

Liquid Waste Storage Volume Calculation Worksheet

Ridge Breeze Dairy

:Permittee Name

of A.U.'s

9010 Dsn by:

MJB

Date:

4/26/2024

Total Annual Liquid Waste Volume (NRCS Table Values)	
Liquids Collected/Stored	Annual Gallons
Manure and Bedding	47,413,043
Parlor Wastewater	13,797,000
Feed Storage Leachate	299,200
Feed Storage Runoff Collected *	9,516,893
Feedlot Runoff*	0
Net Precipitation on Storage Surface(s) **	6,682,763
Stacking Pad Runoff Collected*	0
Offsite Waste	0
Sand Storage Runoff	0
Flush Flume Reserve	0
Other	
Other	
Other	
TOTAL:	77,708,899

Total Liquid Waste Storage Capacity (gallons)						
Waste Storage	Total Vol. from Settled Top to Bottom	-Solids Storage	-25-yr, 24-hr Precip. on Storage	25-yr, 24-hr Collected Runoff ***	-Freeboard Vol.	Max. Operating Level (MOL) Vol.
#1	2,419,676	122,552	132,895	0	283,727	1,880,502
#2	0	0	0	0	0	0
#3	10,931,263	329,868	361,806	0	788,651	9,450,938
#4	44,516,385	1,261,427	1,057,144	0	2,340,328	39,857,486
#5	4,597,239	158,696	1,719,199	1,591,414	428,776	699,154
#6						0
Total MOL Vol:						51,888,080
Days of Storage:						244
Meets Days of Storage Criteria:						YES

Total Annual Liquid Waste from Hauling Logs	#DIV/0!
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1 Total Annual Volume Source (1=NRCS Table Values; 2=Hauling Log Values)

Jan. 2018

NOTE 1: The volumes above can be calculated in the NRCS "Waste Storage Design" spreadsheet downloaded from the Wisconsin NRCS Engineering Resources website below.

NOTE 2: The NRCS "Waste Storage Design" spreadsheet can be used to calculate the days of storage as well, however it is designed to be used with only one waste storage facility. Calculations for net precipitation and collected runoff volumes are month specific and can be more precise than the table above for storage periods much less than 365 days. The storage sizing calculations work only for rectangular and circular storages.

NOTE 3: Formula for days of storage: (Total Storage Capacity/Annual Liquid Waste Generation)*365 = Days of storage

* Collected Runoff Volumes can be calculated in the NRCS "Waste Storage Design" spreadsheet Monthly Runoff Section. Set the Days of Storage to 365.

** Net Precipitation on Storage Surface depth can be calculated in the NRCS "Waste Storage Design" spreadsheet and then multiplied by the storage top area to get the net annual precipitation volume. Set the Days of Storage to 365.

*** 25-yr Collected Runoff Volumes can be calculated in the NRCS "Waste Storage Design" spreadsheet 25-yr Runoff section.

http://www.nrcs.usda.gov/wps/portal/nrcs/detail/wi/technical/engineering/?cid=nrcs142p2_025422

Annual Manure and Process Wastewater Application Volumes			
Year	Gallons Applied	Avg. Yearly AUs	Gallons/AU
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
			#DIV/0!
Average Volume/AU			#DIV/0!
Average Annual Volume for Current AUs			#DIV/0!

Note 1. Enter annual manure and process wastewater applications from the previous 5 years of hauling logs.

Note 2. If 5 years of hauling information is not available, "Table" based volumes from the previous tab should be used.

Note 3. The same annual manure and process wastewater volume which is used for the days storage calculation should also be used for Nutrient Mgmt. planning, whether it is based on the average hauling log values or "Table" values.