

Dairy Effluent Storage Calculator

Summary Report

Regional authority: Environment Southland Regional Council
Authorised agent: Dairy Green Ltd
Client: WW1
Program version: 1.50
Report date: Tuesday, 17 January 2017

General description:

WW1
 700 milked at peak
 640 in barn for contingency storage - actual max for barn is 625
 Milk until 15 June
 Yard diversion 16 June to 31 July
 Pond capacity = 4,241 m³
 Conservative estimate of 50 ha of low risk soils used.
 Includes barn use in April

Note there is a covered wintering shed on farm which has a small uncovered catchment of 170 sq m. The details are included under feedpad.

Climate

Rainfall site: Drummond Marson Rd
Mean annual rainfall: 1061 mm/year

Effluent Block

Area of low risk soil: 50.0 hectares
Minimum area of high risk soil: 150.0 hectares
Surplus area of high risk soil: 0.0 hectares

Wash Water

Yard wash:

- Milking season starts: 01 August
 - Milking season ends: 15 June

Month	Number of Cows	Hours in Yard	Wash Volume (cubic metres)
January	670	3.5	34.0
February	660	3.5	33.0
March	640	3.5	32.0
April	580	3.0	27.0
May	500	3.0	25.0
June	180	0.0	9.0
July	0	0.0	0.0
August	300	3.0	15.0
September	500	3.5	25.0
October	680	4.0	34.0
November	700	4.0	35.0
December	700	3.5	35.0

Feedpad wash:

Month	Number of Cows	Hours on Pad	Wash Volume (cubic metres)
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January	0	0.0	0.0
February	0	0.0	0.0
March	0	0.0	0.0
April	150	2.0	0.0
May	640	12.0	0.0
June	640	24.0	0.0
July	640	24.0	0.0
August	370	23.0	0.0
September	75	23.0	0.0
October	0	0.0	0.0
November	0	0.0	0.0
December	0	0.0	0.0

Irrigation

Winter-spring depth:	2 mm
Spring-autumn depth:	4 mm
Winter-spring volume:	80 cubic metres
Spring-autumn volume:	160 cubic metres
Irrigate all year?	Yes

Catchments

Yard Area:	553 square metres
Diverted?	Yes
- diversion start:	16 June
- diversion end:	31 July
Shed Roof Area:	175 square metres
Diverted?	Yes
Feedpad Area:	170 square metres
Covered?	No
Diverted?	No
Animal Shelter Area:	0 square metres
Covered?	Yes
Diverted?	No
Other Areas:	0 square metres

Storage

Pond/s present?	Yes
No. of ponds:	1 pond/s
Includes irregular ponds?	No
Pond 1	
- total volume:	5323 cubic metres
- pumpable volume:	4241 cubic metres
- surface area:	2282 square metres
- width:	46.1 metres
- length:	49.5 metres
- batter:	2.5:1
- total height:	3.4 metres
- pumped?	Yes
Tank/s present?	No

Emergency storage period: 0 days

Solids Separation

Solids separator/s present? No

Outputs

Maximum required storage pond volume: 3715 cubic metres

90 % probability storage pond volume: 3261 cubic metres

During the period from: 01 July 1980

To: 30 June 2013

