

FARM PRACTICE

BURNING

Description

Stack Burning

Stack burning is conducted with control of combustion air and a stack or chimney to vent the emitted products of combustion into the atmosphere. Agricultural examples include the burning of fuel in greenhouses and the disposal of mortalities in incinerators.

Open Burning

Open burning is defined as the combustion of material with or without combustion air control, and without a stack or chimney to vent the emitted products of combustion into the atmosphere. Farmers may use open burning to control crop residues as a management tool in grass seed production and in the control of weeds, residue and brush on pasture, range and non-crop areas such as right-of-ways, ditches and dyke banks. Burning is also conducted to dispose of orchard and vineyard prunings, tree stumps, spoiled hay and straw, diseased crop material, and brush piles from land which has been cleared.

Environmental Concerns

Smoke from the open burning of vegetation and wood introduces a range of contaminants into the air, among them particulate matter, carbon dioxide, carbon monoxide, nitrogen oxides, and hydrocarbon compounds. Ash and dust particulates are introduced into the air mainly by open burning of plant prunings and other similar materials. Fly ash, a term reserved for the larger particulates in emissions generated from burning activities, can create aesthetic concerns and nuisance complaints. Further details on open burning are outlined below in the section on legislation.

Nuisance Concerns

The three primary disturbances referred to in the *Farm Practices Protection (Right to Farm) Act* are odour, noise and dust. Of particular concern in relation to open burning practices is dust – in the form of smoke – and odours resulting from such burning.

Dust

Dust – or smoke – in the air is defined as fine-grained suspended particulate. Whether people perceive dust as a nuisance or not will depend on the frequency, intensity and duration of the dust-generating event.

See also Nuisance Reference: [Dust](#)

Activities and Operations

Burning Alternatives

Whenever possible, alternatives to burning should be considered such as reducing the size of wood materials by chipping to allow it to be used as mulch or a compost amendment. Recycling of any combustible materials should be considered in place of burning whenever possible.

Grass Seed Residues

Grass seed producers may find it necessary to burn seed crop residue. Farmers in smoke-sensitive areas should take steps to minimize the duration of burns and ensuing smoke production.

Crop Residues

In order to replenish nutrients and to improve soil fertility and tilth, crop residues should be returned to the soil whenever possible. If crop residues cannot be baled or plowed into the soil, burning is considered an allowable option. In all situations, best burning practices that minimize burn duration and smoke production should be followed.

It is common practice in many areas to burn plant residues on roadside right-of-ways, along dyke banks, in ditches and in pastures. Burning inhibits weeds and plant diseases, reduces insect and rodent habitat, reduces the risk of fire, and makes it easier for new plants to grow.

Biomass Burning in Boilers

Traditional fuel sources for boilers include natural gas and – in some cases – coal. These fuel sources can be replaced by biomass in the form of fuel products such as agricultural pellets, manure pellets, corn kernels, corn stalks, seed hulls or wood products. Fuel sources should not include raw manure, or paper or wood products that have been treated with glues, paints, preservatives, or any toxic substances. Salt-laden wood products should not be considered as a fuel source. In all situations, regulations associated with standards for air emissions for biomass boilers must be followed. In 2008, for example, the *Code for Agricultural Practice for Waste Management* under the *Agricultural Waste Control Regulation* was amended to establish consistent rules for all boilers used in agriculture.

Fuel Storage

Stack burning may require that a variety of fuel products be stored. Solid fuels such as wood or coal and liquid fuel such as petroleum may need to be stored in a safe manner on a farm site until required for use.

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

Prunings

Orchard, berry and vineyard prunings are not considered to be agricultural crop residues if used for burning purposes and must, therefore, follow the *Open Burning Smoke Control Regulation* and associated *Code of Practice*. Many orchardists use flail mowers to mulch prunings. In some circumstances, it may be more prudent to burn prunings than to mulch them if plant material is suspected of harbouring disease. In such cases, best burning practices should be followed and burn duration and smoke production should be minimized.

Spoiled Hay and Straw

Spoiled hay and straw may be returned to the land, composted, sold, or given away.

Disposal of Refuse

The burning of refuse is not exempt from the *Environmental Management Act* unless it meets the requirements as outlined in the *Open Burning Smoke Control Regulation* and its *Code of Practice*.

Open Burning Prohibitions

The *Open Burning Smoke Control Regulation* prohibits the combustion of the following materials:

- tires
- plastics
- drywall
- demolition waste
- domestic waste
- paint
- hazardous waste
- tar paper
- treated lumber
- railway ties
- manure
- rubber
- asphalt
- asphalt products
- fuel and lubricant containers
- biomedical waste

Open Burning Best Management Practices

In circumstances where agricultural burning is absolutely necessary, best burning management practices should be followed. Particulate emissions and pollution can be reduced by implementing the following practices to reduce smoke production:

- increasing fire intensity
- minimizing the duration of the smouldering stage, as this phase can contribute more than half of the total particulate emitted during the burn
- controlling the type of fuel used
- ensuring that no contaminants are introduced to the pile
- avoiding compaction of materials
- allowing fuels to fully dry before burning
- controlling the duration of burns
- using forced air technology such as air curtain incineration or other appropriate air-assisting methodologies
- avoiding combustion when smoke is unlikely to disperse properly such as during periods of calm stable air or when the venting index is poor
- avoiding the overloading of fire piles that may restrict combustion and cause attendant excessive smouldering and smoke generation
- ensuring that fire attendees have equipment and water on hand appropriate to the type and size of fire
- following information as outlined in the *Wildfire Act* and *Wildfire Regulation*

Related Farm Practices

Other farm practices that pertain to burning include, but are not limited to, the following.

Mortality Disposal

Mortalities associated with small livestock or poultry may be incinerated.

See also Farm Practice: [Mortality Disposal](#)

Land Clearing

Brush piles generated as a result of land clearing may be burned but must follow the *Open Burning Smoke Control Regulation* and its *Code of Practice*.

Legislation

Agricultural producers are expected to follow all legislation that pertains to their farming operations. The *Farm Practices Protection (Right to Farm) Act* stipulates that the farm operation must meet the *Public Health Act*, *Integrated Pest Management Act*, *Environmental Management Act* and the regulations under those Acts. Information on federal and provincial legislation can be found in Appendices B and C. Acts, regulations and bylaws that regulate or may affect burning practices include, but are not limited to, the following.

Provincial Legislation

The *Agricultural Waste Control Regulation* and its associated *Code of Agricultural Practice for Waste Management* as outlined under the *Environmental Management Act* regulate emissions from biomass fuelled boilers used in agricultural production. The *Code of Agricultural Practice for Waste Management* regulates types of acceptable fuel and emissions from wood fired boilers used in agricultural production, and sets emission standards, testing and reporting requirements for boilers and heaters fuelled by biomass.

The *Fire Services Act* and the *British Columbia Fire Code Regulation* set requirements for fuel storage tanks.

The *Forest Act* is primarily concerned with crown land issues, but covers on occasion a number of private land issues that may be associated with burning.

The *Open Burning Smoke Control Regulation* and its associated *Code of Practice* as outlined under the *Environmental Management Act* regulate pollution aspects of open burning. Regulation of smoke pollution under the Act specifies that a waste discharge permit is not required for:

- agricultural burning of crops, weeds, foliage or stubble
- residential burning of foliage, weeds, crops or stubble such as may be considered for backyards
- burns that satisfy all the terms and conditions set out in the *Open Burning Smoke Control Regulation* and its *Code of Practice*
- burns conducted to comply with the *Weed Control Act*

All other burns require a waste discharge approval or permit from the Ministry of Environment. Even if conducted under permit, open burning must not pollute the air. It should be noted that Metro Vancouver is somewhat unique jurisdictionally in that it gives approvals within its boundaries.

The *Wildfire Act* prohibits open fires within one kilometer of a forest except in circumstances prescribed by the *Wildfire Regulation*.

Local Government Legislation

Local fire departments, municipalities, improvement districts or regional districts may have specific bylaws on open burning. An example is Metro Vancouver's Air Quality Management Bylaw No. 1082. In situations where these are more stringent than provincial regulations, they take precedence.

If a local bylaw is intended to address nuisances of the type under which a farmer is protected under the *Farm Practices Protection Act* (FPPA), it does not apply if the farm in question lies within the Agricultural Land Reserve (ALR), on Crown land, or is located within an aquaculture license area. In all circumstances, other pertinent FPPA conditions must be met. On the contrary, if the farm is located outside ALR and Crown land areas and is on land which a local government allows for farm use, nuisance bylaws typically apply. If the bylaw was created as a *fire* bylaw, a farmer – regardless of whether his farm is located within or outside ALR boundaries – must comply. Variations on bylaw stipulations may be possible if a farmer obtains a Ministry of Environment permit and complies with the

Open Burning Smoke Control Regulation and its associated *Code of Practice*. To obtain a permit, a farmer may, however, have to agree to burn in a more controlled manner than is typical for an open burn.

As a general rule before any open burning is carried out, all farmers should check with local authorities to determine if there is a local government bylaw that affects burning activities. If a local burning ban is in place, the ban takes precedence over any *Open Burning Smoke Control Regulation* exemptions.

Publications

Local, regional or provincial government agencies may have smoke management plans in place for reference to help farmers reduce impacts associated with burning practices. These can typically be found on applicable websites.

Publications that provide further information on burning include, but are not limited to, the following. Refer to Appendix D for details.

British Columbia Environmental Farm Plan Reference Guide
Creston Valley Grain Growers Burn Protocol Agreement