

## FARM PRACTICES

## FERTILIZERS AND SOIL CONDITIONERS

### Description

Farmers have long recognized the need to enhance soil properties, including its structure, nutritional and water retention capabilities by using fertilizers and soil amendments. The term soil amendment includes both soil conditioners and fertilizers. Materials, which make the soil more suitable for the growth of plants, are considered to be soil conditioners. Organic materials that have a carbon/nitrogen ratio greater than 30 should be considered as soil conditioners. Materials, which supply certain essential elements to plants to improve productivity, are considered to be fertilizers. Organic materials with a carbon/nitrogen ratio below 20 should be considered as fertilizers.

Agricultural wastes such as manure, plant materials, and used mushroom medium contain beneficial nutrients. These wastes can be used to fertilize or condition soil. To get the agronomic benefit of these wastes, farmers apply them to land on which crops will be grown. Nutrient sources vary in their biological and chemical properties and characteristics. Wastes can lose or change their nutrient value at any point in the nutrient management process. Careful management is required to ensure that agricultural wastes which are applied to crop land do not produce nutrient-rich runoff which contaminates surface water supplies (lakes, streams, marshes, etc.) or leaches through soil and pollutes groundwater supplies.

Fertilizers and soil conditioners must be spread evenly over the soil and are most effective when incorporated into the crop rootzone. Manure spreading is not permitted in late fall and winter, to avoid sensitive fisheries stages and periods of high rainfall. Contact MAFF to determine the manure spreading window in your area.

Materials that may be used as soil amendments include the following:

- Lime (dolomite, hydrated lime, controlled atmosphere storage lime)
- Gypsum
- Sulphur
- Compost (including spent mushroom growing media)
- Woodwaste (sawdust, shavings)
- Peat
- Manure
- Fertilizers (includes a wide range of commercially available products)
- Non-Agricultural Waste (biosolids, organic residuals, composts)

## 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 practices surrounding application of fertilizer or soil conditioners are odour and dust.

### Odour

Farmers engage in a variety of activities that produce odours. Many livestock wastes, composts or crop residues used as fertilizers or soil conditioners can release some odours. 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 odour.

See Nuisance Reference: [Odour](#)

### Dust

Farmers engage in a variety of activities that require the use of equipment or practices that will create dust. Dust may also be generated as 'fugitive dust' when fine particulate is lifted from fields, roads, buildings and yards by the stirring action of air. Many soil conditioner applications, such as the use of lime, can create dust. Dust in the air is defined as fine grained suspended particulate. How people perceive dust (nuisance or not) will depend on the frequency, intensity and duration of the dust generating event.

See Nuisance Reference: [Dust](#)

## Activities and Operations

### Manure Storage and Use

Farmers are exempt from the *Waste Management Act*, provided they comply with the Code of Agricultural Practice for Waste Management. They may apply farm wastes to their land, provided it serves as a fertilizer or soil conditioner and is not applied during periods of high rainfall. Wastes must be applied at a rate which takes the nutrient value of the waste and the nutrient absorption capacity of the land and the nutrient use by the crop grown on the land into account. Avoid over applying manure to prevent excess manure from entering nearby watercourses or groundwater sources and causing pollution.

See Farm Practices: [Manure Storage and Use](#)  
[Mobile Equipment](#)

### Non-Agricultural Waste

Use of non-agricultural waste derived from processes or recycling of municipal solid waste (MSW), industrial, commercial and institutional waste (ICI), or demolition and land clearing waste (DLC) may require the issuance of a permit or approval under the *Waste Management Act*. If non-agricultural waste is applied to lands within an Agricultural Land Reserve (ALR), approval from the Agricultural Land Commission may also be required.

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

## Related Farm Practices

Other farm practices that pertain to fertilizer and soil conditioners include, but are not limited to, the following:

### Composting

Farmers and Ranchers may use composting to prepare materials to be applied to land as either a fertilizer or soil conditioner

## Livestock at Large

Livestock grazing in pastures or range areas can act as fertilizer spreaders if they are managed to move throughout the grazing area. The amount of nutrient deposited is proportional to the duration they remain in the area.

## Storage of Hazardous Material

Fertilizers must be stored in a structurally sound facility that is located at least 30 m away from any well, or watercourse. A contingency plan should be in place in case of a spill.

# Legislation

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

### Federal

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

### Provincial

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

*Agricultural Waste Control Regulation* – allows farmer to operate without a waste permit when managing crop residue according to the *Code of Agricultural Practice for Waste Management*

*Production and Use of Compost Regulation* – minimum standard to follow when composting or using compost made from non-agricultural wastes

# Publications

Publications that provide further information on fertilizers and soil conditioners include, but are not limited to, the following (refer to Appendix D for details):

*British Columbia Environmental Farm Plan Reference Guide*

*B.C. Agricultural Composting Handbook*

*Crop Production Guides – for various commodities*

*Soil Management Handbook for the Okanagan and Similkameen Valleys*

*Soil Management Handbook for the Lower Fraser Valley*