

Dairy Effluent Storage Calculator

Summary Report

Regional authority: Environment Southland Regional Council
Authorised agent: Dairy Green Ltd
Client: WW2
Program version: 1.50
Report date: Tuesday, 26 February 2019

General description:

WW2 unit
 800 milked
 640 in barn for contingency storage - actual max for barn is 625
 Split low risk (50 ha) and high risk (150 ha) soils
 Silage pad catchment 800 m2
 Includes barn use in April

Note that there is a small uncovered catchment of 170 sq m at the dairy shed. The details for the shed use are 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	760	3.0	38.0
February	750	3.0	37.5
March	740	3.0	37.0
April	660	3.0	33.0
May	580	3.0	29.0
June	270	1.0	13.5
July	0	0.0	0.0
August	350	2.5	17.5
September	700	3.0	35.0
October	800	3.0	40.0
November	780	3.0	39.0
December	760	3.0	38.0

Feedpad wash:

Month	Number of Cows	Hours on Pad	Wash Volume (cubic metres)
January	0	0.0	0.0
February	0	0.0	0.0

March	0	0.0	0.0
April	176	2.0	0.0
May	640	12.0	0.0
June	640	24.0	0.0
July	640	24.0	0.0
August	375	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:	1126 square metres
Diverted?	Yes
- diversion start:	16 June
- diversion end:	01 August
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:	800 square metres

Storage

Pond/s present?	Yes
No. of ponds:	1 pond/s
Includes irregular ponds?	No
Pond 1	
- total volume:	4463 cubic metres
- pumpable volume:	3715 cubic metres
- surface area:	1516 square metres
- width:	37.9 metres
- length:	40.0 metres
- batter:	0.5:1
- total height:	3.2 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: 4144 cubic metres

90 % probability storage pond volume: 3208 cubic metres

During the period from: 01 July 1980

To: 30 June 2013

