

FARM PRACTICES

MANURE STORAGE AND USE

Description

Manure is a by-product of all animals. Manure has value as both a soil conditioner and a source of nutrients (nitrogen, phosphorous, potassium). The nutrient value of manure varies, depending on the type and age of the animal (beef cow, dairy cow, calf, finisher pig, broiler, layer, etc.), the nutrients in the animal feed, and the manure collection, storage and spreading method used.

Manure is considered to be a fertilizer. The growth characteristics and nutrient requirements of crops should be carefully considered before fertilizing. Manure should be spread onto cropland when chemical fertilizer would normally be spread. If the nutrient content of the manure is not significant, it can be considered as a soil conditioner when it is applied to farm land to improve the physical characteristics of the soil. Manure needs to be stored from when it is produced until it can be spread.

Nuisance Concerns

The three main disturbances mentioned in the *Farm Practices Protection (Right to Farm) Act* are odour, noise and dust. Of particular concern to manure storage and use practices is odour.

Odour

Farmers engage in a variety of activities that produce odours. Most manure storage and use generate some odour. Odour is the human response to chemicals in the air. How people perceive the odour (nuisance or not) will depend on the frequency, intensity, duration and offensiveness of the odour, how well they smell and personal experiences associated with the odour.

See Nuisance Reference: [Odour](#)

Activities and Operations

Livestock Distributed Manure

Livestock grazing in pastures or being fed in fields may deposit manure, provided they are managed in such a way that the manure is distributed over the field or pasture.

See Farm Practice: [Fertilizers and Soil Conditioners](#)

Manure Field Storage

Solid manure may be stored in the field just prior to spreading onto cropland. If the manure is to be stored in the field for an extended period of time or in areas of high rainfall it must be covered. Manure should not be stored in fields that are prone to flooding or high watertables.

Manure Storage Facilities

A manure storage facility is a permanent structure or location designed and operated to contain manure in an environmentally sound manner until it can be used. These facilities should be located at least 30 m away from a well or watercourse in case of a leak or spill. Manure will need to be stored when: the crop is not likely to take up the nutrients, or when the risk of manure or manure nutrients entering surface or groundwater is too great. Manure may need to be stored from five to seven months depending on location in the province and local weather conditions.

Manure may be stored as a liquid, semisolid or solid. Unroofed storage facilities need to be sized and managed to account for the precipitation that may fall in them during the storage period. Storage facilities need to be structurally and environmentally sound.

See Farm Practice: [Storage of Hazardous Material](#)

Manure Treatment Systems

Farmers may treat manure or separate it into two products – a liquid with most of the nutrients and a high water content and a semi-solid with a low nutrient content. Treatment methods include physical, chemical, and/or biological (aerobic and anaerobic).

Spreading Manure

The timing of manure spreading needs to be considered carefully to minimize the risk of runoff and maximize the potential uptake of the nutrients. Manure spreading is not permitted during periods of snow and high rainfall, to protect sensitive fishery resources. Application rates need to reflect the plant's nutrient needs and soil's absorption capabilities. During manure storage and use it can be handled with mobile equipment or stationary equipment.

See Farm Practice: [Fertilizers and Soil Conditioners](#)
[Mobile Equipment](#)
[Stationary Equipment](#)

Related Farm Practices

Other farm practices that pertain to manure storage and use practices include, but are not limited to, the following:

[Composting](#)

Manure can be composted before spreading on land or marketed off the farm.

[Transportation](#)

Manure (at the present time poultry litter) can be transported to distance markets.

Legislation

Information on federal and provincial legislation can be found in Appendices B and C. Acts, regulations and bylaws that regulate or may affect manure storage and use include, but are not limited to, the following:

Federal

Fisheries Act – prohibits the discharge of deleterious substances (i.e. manure) into waters frequented by fish

Provincial

Waste Management Act – protects environment (soil, water & air) from pollution

Agricultural Waste Control Regulation – allows a farmer to operate without a waste permit when storing and using manure according to the Code of Agricultural Practice for Waste Management

Publications

Publications that provide information on manure storage and use include, but are not limited to, the following (refer to Appendix D for details):

Advanced Forage Management

British Columbia Environmental Farm Plan Reference Guide

B.C. Agricultural Composting Handbook

Nutrient Management