

Dairy Effluent Storage Calculator

Summary Report

Regional authority: Environment Southland Regional Council
Authorised agent: J Scandrett
Client: Woldwide one
Program version: 1.48
Report date: Tuesday, 17 January 2017

General description:

Woldwide One, scenario 2
{Two Scenarios,} 1) 700 milked, 400 wintered inside 2017
and 640 inside 2018
2) 800 cows, new dairy shed,yard scraped, 640 wintered inside,

Note 1) there is a covered wintering shed on the farm and under feedpad I have included the stock details plus allowed for a small uncovered catchment of 180 sq m at the end of the shed.

2) the extended pond has dimensions of 49.5m x 46.1m with 2.5H:1V batters, 3.4m deep

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: 190.0 hectares
Surplus area of high risk soil: 0.0 hectares

Wash Water

Yard wash:

- Milking season starts: 01 August
- Milking season ends: 01 July

Month	Number of Cows	Hours in Yard	Wash Volume (cubic metres)
January	800	4.0	35.0
February	800	4.0	35.0
March	800	4.0	35.0
April	800	4.0	35.0
May	800	4.0	35.0
June	400	2.0	20.0
July	50	1.0	2.5
August	800	4.0	20.0
September	800	4.0	35.0
October	800	4.0	35.0

November	800	4.0	35.0
December	800	4.0	35.0
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	0	0.0	0.0
May	400	6.0	0.0
June	640	24.0	0.0
July	640	24.0	0.0
August	400	2.0	0.0
September	0	0.0	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:	1150 square metres
Diverted?	Yes
- diversion start:	01 July
- diversion end:	01 August
Shed Roof Area:	175 square metres
Diverted?	Yes
Feedpad Area:	180 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: 4567 cubic metres
 90 % probability storage pond volume: 4238 cubic metres
 During the period from: 01 July 1980
 To: 30 June 2013

