NM1306

North Dakota CAFO Operators Record Book

Reviewed by

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NDSU EXTENSION SERVICE

North Dakota State University
Fargo, North Dakota

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Contents

The North Dakota Department of Health established new guidelines for animal feeding operations (AFOs) and concentrated animal feeding operations (CAFOs) in January 2005. These guidelines were developed in accordance with the U.S. Environmental Protection Agency's Clean Water Act regulations for CAFOs.

The new guidelines include recordkeeping requirements that CAFO operators must retain on site. This record book is designed to assist CAFO operators with the records they need to keep in accordance with the EPA's CAFO regulations. **CAFO records must be kept for 5 years and AFO records for 3 years.**

Besides this record book, CAFO owner/operators need to keep a current copy of their nutrient management plan with soil and manure sample information, as well as a mortality management plan and their runoff containment system design, as part of their on-site records package.

This record book is a companion to the EPA Producers Compliance Guide for CAFOs (EPA 821-R-03-010).

By using this record book, North Dakota CAFO operators will meet the recordkeeping requirements of the North Dakota guidelines for AFOs and CAFOs that are not included in a nutrient management or mortality plan.

Inspection Records

	Date	Daily Water Line Checks (initial if no problems)						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Week 6								
Week 7								
Week 8								

Weekly Checks (initial if no problems)			**Weekly Reading of Depth Marker** (feet below pump-down marker)	**Corrective Action** (action taken, date repaired and initials)
Diver-sions	**Dikes**	**Storage Structure**		

Inspection Records

	Date	Daily Water Line Checks (initial if no problems)						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Week 9								
Week 10								
Week 11								
Week 12								
Week 13								
Week 14								
Week 15								
Week 16								

Weekly Checks (initial if no problems)			**Weekly Reading of Depth Marker** (feet below pump-down marker)	**Corrective Action** (action taken, date repaired and initials)
Diver-sions	**Dikes**	**Storage Structure**		

Inspection Records

	Date	Daily Water Line Checks (initial if no problems)						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Week 17								
Week 18								
Week 19								
Week 20								
Week 21								
Week 22								
Week 23								
Week 24								

Weekly Checks (initial if no problems)			**Weekly Reading of Depth Marker** (feet below pump-down marker)	**Corrective Action** (action taken, date repaired and initials)
Diver-sions	**Dikes**	**Storage Structure**		

Inspection Records

	Date	Daily Water Line Checks (initial if no problems)						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Week 25								
Week 26								
Week 27								
Week 28								
Week 29								
Week 30								
Week 31								
Week 32								

Weekly Checks (initial if no problems)			Weekly Reading of Depth Marker (feet below pump-down marker)	Corrective Action (action taken, date repaired and initials)
Diver-sions	Dikes	Storage Structure		

Inspection Records

	Date	Daily Water Line Checks (initial if no problems)						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Week 33								
Week 34								
Week 35								
Week 36								
Week 37								
Week 38								
Week 39								
Week 40								

Weekly Checks (initial if no problems)			Weekly Reading of Depth Marker (feet below pump-down marker)	Corrective Action (action taken, date repaired and initials)
Diversions	Dikes	Storage Structure		

Inspection Records

	Date	Daily Water Line Checks (initial if no problems)						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Week 41								
Week 42								
Week 43								
Week 44								
Week 45								
Week 46								
Week 47								
Week 48								

Weekly Checks (initial if no problems)			Weekly Reading of Depth Marker (feet below pump-down marker)	Corrective Action (action taken, date repaired and initials)
Diver-sions	Dikes	Storage Structure		

Inspection Records

	Date	Daily Water Line Checks (initial if no problems)						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Week 49								
Week 50								
Week 51								
Week 52								

Weekly Checks (initial if no problems)			Weekly Reading of Depth Marker (feet below pump-down marker)	Corrective Action (action taken, date repaired and initials)
Diver-sions	Dikes	Storage Structure		

Monthly Weather Conditions

Month_____ **Year**_____

Day	Sky	Temper-ature	Wind Direction	Wind Speed	Rainfall Amounts*	
					Overnight	Daytime
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Day	Sky	Temper-ature	Wind Direction	Wind Speed	Rainfall Amounts*	
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*Required

Manure Source Details

Sample ID	Sample Date	**Manure Analysis** (lb/ton or lb/100 gal)	
		(E) **Total N**	(F) P_2O_5

Manure Source Details

Sample ID	Sample Date	**Manure Analysis** (lb/ton or lb/100 gal)	
		(E) **Total N**	(F) P_2O_5

Manure Application Log

Field Identification _____ **Acres**_____

Manure Sample ID _____

Date	**Method of Application and Date of Incorporation**	**Total N Applied** (lbs/acre)	**Total P Applied** (lbs/acre)

Tally of loads (or hours) applied

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

Total applied _____ (number of loads x capacity)

– or –

For irrigation systems or tow-line injection

Flow rate _____

Start hours_____ Finish hours_____

Total applied _____ (number of hours x flow rate)

Actual application rate_____ (total applied ÷ area)

Weather Conditions **Closest NDAWN Station**_____

24 Hours Before		During		24 Hours After	
Wind Direction and Speed	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**

Field layout
(include travel direction during spreading and any buffer areas)

Equipment Inspection
(note any leaks or damage and date repaired)

Manure Application Log

Field Identification _____ **Acres**_____

Manure Sample ID _____

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Tally of loads (or hours) applied

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81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

Total applied _____ (number of loads x capacity)

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Flow rate _____

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Weather Conditions **Closest NDAWN Station**_____

24 Hours Before		During		24 Hours After	
Wind Direction and Speed	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**

Field layout
(include travel direction during spreading and any buffer areas)

Equipment Inspection
(note any leaks or damage and date repaired)

Manure Application Log

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Tally of loads (or hours) applied

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Total applied _____ (number of loads x capacity)

– or –

For irrigation systems or tow-line injection

Flow rate _____

Start hours_____ Finish hours_____

Total applied _____ (number of hours x flow rate)

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Weather Conditions **Closest NDAWN Station**_____

24 Hours Before		During		24 Hours After	
Wind Direction and Speed	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**

Field layout
(include travel direction during spreading and any buffer areas)

Equipment Inspection
(note any leaks or damage and date repaired)

Manure Application Log

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Tally of loads (or hours) applied

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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Total applied _____ (number of loads x capacity)

– or –

For irrigation systems or tow-line injection

Flow rate _____

Start hours_____ Finish hours_____

Total applied _____ (number of hours x flow rate)

Actual application rate_____ (total applied ÷ area)

Weather Conditions **Closest NDAWN Station**_____

24 Hours Before		During		24 Hours After	
Wind Direction and Speed	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**

Field layout
(include travel direction during spreading and any buffer areas)

Equipment Inspection
(note any leaks or damage and date repaired)

Manure Application Log

Field Identification _____ **Acres**_____

Manure Sample ID _____

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Tally of loads (or hours) applied

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Total applied _____ (number of loads x capacity)

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24 Hours Before		During		24 Hours After	
Wind Direction and Speed	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**

Field layout
(include travel direction during spreading and any buffer areas)

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(note any leaks or damage and date repaired)

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(include travel direction during spreading and any buffer areas)

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Weather Conditions **Closest NDAWN Station**_____

24 Hours Before		During		24 Hours After	
Wind Direction and Speed	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**

Field layout
(include travel direction during spreading and any buffer areas)

Equipment Inspection
(note any leaks or damage and date repaired)

Manure Application Log

Field Identification _____ **Acres**_____

Manure Sample ID _____

Date	**Method of Application and Date of Incorporation**	**Total N Applied** (lbs/acre)	**Total P Applied** (lbs/acre)

Tally of loads (or hours) applied

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

Total applied _____ (number of loads x capacity)

– or –

For irrigation systems or tow-line injection

Flow rate _____

Start hours_____ Finish hours_____

Total applied _____ (number of hours x flow rate)

Actual application rate_____ (total applied ÷ area)

Weather Conditions **Closest NDAWN Station**_____

24 Hours Before		During		24 Hours After	
Wind Direction and Speed	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**	**Wind Direction and Speed**	**Temper-ature (° F)**

Field layout
(include travel direction during spreading and any buffer areas)

Equipment Inspection
(note any leaks or damage and date repaired)

Nutrient Application Log
Rate Calculator

Field Identification _____

(A) **Acres Applied to**	(B) **Number of Loads**	(C) **Spreader Capacity** (tons/gal)	(D) = B x C ÷ A **Rate** (tons/acre or gal/acre)

(E) **Total N** (from manure test lbs/ton or lbs/gal)	(F) **Total P** (from manure test lbs/ton or lbs/gal)	**(**E x D) **Total N Applied** (lbs/acre)	(F x D) **Total P Applied** (lbs/acre)

Nutrient Application Log
Rate Calculator

Field Identification _____

(A) **Acres Applied to**	(B) **Number of Loads**	(C) **Spreader Capacity** (tons/gal)	(D) = B x C ÷ A **Rate** (tons/acre or gal/acre)

(E) **Total N** (from manure test lbs/ton or lbs/gal)	(F) **Total P** (from manure test lbs/ton or lbs/gal)	**(**E x D) **Total N Applied** (lbs/acre)	(F x D) **Total P Applied** (lbs/acre)

Nutrient Application Log
Rate Calculator

Field Identification _____

(A) **Acres Applied to**	(B) **Number of Loads**	(C) **Spreader Capacity** (tons/gal)	(D) = B x C ÷ A **Rate** (tons/acre or gal/acre)

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Nutrient Application Log
Rate Calculator

Field Identification _____

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Nutrient Application Log
Rate Calculator

Field Identification _____

(A) **Acres Applied to**	(B) **Number of Loads**	(C) **Spreader Capacity** (tons/gal)	(D) = B x C ÷ A **Rate** (tons/acre or gal/acre)

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Nutrient Application Log
Rate Calculator

Field Identification _____

(A) **Acres Applied to**	(B) **Number of Loads**	(C) **Spreader Capacity** (tons/gal)	(D) = B x C ÷ A **Rate** (tons/acre or gal/acre)

(E) **Total N** (from manure test lbs/ton or lbs/gal)	(F) **Total P** (from manure test lbs/ton or lbs/gal)	**(**E x D) **Total N Applied** (lbs/acre)	(F x D) **Total P Applied** (lbs/acre)

Manure Transfer Log*

Date	Recipient's Name	Address

*This is a record of manure transferred to farm land **not** owned or operated by the livestock owner.

Amount (tons or gallons)	**Type** (liquid or solid)	**Was a copy of the most recent nutrient analysis provided to the recipient?** (yes or no)

Manure Transfer Log*

Date	Recipient's Name	Address

*This is a record of manure transferred to farm land **not** owned or operated by the livestock owner.

Amount (tons or gallons)	**Type** (liquid or solid)	**Was a copy of the most recent nutrient analysis provided to the recipient?** (yes or no)

Discharge Report for Production Area*

Date	Time	Location	**Description** (what was the cause and effect)

*Includes any overflow of the runoff containment structure, manure storage structure, or other manure spills

Estimated Volume Corrective (tons or gallons)	Actions Taken	Date Corrected

For questions or more information, contact:

North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue, 4th Floor
Bismarck, ND 58501-1947

(701) 328-5210

Typical nutrient concentration of animal manures

Species/Form	N	P_2O_5	K_2O
Beef			
Solid - dirt lot	------ lb/ton ------		
– Cows	25	18	22
Dairy			
Solid	------ lb/ton ------		
– Cows	11	7	9
Liquid	------ lb/1000 gal ------		
– Anaerobic storage	22	14	20
Swine			
Solid	------ lb/ton ------		
– Finishing	13	13	9
Liquid	------ lb/1000 gal ------		
– Finishing	27	19	15
Sheep[a]			
Solid	------ lb/ton ------		
– Sheep	20	13	27
Poultry, Turkey			
Solid	------ lb/ton ------		
– Turkeys	55	63	40

Source: "Determining Crop Available Nutrients from Manure." G97-1335A. Univ. Of Nebraska Cooperative Extension

[a] North Carolina State University

Record for application year:

_____

This publication was originally authored by Ron Wiederholt, former NDSU Extension Nutrient Management Specialist and Teresa Dvorak, former Livestock Nutrient Management Specialist, Dec. 2006.

For more information on this and other topics, see www.ag.ndsu.edu

500-12-06, 500-12-07, 200-9-11, 100-1-13, 300-8-16