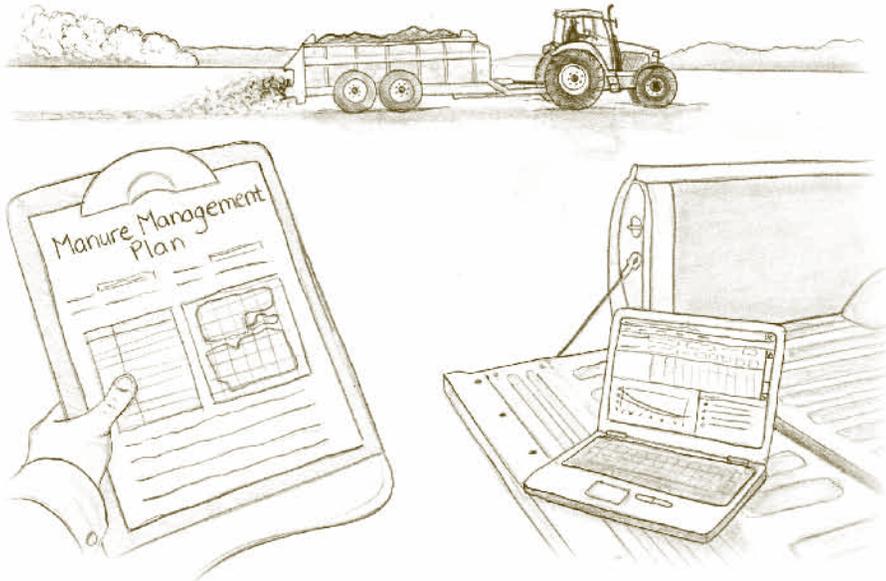


# Chapter 7.1

## Record Keeping Requirements and the *Agricultural Operation Practices Act (AOPA)*



### ➔ learning objectives

- Identify who is required to keep manure management and handling records and how long they must be maintained under AOPA.
- Describe the records that must be kept by confined feeding operations, manure applicators, and for manure transfers.
- Identify required soil analysis information and minimum soil testing frequency under AOPA.

## sidebar

**AOPA record keeping requirements do not apply to grazing livestock. All livestock operations, however, are subject to the standards for manure collection, application and storage setback distances from neighbours and common bodies of water.**



## Important Terms

Table 7.1.1 Key Terms and Definitions

Term	Definition
Confined Feeding Operation (CFO)	Under AOPA, a CFO is defined as “fenced or enclosed land or buildings where livestock are confined for the purpose of growing, sustaining, finishing, or breeding by means other than grazing and any other building or structure directly related to that purposes but does not include residences, livestock seasonal feeding and bedding sites, equestrian stables, auctions markets, race tracks or exhibition grounds” (Standards and Administration Regulation under AOPA).

In Alberta, specific manure management records must be kept in order to comply with the Standards and Administration Regulation under AOPA.

## Who Must Keep Records?

AOPA record-keeping requirements apply only to CFOs and individuals who transfer, receive, or apply more than 500 tonnes (t) (or approximately 500,000 L) of manure per year. Operations or individuals must maintain these records for a minimum of five years.

A common question asked by producers is: how many animals or animal units produce 500 t. Table 7.1.2 provides the estimated number of animals (or birds) it would take to produce 500 t of manure if they were in a confined area on an as removed from the pen basis.



### Determining Whether an Operation Exceeds the 500 t Threshold

An operation winters 325 cows and 25 bulls for approximately 175 days per year, with calving season beginning towards the end of the confinement period in late March or early April.

Total Amount of Manure Produced	= Number of animal x Amount of Manure Produced per animal per day x Number of days the animals are confined
Manure produced by cows	= 325 cows x 5.9 kg manure per day x 175 days = 335,562.5 kg
Manure produced by bulls	= 25 bulls x 5.9 kg manure produced/day x 175 days = 25,812.5 kg
Total annual manure production	= 335,562.5 kg + 25,812.5 kg = 361,375 kg = 361 t

Based on this estimate, this operation collects and handles only 361 t of manure per year and is therefore exempt from the record keeping and soil testing requirements under AOPA.

Table 7.1.2 Daily Manure Production and Estimated Population for Different Livestock to Produce 500 t Manure

Species/Class	Daily Manure Production <sup>1</sup> (kg/day)	Assumed Length of Confinement (months)	Estimated Number of Animals to Produce 500 t of Manure
<b>Beef</b>			
Cows/Finishers	5.9	5	565
		8	354
Feeders (< 410 kg or <900 lb)	3.8	12	366
Feeder Calves (<250 kg or < 550 lb.)	1.5	12	926
<b>Dairy</b>			
Cows, Tie-stall Housing	63.5	12	22
Cows, Loose Housed	66.5	12	21
Cows, Dry	31.8	12	43
Replacement Heifers (breeding to calving)	27.5	12	49
Replacement Heifers (160 kg or 350 lb to breeding)	19.5	12	71
Calves (<160 kg or < 350 lb)	1.3	12	1,068
<b>Swine</b>			
Farrow-to-finish (per sow basis)	39.3	12	35
Farrow-to-wean (per sow basis)	12.1	12	115
<b>Sows</b>			
Weaner Pig	1.3	12	1,068
Grower Pig	2.2	12	623
Finisher Pig	3.7	12	375
<b>Poultry (per 100 birds)</b>			
Layers, Belt Cage	4.5	12	30,864
Layers, Deep Pit	5.9	12	23,540
Broilers	2.7	12	51,440
Breeders	7.2	12	19,290
Pullets	2.7	12	51,440
Turkey Hens	6.2	12	22,401
Turkey (Toms/Breeders)	9.0	12	15,432
Turkey Broilers	5.0	12	27,778

<sup>1</sup> Operations with more than one class or species of livestock will need to calculate total volume produced by factoring in daily manure production for each.





## What Records Must Be Kept

The record keeping requirements are slightly different for CFOs and persons who transfer, receive, or apply more than 500 t of manure per year

### Records for CFOs

CFOs must keep the following records on manure production and transfers (Figure 7.1.1):

- The volume or weight (estimated) of manure produced.
- The name and mailing address (or legal land description) of any person to whom control of 500 t (or more) of manure is transferred in a given year.
- The date(s) that manure is transferred.
- The volume or weight of manure transferred.

Operations that apply manure to land they control must also record information relating to application (discussed in the next two sections) in addition to that listed above.

CFO Manure or Compost Production Record (in compliance with Standards and Administration Regulation, Section 28 (2))			Name of operation: ABC Feeders
<b>Operating Unit:</b> Feedlot	<b>Address:</b> Box 99 Anywhere, AB	Legal Land Description: SE 6-18-22-W6	Year: 2006
Type of Livestock: Beef Finishers	Number of Livestock: 7,000	Manure Production Per Animal (t/year)*: 2.2 t/year	<b>Total Volume/Weight (t or L):</b> 15,400 tonnes
Est. Total N* (kg/t): 10 kg/t	Est. Crop N* (kg/t): 3.2 kg/t	*Values for these parameters are available in table form in the AOPA Manure Characteristics and Land Base Code available from AF.	
Record of Manure or Compost Transfers			
Date	Name	Address	Manure Volume/Weight (t or L)
April 18-21, 2006	Self	SW 6-18-22-W6	4,000 t
Sept. 21-26, 2006	J. Smith	NW 18-18-22-W6	5,080 t

**Note:** Table information in bold lettering is required by AOPA. Information in normal lettering is not required but is included to add clarity, especially for operations with more than one type of livestock.

Figure 7.1.1 Sample Record Keeping Form for CFOs

**Records for Manure Transfers by Manure Applicators or Haulers**

Persons involved in the transfer (i.e., persons who transfer control, haul or receive) of at least 500 t of manure per year must keep the following records (Figure 7.1.2):

- The name(s) and address(es) of the person(s) involved in the transfer (i.e., individual(s) who transferred control, hauled and received the manure).
- The date(s) during which the transfer occurred.
- The volume or weight of manure transferred, received or removed.

These record keeping requirements apply to custom manure applicators, producers who spread manure on their own land and anyone who receives 500 t (or more) of manure per year.



Manure Transfer #1: Transfer to J. Smith (Sept 2005)			
Manure or Compost Transfer Record Form (in compliance with Standards and Administration Regulation, Section 28(3), (4))			
Date:		Type (manure or compost):	
Sept 21-26, 2005		Solid manure	
	Transferred From	Removed by	Received by
Name	ABC Feeders	XY Corral Cleaners	J. Smith
Address	Box 99, Anywhere, AB	Box 33, Where, AB	Box 52, Here, AB
Volume/Weight (t or L)	5,080 t	5,080 t	5,080 t

**Note:** All information on this form is required. Each transfer requires a separate record.

**Figure 7.1.2 Sample Record Form for Manure Applicators or Haulers Involved in Transfers of Manure**



### Records for Manure Application

Individuals applying 500 t (or more) of manure in a year to land under their control (owned or rented) must keep the following records (Figure 7.1.3):

- The name(s) and address(es) of the person(s) from whom manure is received (if applicable).
- The date(s) the manure was received (if applicable).
- The total volume or weight of manure that has been received.
- The legal land description of the land to which manure is applied.
- The area of the land to which manure is applied.
- The date(s) the manure is applied.
- The total volume or weight of manure applied.
- The application rates of manure nutrients and fertilizer by field and year.
- The date(s) of application and incorporation and the method(s) used for each field.
- Soil analysis results (see Soil Analysis Records in the next section).



Land Application Record (in compliance with Standards and Administration Regulation, Section 28(5))					
Owner	Legal Land Description	Field Name	Area	Soil Texture	
				0-15 cm	15-30 cm
ABC Feeders	SW 7-18-21-W6	All	64 ha	CL	CL
Soil Group (Dryland or Irrigated):				Dark Brown (Irrigated)	
Soil Test Records			Field Diagram: (or attach aerial photo)		
Date	Nitrate – N (0-60 cm)	Electrical Conductivity (0–15 cm) dS/m			
10/22/02	55 kg/ha	1.1			
10/14/05	35 kg/ha	1.1			
Record of Manure/Compost Sources					
Date received	Source of Manure		Volume or Weight (t or L)	Type of manure or compost	Estimated available N (kg/t or kg/1000 L)
	Name	Address			
Apr 18-21, 2006	Self	Box 99, Anytown, AB	4,000 t	Beef finisher	3.2kg/t
Sep 14, 2006	Compost Company	Box 32, Elsewhere, AB	2,900 t	Compost	0.5 kg/t
Nutrient Application Record					
Nutrient Application Record		Incorporation Record		Manure Application Rate (t/ha or L/ha)	Available N Application Rate (kg/ha)
Date	Volume or Weight Applied (t or L)	Date	Method Used		
May 5, 2005	Fertilizer	N/A	N/A	N/A	50 kg/ha
Apr 18-21, 2006	4,000 t	Apr 19-23, 2006	Cultivated	62.5 t/ha	200 kg/ha
Sep 14, 2006	2,900 t	Sept 16, 2006	Cultivated	40 t/ha	20 kg/ha

**Note:** Table information in bold lettering is required by AOPA. Information in normal lettering is not required, but is included to add clarity.

Figure 7.1.3 Sample Record Keeping Form for Land Applicators

## more info



**For more information on the record keeping requirements and record keeping forms can be found in the following resources (search by Agdex number on the AF site):**

**AF. [www.agric.gov.ab.ca](http://www.agric.gov.ab.ca)**

**NRCB. [www.nrcb.gov.ab.ca](http://www.nrcb.gov.ab.ca)**

- **AF. 2007. AOPA: 2004 Reference Guide, Agdex# 096-1.**
- **AF. 2007. Manure Management Record Keeping: What is required by AOPA, Agdex 096-3.**



## Soil Analysis Records

If 500 t (or more) of manure is applied in a year, each field where manure is spread must be soil tested. Under AOPA, soil analysis information for each field receiving manure must be no older than three years, except for soil texture, which is a one-time analysis. These analyses must include:

- Extractable nitrate-nitrogen from a soil depth of 0 to 60 cm (0 to 24 in).
- Soil salinity based on electrical conductivity (EC) from a soil depth of 0 to 15 cm (0 to 6 in).
- Soil texture (one-time analysis) for depths of 0 to 15 cm (0 to 6 in) and 15 to 30 cm (6 to 12 in).

### AOPA Record Keeping Forms

Blank forms that can be used to record the necessary information to comply with AOPA record-keeping standards are available from the AF Publications Office (toll free 1-800-292-5697) or can be downloaded from Ropin the Web by entering “AOPA Record Keeping” in the search window.

## summary

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- The record-keeping requirements in AOPA apply to CFOs and persons who transfer, receive or apply more than 500 t of manure per year.
- Records must be maintained for a minimum of five years.
- CFOs must record the estimated volume or weight of manure produced as well as information relating to transfers of manure. In addition, CFOs must record information pertaining to applications on land under their control.
- Individuals involved in the transfers of at least 500 t of manure per year must record contact information for all persons involved, transfer date(s) and volume(s) transferred.
- Individuals applying 500 t or more of manure in a year must record the following: contact information, dates (transfer, application, and incorporation), volumes (received and applied), a description of the application area (location and area), method of incorporation, manure (and fertilizer, if any) application rates, and soil analysis results.
- Soil analysis results (no older than three years) are required for each field that receives manure and must include nitrate-nitrogen (0 to 60 cm), EC (0 to 15 cm) and a one-time determination of soil texture (0 to 15 cm and 15 to 30 cm).