

Operation Name: \_\_\_\_\_ Location of Permanent Records: \_\_\_\_\_

Mortality Disposal Method A: \_\_\_\_\_ Mortality Disposal Method B: \_\_\_\_\_

1. NPDES NMP requirements do not include records of animal purchases & sales.
2. Since last report.

## Year

Storage/Lagoon ID: \_\_\_\_\_

Checked by:

Inspected by (initials):

## Inspection Results<sup>1</sup>

[illegible]

### Does sufficient freeboard exist? <sup>3</sup>

Other:

## Maintenance Log

## Due to wave action?

**In vicinity of inlets?**

In vicinity of outlets?

Due to erosion from rainfall?

## Near agitation equipment access points?

## Burrowing animals?

### Presence of trees?

### Presence of large weeds?

### Erosion or aulies?

Poorly established sod?

Damp, soft, or slumping areas on berms?

Seepage near toe of berm?

Seepage around pipes through the berm?

Other:

Other:

Any tare, holes, bubbles in liner?

1. Check in gray box indicates concern that may require additional attention.
2. Measured from liquid surface to lowest point on top of dam, berm, or spillway (nearest one foot interval).
3. Runoff holding pond should maintain sufficient volume for freeboard and volume for runoff from 25-year, 24-hour storm.

# Maintenance Log

## Inspection Results <sup>1</sup>

### Concrete/Steel Tanks

Date:		Inspection Results <sup>1</sup>										Date	Maintenance Performed & Initials
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		

### Dry Storage (Long term or permanent storage)

Is clean water diverted away from stockpile?												
Is the stockpile under roof or cover?												
If no, is runoff from stock pile collected?												
Other:												

### Clean Water Diversion

Are perimeter drains plugged or blocked?												
Is roof water entering storage?												
Is field runoff entering storage?												
Are diversions/waterways maintained?												
Other:												

### Storm Water

Is the storm water drainage to storage functioning properly?												
Other:												

### Pumping and Transfer Equipment

Security: Are gravity drains or pump power supplies locked/secure from tampering?												
Are transfer pipes/pumps functioning properly?												
Recycle pumps/transfer pumps functioning?												
Are backflow/well protection valves in place and functioning properly?												
Other:												

1. Check in gray box indicates concern that may require additional attention.

# Monthly Storage Volume and Level Record

Month : \_\_\_\_\_ Structure / Basin ID: \_\_\_\_\_ Maintained By: \_\_\_\_\_

Day	Precepitation Inches	Land Application or Discharge to Waterers of the State						Pond Liquid Level - Ft.		
		Time - Pumping Events		Level - Pumping Events		Pump Flow Rate (gpm)	Field Used for Application		Total Gallons Pumped	Check if Discharge
		Start	Stop	Start	Stop					
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
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27										
28										
29										
30										
31										

Liquid level is measured from: \_\_\_\_\_ Low point at top of berm, dam, or spillway; \_\_\_\_\_ Bottom of storage;

[illegible][illegible]

**Calibration Log**

Date: \_\_\_\_\_

Calibration Completed by: \_\_\_\_\_

Calibration Log		Date: _____		
Tractor Gear/RPM	Spreader Setting	Area Method	Calculations	Calculated Application Rate (tons/acre)
		Net Manure Weight on Spreader: _____ Tons Width of Spread Pattern: _____ ft Travel Distance to Empty Spread: _____ ft		
		Net Manure Weight on Spreader: _____ Tons Width of Spread Pattern: _____ ft Travel Distance to Empty Spread: _____ ft		
		Net Manure Weight on Spreader: _____ Tons Width of Spread Pattern: _____ ft Travel Distance to Empty Spread: _____ ft		

## Inspection and Maintenance Log

[illegible]

Record will be stored permanently at \_\_\_\_\_

# Slurry/Liquid Manure Applicator Calibration

From chart below, select

- Spread Capacity: \_\_\_\_\_ lbs. or gallons
- Distance traveled (length) to empty spreader: \_\_\_\_\_ feet
- Spread pattern width or distance between individual passes: \_\_\_\_\_ feet
- Intersection indicates application rate: \_\_\_\_\_

If appropriate values cannot be found in table below:

Rate per acre = Spread Capacity X 43,560 / (Spread Pattern Width X Travel Length to Empty).

Example (circled numbers):

3000 gallon tank spreader that makes a pass every 4 - 30" corn rows (10 feet) and empties spread in 1200 feet is applying 11,000 gallons per Acre.

Spread Width	2000 Gallon Tank						2500 Gallon Tank						3000 Gallon Tank						3500 Gallon Tank						4000 Gallon Tank																							
	10'		15'		20'		25'		30'		35'		10'		15'		20'		25'		30'		35'		10'		15'		20'		25'		30'		35'		10'		15'		20'		25'		30'		35'	
	10'	15'	20'	25'	30'	35'	10'	15'	20'	25'	30'	35'	10'	15'	20'	25'	30'	35'	10'	15'	20'	25'	30'	35'	10'	15'	20'	25'	30'	35'	10'	15'	20'	25'	30'	35'	10'	15'	20'	25'	30'	35'						
Length	Liquid manure application rate (1000's of gallons per acre)																																															
600'	15	10	7	6	5	4	18	12	9	7	6	5	22	15	11	7	5	4	25	17	13	8	6	5	29	19	15	10	7	6																		
800'	11	7	5	4	4	3	14	9	7	5	5	4	16	11	8	5	4	3	19	13	10	6	5	4	22	15	11	7	5	4																		
1000'	9	6	4	3	3	2	11	7	5	4	4	3	13	9	7	4	3	3	15	10	8	5	4	3	17	12	9	6	4	3																		
1200'	7	5	4	3	2	2	9	6	5	4	3	3	11	7	5	4	3	2	13	8	6	4	3	3	15	10	7	5	4	3																		
1400'	6	4	3	2	2	2	8	5	4	3	3	2	9	6	5	3	2	2	11	7	5	4	3	2	12	8	6	4	3	2																		
1600'	5	4	3	2	2	2	7	5	3	3	2	2	8	5	4	3	2	2	10	6	5	3	2	2	11	7	5	4	3	2																		
1800'	5	3	2	2	2	1	6	4	3	2	2	2	7	5	4	2	2	1	8	6	4	3	2	2	10	6	5	3	2	2																		
2000'	4	3	2	2	1	1	5	4	3	2	2	2	7	4	3	2	2	1	8	5	4	3	2	2	9	6	4	3	2	2																		
2500'	3	2	2	1	1	1	4	3	2	2	1	1	5	3	3	2	1	1	6	4	3	2	2	1	7	5	3	2	2	1																		
3000'	3	2	1	1	1	1	4	2	2	1	1	1	4	3	2	1	1	1	5	3	3	2	1	1	6	4	3	2	1	1																		

Spread Width	4500 Gallon Tank						5000 Gallon Tank						5500 Gallon Tank						6000 Gallon Tank						7200 Gallon Tank					
	10'	15'	20'	25'	30'	35'	10'	15'	20'	30'	40'	50'	10'	15'	20'	30'	40'	50'	10'	15'	20'	30'	40'	50'	10'	15'	20'	30'	40'	50'
Length	Liquid manure application rate (1000's of gallons per acre)																													
600'	33	22	16	13	11	9	36	24	18	12	9	7	40	27	20	13	10	8	44	29	22	15	11	9	52	35	26	17	13	10
800'	25	16	12	10	8	7	27	18	14	9	7	5	30	20	15	10	7	6	33	22	16	11	8	7	39	26	20	13	10	8
1000'	20	13	10	8	7	6	22	15	11	7	5	4	24	16	12	8	6	5	26	17	13	9	7	5	31	21	16	10	8	6
1200'	16	11	8	7	5	5	18	12	9	6	5	4	20	13	10	7	5	4	22	15	11	7	5	4	26	17	13	9	7	5
1400'	14	9	7	6	5	4	16	10	8	5	4	3	17	11	9	6	4	3	19	12	9	6	5	4	22	15	11	7	6	4
1600'	12	8	6	5	4	4	14	9	7	5	3	3	15	10	7	5	4	3	16	11	8	5	4	3	20	13	10	7	5	4
1800'	11	7	5	4	4	3	12	8	6	4	3	2	13	9	7	4	3	3	15	10	7	5	4	3	17	12	9	6	4	3
2000'	10	7	5	4	3	3	11	7	5	4	3	2	12	8	6	4	3	2	13	9	7	4	3	3	16	10	8	5	4	3
2500'	8	5	4	3	3	2	9	6	4	3	2	2	10	6	5	3	2	2	10	7	5	3	3	2	13	8	6	4	3	3
3000'	7	4	3	3	2	2	7	5	4	2	2	1	8	5	4	3	2	2	9	6	4	3	2	2	10	7	5	3	3	2

## Travel Speeds to Achieve Proper Application Rate

Injector Size		12' Wide		16' Wide		20' Wide		23' Wide		30' Wide		34' Wide		46' Wide	
	Pumping	Travel Speed		Travel Speed		Travel Speed		Travel Speed		Travel Speed		Travel Speed		Travel Speed	
	GPM	Ft/Min	MPH	Ft/Min	MPH	Ft/Min	MPH	Ft/Min	MPH	Ft/Min	MPH	Ft/Min	MPH	Ft/Min	MPH
4,000 Gallons Per Acre  0.147 Inch/Acre Coverage	500	454	5.2	340	3.9	272	3.1	237	2.7	182	2.1	160	1.8	118	1.3
	600	545	6.2	408	4.6	327	3.7	284	3.2	218	2.5	192	2.2	142	1.6
	700	635	7.2	476	5.4	381	4.3	331	3.8	254	2.9	224	2.5	166	1.9
	800	726	8.3	545	6.2	436	5.0	379	4.3	290	3.3	256	2.9	189	2.2
	900	817	9.3	613	7.0	490	5.6	426	4.8	327	3.7	288	3.3	213	2.4
	1000	908	10.3	681	7.7	545	6.2	473	5.4	363	4.1	320	3.6	237	2.7
	1100	998	11.3	749	8.5	599	6.8	521	5.9	399	4.5	352	4.0	260	3.0
	1200	1089	12.4	817	9.3	653	7.4	568	6.5	436	5.0	384	4.4	284	3.2
6,000 Gallons Per Acre  0.221 Inch/Acre Coverage	500	303	3.4	227	2.6	182	2.1	158	1.8	121	1.4	107	1.2	79	0.9
	600	363	4.1	272	3.1	218	2.5	189	2.2	145	1.7	128	1.5	95	1.1
	700	424	4.8	318	3.6	254	2.9	221	2.5	169	1.9	149	1.7	110	1.3
	800	484	5.5	363	4.1	290	3.3	253	2.9	194	2.2	171	1.9	126	1.4
	900	545	6.2	408	4.6	327	3.7	284	3.2	218	2.5	192	2.2	142	1.6
	1000	605	6.9	454	5.2	363	4.1	316	3.6	242	2.8	214	2.4	158	1.8
	1100	666	7.6	499	5.7	399	4.5	347	3.9	266	3.0	235	2.7	174	2.0
	1200	726	8.3	545	6.2	436	5.0	379	4.3	290	3.3	256	2.9	189	2.2
8,000 Gallons Per Acre  0.295 Inch/Acre Coverage	500	227	2.6	170	1.9	136	1.5	118	1.3	91	1.0	80	0.9	59	0.7
	600	272	3.1	204	2.3	163	1.9	142	1.6	109	1.2	96	1.1	71	0.8
	700	318	3.6	238	2.7	191	2.2	166	1.9	127	1.4	112	1.3	83	0.9
	800	363	4.1	272	3.1	218	2.5	189	2.2	145	1.7	128	1.5	95	1.1
	900	408	4.6	306	3.5	245	2.8	213	2.4	163	1.9	144	1.6	107	1.2
	1000	454	5.2	340	3.9	272	3.1	237	2.7	182	2.1	160	1.8	118	1.3
	1100	499	5.7	374	4.3	299	3.4	260	3.0	200	2.3	176	2.0	130	1.5
	1200	545	6.2	408	4.6	327	3.7	284	3.2	218	2.5	192	2.2	142	1.6
10,000 Gallons Per Acre  0.368 Inch/Acre Coverage	500	182	2.1	136	1.5	109	1.2	95	1.1	73	0.8	64	0.7	47	0.5
	600	218	2.5	163	1.9	131	1.5	114	1.3	87	1.0	77	0.9	57	0.6
	700	254	2.9	191	2.2	152	1.7	133	1.5	102	1.2	90	1.0	66	0.8
	800	290	3.3	218	2.5	174	2.0	152	1.7	116	1.3	102	1.2	76	0.9
	900	327	3.7	245	2.8	196	2.2	170	1.9	131	1.5	115	1.3	85	1.0
	1000	363	4.1	272	3.1	218	2.5	189	2.2	145	1.7	128	1.5	95	1.1
	1100	399	4.5	299	3.4	240	2.7	208	2.4	160	1.8	141	1.6	104	1.2
	1200	436	5.0	327	3.7	261	3.0	227	2.6	174	2.0	154	1.7	114	1.3
12,000 Gallons Per Acre  0.442 Inch/Acre Coverage	500	151	1.7	113	1.3	91	1.0	79	0.9	61	0.7	53	0.6	39	0.4
	600	182	2.1	136	1.5	109	1.2	95	1.1	73	0.8	64	0.7	47	0.5
	700	212	2.4	159	1.8	127	1.4	110	1.3	85	1.0	75	0.8	55	0.6
	800	242	2.8	182	2.1	145	1.7	126	1.4	97	1.1	85	1.0	63	0.7
	900	272	3.1	204	2.3	163	1.9	142	1.6	109	1.2	96	1.1	71	0.8
	1000	303	3.4	227	2.6	182	2.1	158	1.8	121	1.4	107	1.2	79	0.9
	1100	333	3.8	250	2.8	200	2.3	174	2.0	133	1.5	117	1.3	87	1.0
	1200	363	4.1	272	3.1	218	2.5	189	2.2	145	1.7	128	1.5	95	1.1
14,000 Gallons Per Acre  0.516 Inch/Acre Coverage	500	130	1.5	97	1.1	78	0.9	68	0.8	52	0.6	46	0.5	34	0.4
	600	156	1.8	117	1.3	93	1.1	81	0.9	62	0.7	55	0.6	41	0.5
	700	182	2.1	136	1.5	109	1.2	95	1.1	73	0.8	64	0.7	47	0.5
	800	207	2.4	156	1.8	124	1.4	108	1.2	83	0.9	73	0.8	54	0.6
	900	233	2.7	175	2.0	140	1.6	122	1.4	93	1.1	82	0.9	61	0.7
	1000	259	2.9	194	2.2	156	1.8	135	1.5	104	1.2	92	1.0	68	0.8
	1100	285	3.2	214	2.4	171	1.9	149	1.7	114	1.3	101	1.1	74	0.8
	1200	311	3.5	233	2.7	187	2.1	162	1.8	124	1.4	110	1.2	81	0.9



# Solid Manure Spreader Calibration and Maintenance for \_\_\_\_\_ Equipment

**Calibration Log**      Date: \_\_\_\_\_      Calibration Completed by: \_\_\_\_\_

Tractor Gear/RPM	Spreader Setting	Spreader Capacity is Unknown:			Spreader Capacity is Known	Calculated Application Rate (tons/acre)
		Area of plastic sheet: _____ ft <sup>2</sup>			Net Manure Weight on Spreader: _____ Tons	
		Net Manure Weight on: Sheet 1:    lbs    Sheet 2:    lbs    Sheet 3:    lbs			Width of Spread Pattern: _____ ft	
					Travel Distance to Empty Spread:    ft	
		Area of plastic sheet: _____ ft <sup>2</sup>			Net Manure Weight on Spreader: _____ Tons	
		Net Manure Weight on: Sheet 1:    lbs    Sheet 2:    lbs    Sheet 3:    lbs			Width of Spread Pattern: _____ ft	
					Travel Distance to Empty Spread:    ft	
		Area of plastic sheet: _____ ft <sup>2</sup>			Net Manure Weight on Spreader: _____ Tons	
		Net Manure Weight on: Sheet 1:    lbs    Sheet 2:    lbs    Sheet 3:    lbs			Width of Spread Pattern: _____ ft	
					Travel Distance to Empty Spread:    ft	

## Inspection and Maintenance Log

Inspection and Maintenance Log										Maintenance			
Inspection Date										Date	Initials	Action	
Inspected by (initials):													
List of Items Inspected:		Is the equipment functioning properly?											
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		

# Solid Manure Spreader Calibration

## 1. Spreader Capacity is Known.

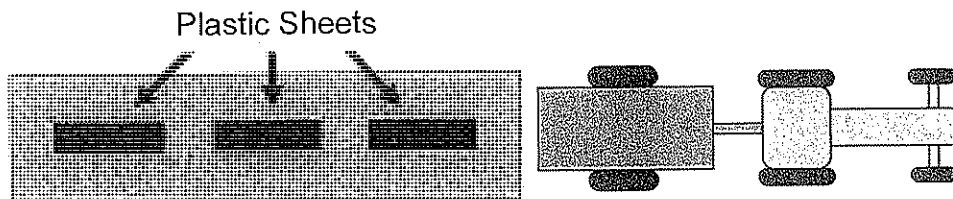
$$\text{Rate per acre} = \frac{\text{Spreader Capacity} \times 43,560}{\text{Width} \times \text{Travel Distance}}$$

Example: 20 ton manure solids spreader makes a pass every 6 30" corn rows (15 feet) and empties spreader in 2,400 feet is applying 24 tons per acre

$$\text{Rate per acre} = \frac{20 \text{ ton} \times 43,560}{15 \text{ feet} \times 2,400 \text{ feet}} = 24 \text{ ton / acre}$$

## 2. Spreader Capacity is Unknown.

- Cut three or more sheets of equally sized plastic. 22 square feet is preferred size (3' x 7'4" or 4' x 5'6")
- Weigh empty 5 gallon bucket plus one plastic sheet on a scale: \_\_\_\_\_ lbs.
- Lay sheets in field with edges secured by stones or other heavy objects.
- Drive tractor at normal speeds and discharge manure at typical rate over plastic sheets.  
tractor gear: \_\_\_\_\_, engine RPM: \_\_\_\_\_, spreader settings: \_\_\_\_\_



- Check the sheet. Did a reasonably representative application rate fall on the plastic sheet?
- Carefully fold individual sheets without losing manure and place each sheet in separate buckets. Weigh each bucket.  
Bucket 1: \_\_\_\_\_ lbs. Bucket 2: \_\_\_\_\_ lbs. Bucket 3: \_\_\_\_\_ lbs.
- Subtract weight of empty bucket and plastic (step b.) to determine net manure weight in each bucket. Net manure weight for  
Bucket 1: \_\_\_\_\_ lbs. Bucket 2: \_\_\_\_\_ lbs. Bucket 3: \_\_\_\_\_ lbs.
- Calculate average weight of buckets. Average Net Manure Weight: \_\_\_\_\_ lbs.
- Calculate application rate.

$$\text{Tons per acre} = \frac{\text{net manure weight} \times 22}{\text{area of plastic sheet (ft}^2\text{)}}$$

If plastic sheet = 22 ft<sup>2</sup>, then Tons per Acre = Net Manure Weight

**Calibration Log**

Tractor Gear/RPM	Other Equipment Settings	Field Measurements	Calculations	Calculated Application Rate (tons/acre)

## Inspection and Maintenance Log

[illegible]

Record will be stored permanently at \_\_\_\_\_