity cost	32.00 p/kW hr
Water cost	1.00 £m3
Labour cost	18 £/hr
Tractor + man cost	40 £/hr

Use the buttons to move around the wizard.
User guide - click on the button to link to the guide, which can be printed once open with a right click.

EXCEL SECURITY
You may need to alter your excel security settings to enable the functions of the Housing Wizard to work.

DairyCo

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Slurry Wizard ~ Data entry

Total farmable area	170.781	hectares
Telephone STD code	01978	will be used to give typical rainfall values
Cows in herd	260	cows
Cows in milk	221	cows
Depreciation buildings	5	%
Depreciation machinery	10	%
Interest rate	4	%
Electricity cost	32	p/kW hour
Water cost	1	£/cubic metre
Slurry spreading cost	3	£/cubic metre
Water storage cost	0.5	£/cubic metre
Divert water cost	5	£/square metre
Roofing cost	80	£/square metre
Slurry storage cost	40	£/cubic metre

Slurry storage capacity for earth bank stores

Do NOT deduct freeboard from the total depth	Total Depth metres	*Slope factor (see below)	Top length metres	Bottom length metres	Top width metres	Bottom width metres	Total volume (m3)	750mm volume (m3)	Working volume (m3)
Store 1				0		0	0	0	0
Store 2				0		0	0	0	0
Store 3				0		0	0	0	0
Store 4				0		0	0	0	0
Store 5				0		0	0	0	0
Store 6				0		0	0	0	0
						Totals	**0**	**0**	**0**
						Total area	**0**		

0

***Slope factor : 2 = bank slope 1:1, 3 = 1:1.5, 4 = 1 to 2, 5 = 1:2.5**

Slurry storage capacity for rectangular & circular stores

	Length m	Width m	Circumference of circular store m	Depth m (less freeboard)	Capacity m3	Area m2	Tick if Covered Store
Carreg- existing concrete store	40	22.5		2.1	1890	900	☐
Marys				1	0	0	☐
Store 3					0	0	☐
Store 4					0	0	☐
store 5 - Digester - circular			50.24	2.1	422		☑
store 6 - NEW - circular			82.5	5.76	3122	542	☐
Total existing capacity					**5434**	**1442**	

15.54 radius

Freeboard : reduce the depth to allow for freeboard (0.3 metres for a steel or concrete store and 0.75 metres for a lagoon)

Slurry separator

Do you operate a separator	**Yes**	For the slurry entering the store(s)
% reduction in slurry	**25**	Adjust the % to reflect the average reduction in slurry volume

Parlour washings to slurry store

Parlour washings to slurry store	Yes	to go into the old store
Litres/cow/day (e.g. 20 to 30)	25	

Uncovered dirty yard area to slurry store

	Length m	Width m	Area m2
Carreg - yard between sheds	92.4	12.12	1120
New loafing yard	45	12.12	545
New silage pit 1	25.5	12	306
New silage pit 2	38.7	12	464
Yard 5			0
Yard 6			0
Yard 7			0
Yard 8			0
Yard 9			0
Yard 10			0
Yard 11			0
Yard 12			0
Total yard area			**2436**

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
Total roof area			**0**

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Slurry Report

Cubic metres		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Days		31	30	31	31	28	31	30	31	30	31	31	30	365
Total excreta as slurry		420	406	420	420	393	420	406	420	406	420	420	406	4958
% excreta to slurry store		100	100	100	100	100	100	20	20	20	20	20	20	
Excreta to slurry store		420	406	420	420	393	420	81	84	81	84	84	81	2975
Slurry separated	Yes / 25%	277	284	299	286	240	230	131	137	125	123	139	147	2419
Parlour washings	Yes	171	166	171	171	155	171	166	171	166	171	171	166	2017
Typical rainfall (metres)	1.051	0.102	0.113	0.122	0.110	0.080	0.085	0.071	0.076	0.065	0.061	0.078	0.088	1.051
Winter rainfall adjusted to M5		0.133	0.146	0.156	0.142	0.107								
Own value rainfall (metres)														0.000
Yard run off area to slurry store	2436	323	355	381	346	260	207	173	185	158	149	190	214	2942
Slurry store area	1442	191	210	226	205	154	123	102	110	94	88	112	127	1742
Roof water area to store	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total cubic metres		**830**	**853**	**898**	**857**	**721**	**691**	**392**	**412**	**374**	**369**	**418**	**441**	**7257**
Cumulative production		**830**	**1683**	**2581**	**3438**	**4159**	**4850**	**5241**	**5654**	**6028**	**6397**	**6815**	**7257**	
Total storage capacity	5434	5434	5434	5434	5434	5434	5434	5434	5434	5434	5434	5434	5434	
Capacity less production		4604	3751	2853	1996	1275	584	193	-220	-594	-963	-1381	-1823	

Cost/Benefits	Net Benefit £/year
Divert roof water	**0**
Divert roof water & harvest	**0**
Roof dirty yard	**-2,713**
Roof dirty yard & harvest water	**97**

Action points

The cost/benefit is based on a slurry storage cost of £40/cubic metre

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