

FARM PRACTICES

COMPOSTING

Description

Composting is defined as the biological decomposition of organic materials, substances or objects under controlled circumstances to a condition sufficiently stable for nuisance-free storage and safe use.

Composting is used as an essential tool for, but not limited to, the management of agricultural wastes, the production of mushroom growing media, and the production of soil amendments for field application or use in soil-less mixes. Compost is defined as a product of composting which is used or sold for use as a soil amendment, artificial topsoil or growing medium, or for some other application to land.

The *Agricultural Waste Control Regulation* under the *Waste Management Act*, regulates agricultural waste compost production in BC. Composting operations which are not covered by the *Agricultural Waste Control Regulation* are not considered agricultural composting operations and are subject to regulation under the *Production and Use of Compost Regulation* (or the *Organic Matter Recycling Regulation*) under the *Waste Management Act*. Agricultural Waste is defined under the *Agricultural Waste Control Regulation*. Woodwaste is the only non agricultural waste that can be co-composted with agricultural waste and the resulting compost may be used on the farm or be sold off the farm. However, the woodwaste must have been previously used on the farm for one of the allowed uses described in the *Code of Agricultural Practice for Waste Management*. In addition local governments may enact bylaws related to composting which can require specific design criteria or site management plans

Non agricultural wastes brought onto the farm for composting purposes would require a permit or approval from Ministry of Water, Land and Air Protection.

Composting operations which fall outside the definition of composting in the CODE may require approval from the Agricultural Land Commission. Local or regional government bylaws may require permits or bylaw applications in order for a composting operation to be constructed or operate on a farm. In both cases farmers should check with these agencies prior to developing a composting operation to determine if approval is required.

Nuisance Concerns

The three main disturbances mentioned in the *Farm Practices Protection (Right to Farm) Act* are odour, noise and dust. All three disturbances can be of particular concern to practices surrounding composting.

Odour

Farmers engage in a variety of activities that produce odours. Many composting operations 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](#)

Noise

Farmers may engage in a variety of composting activities that require the use of equipment. Most equipment generates some noise. Noise is defined as any sound that is audible but judged to be an unwanted, irregular or erratic disturbance. Noise levels vary and may rise when equipment is run at high RPM. Noise may be generated continuously or intermittently.

See Nuisance Reference: [Noise](#)

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 composting operations 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

Composting Facilities

Composting facilities are an important part of the composting process. In most cases facilities include a impervious pad or building where composting and storage take place. These facilities are used to store raw materials or finished compost and may house the active composting stage. Other facilities may include ventilation and air scrubbing or filtering and finished compost screening and bagging. Materials will be moved by mobile equipment.

See Farm Practice: [Structures](#)

Composting Processes

There are several methods of composting that may be used on a farm. The most common are:

1. static piles or windrows,
2. aerated static piles or windrows,
3. turned windrows, and
4. in-vessel composting

The formulation and condition of the raw materials going into the compost should be suitable for the composting method being used.

Storage of Raw Materials

Raw materials should be stored in a storage facility or placed on an impermeable pad and covered to protect them from the weather and prevent the production of leachate and/or runoff. Care must be taken to ensure that no runoff enters surface or ground water supplies. Raw materials may be piled in the open for short periods of time, but precautions must be taken to ensure that none of it is lost or escapes.

Unightly piles of raw compost materials must not be left for long. Raw materials that have a potential to cause odors, dust or pest problems (e.g. dead fish and animals, manure, or ground paper) should be covered or managed so that problems do not occur.

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

Blending and Grinding

In order to begin the composting process and obtain the desired quality of compost, it may be necessary to grind and/or mix raw materials. Once the correct formulation of materials has been determined, raw materials must be blended and placed in the composting facility or returned to storage.

See Farm Practice: [Mobile Equipment](#)
[Product Processing](#)
[Stationary Equipment](#)

Curing and Storage

Compost should be cured after the active composting phase is complete. Curing and cured compost should be stored so that no compost is lost or escapes and compost quality is preserved. Compost which is to be used on the farm should be stored in accordance with the *Code of Agricultural Practice for Waste Management*.

See Farm Practice: [Storage of Farm Supplies and Products](#)

Packaging

Compost that is to be marketed off the farm may be sold either in bulk or packaged form. The packaging of compost may require the operation of packaging equipment.

Receiving and Shipping

On-farm composting requires the receipt of co-composting raw materials and/or the shipping of finished compost. Materials should be moved on and off the farm during regular business hours.

Related Farm Practices

Other farm practices that pertain to composting include, but are not limited to, the following:

Ventilation

Buildings used to house the composting activity or stored compost may require ventilation. Bio-filters may also be used to control odours.

Direct Farm Marketing and Agriculture Tourism

Compost produced on the farm from farm wastes may be sold directly from the farm.

Legislation

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

Federal

Fertilizers Act – controls the quality of composts sold or given away as fertilizers with guaranteed analysis

Provincial

Agricultural Land Commission Act – controls the siting of non-farm composting operations within an Agricultural Land Reserve

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

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

Organic Matter Recycling Regulation – regulates composting and land application of a range of organic materials

Mushroom Composting Pollution Prevention Regulation – deals specifically with the requirements of any mushroom media production facility

Publications

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

B.C. Agricultural Composting Handbook