

Farm Practices in B.C. Reference Guide

Strengthening Farming Program



Ministry of
Agriculture
and Food

FACTSHEET

Version: July 2026

FARM ACTIVITY: FERTILIZERS AND SOIL CONDITIONERS

Description

Farmers have long recognized the need to enhance soil properties, including its structure, fertility and water retention by using soil amendments such as fertilizers and soil conditioners. Materials which improve soil properties – other than nutrient availability – and their suitability for plant growth are soil conditioners. Organic conditioners typically have carbon to nitrogen ratios greater than 30:1. Fertilizers are materials that supply significant amounts of one or more essential elements to improve plant productivity. Organic materials that have carbon to nitrogen ratios below 20:1 should be considered as fertilizers. Materials that have carbon to nitrogen ratios between 20:1 and 30:1 have properties common to both soil conditioners and fertilizers but should be managed primarily as a fertilizer.

Agricultural by-products such as manure, plant materials, and spent mushroom-growing media contain beneficial nutrients. Under the provincial *Environmental Management Act's* Code of Practice for Agricultural Environmental Management, these materials are called agricultural by-products and can be used to fertilize or condition soil. To take advantage of the agronomic benefit these materials can offer, farmers apply them to land on which crops will be grown. Nutrients in agricultural by-products vary in their biological and chemical properties and characteristics. Some nutrients, notably nitrogen, can be lost from agricultural by-products into the environment at any point in the nutrient management process. Careful management is required to ensure that agricultural by-products applied to crop land do not produce nutrient-rich runoff which can contaminate surface water supplies such as lakes, streams, and marshes or leachates which can pollute groundwater supplies.

Fertilizers and soil conditioners must be spread evenly over the soil and are most effective when incorporated into the crop root zone. Publications such as the Environmental Farm Plan Reference Guide, webpages from the Ministry of Agriculture and Food and Ministry of Environment and Climate Change Strategy, and B.C. Application

Risk Management tool can help farmers decide when it is appropriate to spread manures and related by-products.

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

- (a) lime products such as dolomite, hydrated lime and controlled-atmosphere storage lime;
- (b) gypsum;
- (c) sulphur;
- (d) compost (including spent mushroom growing media);
- (e) wood waste such as sawdust and shavings;
- (f) peat;
- (g) manure;
- (h) fertilizers sold in a wide range of commercially available products; and
- (i) non-agricultural wastes such as biosolids, organic residuals and composts)

Nuisance Concerns

The three primary disturbances mentioned in the provincial *Farm Practices Protection (Right to Farm) Act* are odour, noise and dust. Of particular concern to practices surrounding application of fertilizers and soil conditioners are odour and dust.

Odour

Odour is a human sensory perception and response to chemicals in the air. The degree to which individuals perceive an odour to be a nuisance will depend on the frequency, intensity, duration and offensiveness of the odour. Other factors that come into play include a person's sensitivities and previous personal experiences.

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

See also Nuisance Reference: [Odour](#)

Dust

Dust is defined as fine-grained suspended particulate in air. The degree to which individuals perceive dust to be a nuisance will depend on the frequency, intensity and duration of a dust-generating event.

Farmers engage in various activities that require equipment or practices that will create dust. Many soil conditioning operations such as lime application can create dust. Dust

may also be generated as fugitive dust when fine particulates are lifted from fields, roads, buildings and yards via air turbulence.

See also Nuisance Reference: [Dust](#)

Activities and Operations

Manure Storage and Use

Manure storage and use on farms is primarily regulated by the Code of Practice of Agricultural Environmental Management, a regulation under the *Environmental Management Act*. Farmers may apply agricultural by-products to their land if it serves as a fertilizer or soil conditioner and is not applied during high-risk conditions, such as strong winds, intense rainfall, or flooding. Additional restrictions on application may apply to high-precipitation areas of the province, which receive 600 mm or more of precipitation from October through April of the next year.

Nutrients from agricultural by-products must be applied at a rate which accounts for the nutrient content of the agricultural by-product and the nutrient requirement of the crop grown on the land. Excessive application should be avoided to prevent nutrients from entering nearby watercourses or groundwater sources and causing pollution.

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

Non-Agricultural Waste

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

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

Related Farm Practices

Other farm practices that pertain to fertilizers and soil conditioners include the following:

Composting

Farmers and ranchers may implement composting operations to prepare materials for application to land either as a fertilizer or soil conditioner.

See also Farm Practice: [Composting](#)

Livestock at Large

Livestock grazing in pastures or on the range can be used to directly deposit nutrients from their manure if the animals are moved and managed on grazing areas effectively. The amount of nutrients deposited is proportional to the duration they remain in each area.

See also Farm Practice: [Livestock at Large](#)

Storage of Fertilizer and Soil Conditioners

Storage of agricultural by-products, fertilizers, conditioners, and other materials is regulated under the Code of Practice for Agricultural Environmental Management. This includes the amount of time certain materials can be stored, what type of storage structure or facility is required, setbacks from waterbodies, and recordkeeping requirements. Please refer to the regulation or Ministry webpages for more information. See also Farm Practice: [Storage of Hazardous Material](#)

Legislation

Agricultural producers are expected to follow all legislation that pertains to their farming operations. The provincial *Farm Practices Protection (Right to Farm) Act* stipulates that a “farm operation” must meet the *Public Health Act*, *Integrated Pest Management Act*, *Environmental Management Act* and the regulations under those Acts, as well as any land use regulation (amongst other requirements), to be protected from liability in nuisance, from being prevented from conducting that farm operation by court order, and from the application of certain local government bylaws. Local government bylaws may also apply to some farm practices, and farmers affected should contact their relevant local government for more information.

Some of the Acts, regulations, and bylaws that may be relevant to this topic may include the following:

Federal Legislation

The *Fisheries Act* protects fish and fish habitat in ditches, streams, rivers and wetlands and prohibits the discharge of deleterious substances such as fertilizers, manure and pesticides into watercourses frequented by fish, or that may end up in water frequented by fish. It also prohibits the harmful alteration, disruption or destruction of “fish habitat”.

The *Species at Risk Act* outlines measures to mitigate or prevent damage to habitat that may be caused by the application of nutrients, wastes, fertilizers and soil conditioners to farmland.

Provincial Legislation

The *Drinking Water Protection Act* and regulations specify that a person:

- a. must not introduce anything or cause or allow anything to be introduced into a domestic water system, a drinking water source, a well recharge zone, or an area adjacent to a drinking water source, and
- b. must not do or cause any other thing to be done or occur if this will result or is likely to result in a drinking water health hazard in relation to a domestic water system.

The *Environmental Management Act* protects land, water and air environments from “pollution” and “waste”, and regulates the handling and disposal of hazardous materials. Below is a list of some of the regulation(s) under this Act:

- The Code of Practice for Agricultural Environmental Management (AEM) applies to all “agricultural operations” in British Columbia, from small hobby farms to large commercial operations and, among other things, regulates the storage and use of manure and other agricultural by-products, and allows farmers to operate without a waste permit in certain circumstances when storing and managing mortalities, manure, or other byproducts and managing agricultural composting operations.
- The Mushroom Compost Facilities Regulation sets minimum standards for composting and pollution prevention and deals specifically with the requirements of any mushroom media production facility.
- The Organic Matter Recycling Regulation regulates composting and land application for a range of organic materials including compost from non-agricultural wastes and outlines minimum standards to follow when composting or using compost made from non-agricultural wastes.

Publications

Publications that provide further information on fertilizers and soil conditioners include the following.

[*British Columbia Agricultural Composting Handbook*](#)

[*British Columbia Environmental Farm Plan Reference Guide*](#)

[*British Columbia Good Agricultural Practices \(GAP\) Guide*](#)

[*Soil Management Handbook for the Lower Fraser Valley*](#)

[*Soil Management Handbook for the Okanagan and Similkameen Valleys*](#)

In addition, crop production guides may provide helpful guidelines on the application of nutrients to land. These guides are referenced in the applicable commodity Factsheets that comprise this Farm Practices Reference Guide.