



Manure Management Regulations under the Agricultural Operation Practices Act (AOPA): Implications for Agricultural Operations

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Take Home Messages:

1. On January 1, 2005, all the requirements for manure application limitations, record keeping, and soil testing came into full effect under the Agricultural Operation Practices Act (AOPA).
 2. AOPA requirements apply to all agricultural operations, predominately to confined feeding operations (CFOs), but they also apply to custom manure applicators, cow/calf producers and others who use manure in their operations.
 3. All CFOs, custom applicators, cow/calf producers and those that receive or handle over 500 tonnes of manure a year must keep records and soil test according to the AOPA requirements.
 4. All operators regardless of the amount of manure they produce or receive must follow manure application limits and setbacks required in AOPA.
 5. Anyone that can not meet the land base requirements, nitrogen and salinity limits, and setbacks under AOPA must prepare a Nutrient Management Plan (NMP) approved by the Natural Resources Conservation Board (NRCB) to use alternative practices that will benefit the soil and protect the environment.
 6. For more information contact the Alberta Ag-Info Centre at 1-866-882-7677, website: www.agric.gov.ab.ca or for publications call 1-800-292-5697.
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Introduction

The Agricultural Operation Practices Act (AOPA) includes requirements for managing manure and siting new and expanding livestock operations in Alberta. The legislation was amended in 2002 after consultations with the agriculture industry and other stakeholders. Further amendments were made in 2004 based on experience gained with the legislation. On January 1, 2005, all manure application, record keeping and soil test requirements came into full effect.

Alberta Agriculture, Food and Rural Development (AAFRD) is responsible for developing and updating the legislation and also takes a lead role in education and technology transfer. The Natural Resource Conservation Board (NRCB) administers the legislation pertaining to the siting of confined feeding operations (CFOs), and monitoring and enforcement of standards for all livestock operations in Alberta. This objective of this paper is to describe manure management requirements for livestock operations in Alberta under AOPA.

Manure application

Anyone applying manure or compost (including composting materials) to land must take into account:

- ❖ Soil nutrient limits;
- ❖ Soil type;
- ❖ Incorporation requirements; and,
- ❖ Setback distances to neighbours and common bodies of water (including the bed and shore of rivers, creeks, canals, lakes and sloughs).

Anyone spreading manure or compost must only apply to arable land and apply at least:

- ❖ 30 m from a water well;
- ❖ 10m from common bodies of water for subsurface injection;
- ❖ 30m from common bodies of water for surface spread and must incorporate it within 48 hours of application, except for on forage, direct-seeded crops, frozen or snow covered land; and,
- ❖ 150 m from a residence or occupied building if it is not incorporated within 48 hours (e.g. on forage, direct-seeded crops, or frozen or snow covered soils).

It should be noted that grazing livestock are not subject to the setback requirements under AOPA.

Manure application to forage, direct-seeded crops, or frozen or snow covered soils

The slope of the land determines the minimum setback distances required when spreading manure or compost on forage, direct-seeded crops, or frozen or snow covered soil (Figure 1):

- ❖ Where the slope is less than 4 percent, manure or compost materials may not be applied within 30m of a water body;
- ❖ Where the slope is between 4 and 6 percent, manure or compost materials may not be applied within 60m of a water body;
- ❖ Where the slope is between 6 and 12 percent, manure or compost materials may not be applied within 100m of a water body;
- ❖ Where the slope is greater than 12 percent, no manure or compost application is permitted.

Operations with more than nine months of manure storage capacity must obtain approval from the NRCB to spread manure or compost on frozen or snow-covered ground.

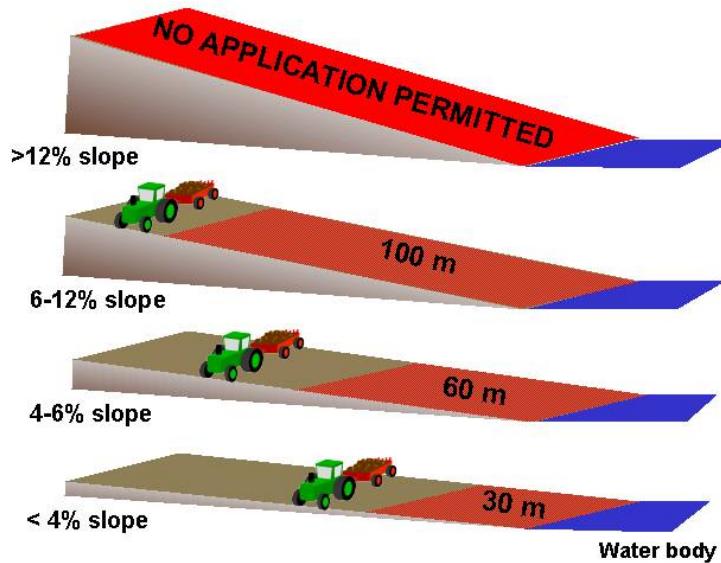


Figure 1. Prescribed setbacks from water bodies when applying manure or compost on forage, direct seeded crops or frozen or snow-covered soil.

Soil nitrate-nitrogen limits for manure application

The amount of manure or compost applied must not increase soil nitrate-nitrogen levels above the limits specified in table 1. (0 to 60 cm depths)

Table 1. Soil nitrate-nitrogen limits for agricultural soils prescribed under the Agricultural Operation Practices Act.

Soil Type	Soil Texture		
	Sandy (>45% sand and water table < 4m)	Sandy (>45% sand and water table > 4m)	Medium and Fine Textured
Brown	80 kg/ha (75 lbs/ac)	110 kg/ha (100 lbs/ac)	140 kg/ha (125 lbs/ac)
Dark Brown	110 kg/ha (100 lbs/ac)	140 kg/ha (125 lbs/ac)	170 kg/ha (150 lbs/ac)
Black	140 kg/ha (125 lbs/ac)	170 kg/ha (150 lbs/ac)	225 kg/ha (200 lbs/ac)
Grey wooded	110 kg/ha (100 lbs/ac)	140 kg/ha (125 lbs/ac)	170 kg/ha (150 lbs/ac)
Irrigated	180 kg/ha (160 lbs/ac)	225 kg/ha (200 lbs/ac)	270 kg/ha (240 lbs/ac)

Source: *Table 3, Schedule 3, Standards and Administration Regulation, Agricultural Operation Practices Act*

Producers must have access to sufficient land base to handle a one-time application of manure or compost based on the nitrogen limits.

Soil salinity limits for manure application

Manure must not be applied if the soil salinity is more than 4 deciSeimens per metre (dS/m) and the amount of manure or compost applied must not increase the salinity by more than 1 dS/m as measured by electrical conductivity at 0 to 15 cm unless it is a benefit to the soil as approved by the NRCB.

Record keeping

Anyone who handles, applies, or receives more than 500 tonnes of manure or compost per year must keep records and conduct soil tests where it is applied. These requirements apply to custom manure applicators, producers spreading manure on land, and anyone who receives over 500 tonnes of manure or compost annually. Anyone handling less than 500 tonnes is not required to keep records or soil test, but must respect the manure application limits and setbacks.

Records must be kept for a minimum of five years, but do not need to be submitted unless requested by the NRCB. The records required include soil test results for the areas that manure is applied, the amount of manure or compost produced, applied or handled, and the date, name and address of a person who receives or applies manure or compost.

Soil testing and analysis

Soil testing is only required for operations that handle over 500 tonnes of manure or compost annually. Soil tests **do not** have to be conducted every year for each manure or compost application if the soil nitrogen and salinity limits will not be exceeded by the application. However, the soil test results cannot be older than three years except for soil texture, which is a one-time analysis.

Nutrient Management Plans

Not all producers require nutrient management plans for applying manure to land. Only if a person does not have sufficient land base to meet the nitrate-nitrogen limits as required in AOPA or wants to apply manure on saline soils, must they obtain authorization from the NRCB by completing an actual nutrient management plan. For the purpose of AOPA, nutrient management plans only need to deal with soil nitrate-nitrogen and salinity limits.

More Information

Alberta Agriculture Ag-Info Centre: 1-866-882-7677, AAFRD website: www.agric.gov.ab.ca

(Type “AOPA” in the search option or click on Livestock, Livestock Production, AOPA)

For publications call: 1-800-292-5697

- Agricultural Operation Practices Act (AOPA): 2004 Reference Guide (Agdex# 096-1)
- Existing Operations: How they are affected by the AOPA (Agdex# 096-2)
- Record Keeping: What is required by the AOPA (Agdex# 096-3)
- Wintering Sites and Livestock Corrals: What is required by AOPA (Agdex# 096-4)

Upcoming Publications: 1-800-292-5697

- Manure management for Cow/calf Producers: What is required by the AOPA
- Manure management for Horse Owners: What is required by the AOPA
- Manure Spreading Setback Distances: What the AOPA requires

Natural Resource Conservation Board (NRCB)

Website: www.nrcb.gov.ab.ca

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Lethbridge: Ph: 403-381-5166

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