

Regulating Manure Application on the Basis of Phosphorus:

Proposed Amendments to the *Livestock Manure and Mortalities Management Regulation*

Background

The *Livestock Manure and Mortalities Management Regulation* required the Minister of Conservation to:

- **Review recommendations** of the Manitoba Phosphorus Expert Committee (MPEC);
- **Consult with people** who might be affected by manure application; and
- **Consider the effectiveness** of regulating manure application on the basis of nitrate nitrogen in the soil, not later than March 31, 2006.

The Minister has determined that the regulation should be amended. Proposed amendments were developed from the MPEC recommendations.

Manitoba Conservation is now seeking your views on the proposed amendments.

Who or what is the Manitoba Phosphorus Expert Committee (MPEC)?

MPEC consisted of experts in phosphorus: transport; impact on water; crop uptake; and plant availability in manure. MPEC was established in September 2002. The Committee considered: scientific literature; regulatory practices; and consultation with experts from outside of Manitoba.

MPEC recommendations were developed by consensus. The recommendations include: (1) Regulating Manure Sources of Phosphorus; and (2) Regulating Manure Sources of Phosphorus in Special Management Areas. The MPEC Report is available on the Manitoba Conservation website.

www.gov.mb.ca/conservation/regoperations/livestock/

Regulating Manure Sources of Phosphorus



Why:

Reduce loss of phosphorus from manure to surface water by reducing phosphorus loading onto land.

How:

Use Regulatory Thresholds to encourage Beneficial Management Practices.

What is a Regulatory Threshold?

A Regulatory Threshold is a range of soil test nutrient levels within which the rate of manure application is regulated. These set minimum standards for manure application.

Proposed Regulatory Thresholds for Soil Test Phosphorus (STP)

< 60 ppm Olsen STP:

Existing nitrate nitrogen limitations would continue to apply.

Intent: No agronomic benefit has been demonstrated beyond 60 ppm Olsen STP.

60 to 119 ppm Olsen STP:

Manure application limited to twice the annual crop removal rate of phosphorus.

Existing nitrate nitrogen limits would also continue to apply.

Intent: Control accumulation of phosphorus in soil.

120 to 179 ppm Olsen STP:

Manure application limited to the annual crop removal rate of phosphorus.

Existing nitrate nitrogen limits would also continue to apply.

Intent: Prevent further accumulation of phosphorus in soil.

≥180 ppm Olsen STP:

Manure application without prior Director's approval would be prohibited.

Intent: Ensure depletion of phosphorus by crop removal. Provision of an exception through Director's approval is intended to address possible emergency situations or severe extenuating circumstances.

Manure may be applied in one application at up to five times the annual crop removal rate for phosphorus. However, further manure applications would be prohibited until STP returns to values that occurred prior to the application, or until the number of years equal to the multiple of the rate of application have lapsed.

Intent: Allow manure application where current technology precludes very low rates of spreading.

Regulating Manure Sources of Phosphorus in Special Management Areas

Why:

Reduce loss of phosphorus from manure to surface water:

- Minimize (mobilization) movement or release of phosphorus from the soil
- Minimize (transport) phosphorus delivery from the soil to surface water

How:

Regulate manure application in Special Management Areas (SMAs)

What are Special Management Areas (SMAs)

SMAs are areas that are particularly susceptible to phosphorus release to surface waters. Special measures are needed to reduce the amount of phosphorus that is mobilized from the soil and transported to the surface water. SMAs include:

- Areas that are regularly inundated; or
- Areas that are immediately adjacent to surface water



Proposed Regulations for the Red River Valley SMA and Other Regularly Inundated Areas

- Existing operations with < 300 animal units are currently allowed to winter spread but will be prohibited from winter application of manure after November 10, 2013.
Intent: Provide time for operations to come into compliance.
- Manure applied to land after September 10 of any year must be either injected or incorporated within 48 hours of application, unless it is applied to perennial forages or to no-till cropping systems.
Intent: Reduce contamination of overlying flood waters.



Proposed Regulations for Riparian Areas

Water Feature	Manure Application Method	Manure Application Setback Width (m) with Permanently Vegetated Buffer Width (m)	Manure Application Setback Width (m) with no Permanently Vegetated Buffer
Lakes	Injection, or low-level broadcast that is followed by immediate incorporation	15 m setback, including 15 m permanently vegetated buffer (total setback 15 m)	20 m setback
	High level broadcast or low level application without incorporation	30 m setback, including 15 m permanently vegetated buffer (total setback 30 m)	35 m setback
Rivers, creeks and large unbermed drains, drainage designation 3rd order or greater	Injection, or low-level broadcast that is followed by immediate incorporation	3 m setback, including 3 m permanently vegetated buffer (total setback 3 m)	8 m setback
	High level broadcast or low level application without incorporation	10 m setback, including 3 m permanently vegetated buffer (total setback 10 m)	15 m setback
First and second order drains, including roadside ditches	Injection, or low-level broadcast that is followed by immediate incorporation	1 m setback, including 1 m permanently vegetated buffer (total setback 1 m)	5 m setback
	High level broadcast or low level application without incorporation	5 m setback, including 1 m permanently vegetated buffer (total setback 5 m)	5 m setback
Other wetlands	Injection, or low-level broadcast that is followed by immediate incorporation	1 m setback, including 1 m permanently vegetated buffer (total setback 1 m)	5 m setback
	High level broadcast or low level application without incorporation	5 m setback, including 1 m permanently vegetated buffer (total setback 5 m)	5 m setback

Red River Valley Special Management Area Map

