



Slurry Wizard ~ Slurry Data Entry

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

Baseline farm data

| | |
|--|---------------------------------|
| Farm name / reference | Garstons Farm Sparshott College |
| Total farmable area (hectares) | |
| Slurry store 10 figure grid reference (e.g. SE3548629596) | |
| Cattle in herd/ pig herd size (includes calves, heifers, bulls, sows, finishers etc) | 160 animals |
| Cows in milk | 120 |
| Milk yield/cow | 10000 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) | <input type="checkbox"/> | 0 |
| Store 1 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 2 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 3 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 4 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 5 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 6 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 7 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 8 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 9 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| Store 10 | | Bank slope of 1:1 (45 degrees) | | 0 | | 0 | 0 | 0 | 0 | 0 | <input type="checkbox"/> | 0 |
| | | | | | | | Totals | 0 | 0 | 0 | | 0 |
| | | | | | | | Total area | 0 | | | | |

*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 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 2 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 3 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 4 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 5 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 6 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 7 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 8 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 9 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 10 | | | | | | 0 | 0 | 0 | <input type="checkbox"/> |
| Existing tower - circular | | | 39 | 12.4 | 4 | 484 | 121 | 121 | <input type="checkbox"/> |
| Store 12 - circular | | | | 0.0 | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 13 - circular | | | | 0.0 | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 14 - circular | | | | 0.0 | | 0 | 0 | 0 | <input type="checkbox"/> |
| Store 15 - circular | | | | 0.0 | | 0 | 0 | 0 | <input type="checkbox"/> |
| Total existing capacity | | | | | | 484 | 121 | 121 | |

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) | |
| % 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 | |
| Parlour washing litres per cow per day (l/hd/d) | |

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 | |
| Do you want to use preset NVZ wash water values? | |

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 | | |
| 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) |
|----------------------------------|------------|-----------|-------------|
| Loafing Yard | 42 | 9 | 378 |
| Area between clamps and building | 60 | 10 | 600 |
| Silage clamps | 24 | 18 | 432 |
| Apron on new beef building | 40 | 9 | 360 |
| New dung midden | 30 | 20 | 600 |
| 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 | | | 2370 |

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) | 160 | 100% | 115.0 | 64.00 | 10240 | 18400 |
| Dairy Cow | After first calf | Medium (6000-9000) | | 100% | 101.0 | 53.00 | 0 | 0 |
| Dairy Cow | After first calf | Low (< 6000) | | 100% | 77.0 | 42.00 | 0 | 0 |
| Dairy heifer replacement | From 12 months to calving | - | 40 | 35% | 61.0 | 40.00 | 560 | 2440 |
| Dairy heifer replacement | 2 to 12 months | - | 40 | 25% | 29.0 | 20.00 | 200 | 1160 |
| 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 | - | 30 | 35% | 50.0 | 32.00 | 336 | 1500 |
| Grower | 12 to 24 months | - | 30 | 35% | 50.0 | 26.00 | 273 | 1500 |
| 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 | - | 15 | 0% | 1.4 | 7.00 | 0 | 21 |
| Total number of cattle | | | 315 | | | Totals for cattle | 11609 | 25021 |
| 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 | | | | | | | 11609 | 25021 |



Slurry Wizard ~ Slurry Report

Export worksheets to PDF

Farm Nitrogen Loading

Kg Nitrogen per Ha

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

| Action points | |
|---|---|
| Number of months of storage | 0 |
| Maximum likely 2 day rainfall | #N/A |
| Recommended reception pit size (m3) | #N/A |
| Farming Rules for Water recommendations | You do not have at least 6 months storage. Consider whether you can comply with FRW requirements and increase storage capacity if not |
| Roof water collection recommendations | |
| Slurry store cover recommendations | Consider covering slurry storage with an impermeable cover |

| | 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) | 348 | 360 | 348 | 360 | 360 | 325 | 360 | 348 | 360 | 348 | 360 | 360 | 4237 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) | - | - | - | - | - | - | - | - | - | - | - | - | |
| % 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) | 348 | 360 | 348 | 360 | 360 | 325 | 360 | 348 | 360 | 348 | 360 | 360 | 4,237 m3 |
| Slurry separated (m3) | / % | - | - | - | - | - | - | - | - | - | - | - | - m3 |
| Parlour washings (m3) | 0.0 | - | - | - | - | - | - | - | - | - | - | - | - 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) | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A mm |
| Own average rainfall (mm) | 55 | 84 | 86 | 83 | 73 | 63 | 49 | 58 | 24 | 45 | 52 | 42 | 714 mm |
| Adjusted likely rainfall, (mm) | 69 | 105 | 108 | 104 | 91 | 79 | 61 | 73 | 30 | 56 | 65 | 53 | 893 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) | 2370 m2 | 163 | 249 | 255 | 246 | 216 | 187 | 145 | 172 | 71 | 133 | 154 | 124 | 2,115 m3 |
| Slurry store rainfall to store (m3) | 121 m2 | 8 | 13 | 13 | 13 | 11 | 10 | 7 | 9 | 4 | 7 | 8 | 6 | 108 m3 |
| Roof water area to store (m3) | 0 m2 | - | - | - | - | - | - | - | - | - | - | - | - | - m3 |
| Total cubic metres (m3) | | 520 | 621 | 616 | 618 | 587 | 521 | 512 | - | - | - | - | - | 3,996 m3 |
| Cumulative production (m3) | | 520 | 1,141 | 1,757 | 2,375 | 2,963 | 3,484 | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 | 3,996 m3 |
| Total storage capacity (m3) | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 m3 |
| Capacity less production (m3) | | -36 | -657 | -1,273 | -1,891 | -2,479 | -3,000 | -3,512 | -3,512 | -3,512 | -3,512 | -3,512 | -3,512 | -3,512 m3 |

0

| Cost/Benefits | Net Benefit £/year |
|---------------------------------|--------------------|
| Divert roof water | 0.0 |
| Divert roof water & harvest | 0.0 |
| Roof dirty yard | -16915.7 |
| Roof dirty yard & harvest water | -34339.9 |

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