

## Federal and B.C. Regulations

Cannabis operations must responsibly manage their waste and not cause pollution, as required by the B.C. *Environmental Management Act* (EMA). There are many options to properly manage your waste that will ensure you meet the Federal *Cannabis Act* regulations for destruction while protecting the environment. The information presented here may be applicable to your operation, but it is your responsibility to be aware of the regulations and ensure that your disposal practices meet the requirements.

## Composting Solid Agricultural By-products

Solid agricultural by-products from cannabis operations may include cannabis, non-viable seeds, stalks, fibre, roots and root balls; as well as other materials such as used soilless media, coco-coir and peat. In the past, many growing operations mixed their agricultural by-products with expensive products such as kitty litter and disposed via landfill. For many operations this is unnecessary and not recommended. This material can be composted instead of landfilling.

Although not all growing waste is suitable for composting (e.g., rockwool is not compostable), most agricultural by-products can be composted. To ensure cannabis waste meets Federal requirements to be altered and non-recoverable for consumption, cannabis growing waste can be shredded and mixed with other agricultural compost feedstocks, such as spent growing media, non-cannabis vegetative debris (e.g., mature stalks and roots), manure from neighbouring farms, or fruit and vegetable waste. Non-cannabis compost feedstocks should make up 50% or more of the mixture.

Plant materials have different amounts of carbon and nitrogen, and it is important to have a good mix of materials used for compost feedstocks. Cannabis plant material is carbon rich, so adding nitrogen-rich compost feedstocks will be important for successful composting.

## Carbon and Nitrogen in Compost Feedstocks

- *Manure: nitrogen-rich*
- *Fruit and Vegetable waste: nitrogen-rich*
- *Fresh Grass clippings: nitrogen-rich*
- *Dried grass clippings: carbon-rich*
- *Wood residue: carbon-rich*
- *Leaves: carbon-rich*

## Agricultural Composting Process

Agricultural composting is a process where agricultural by-products are mixed and managed to decompose into compost. Composting reduces waste and produces an important soil amendment that provides nutrients and improves soil structure.

Composting is an aerobic process – meaning it requires oxygen. Turning your compost pile is an important way to mix the feedstock materials and add oxygen, which will help prevent strong odours. Check the moisture content of your compost pile and consider adding water when turning, or alternatively add dry feedstock materials to adjust the moisture content.

*For more information on composting, see the guide [On-Farm Composting in British Columbia](#)*

## Storing Agricultural By-Products

Storing or stockpiling agricultural by-products is not the same as composting. Depending on your location, field storage of solid agricultural by-products is allowed for up to seven months. A permanent storage structure is needed for longer-term storage.

*Review the [Code of Practice for Agricultural Environmental Management](#) (AEM Code) for additional requirements.*

## Other Options for Solid Agricultural By-products

### **Biomass fuel for agricultural boilers and heaters:**

some by-products may qualify for use as biomass fuel.

*[More information on Boilers and Heaters](#)*

**On-site anaerobic digestion:** plant and other wastes are used to generate and capture methane which can be used as energy; and carbon dioxide which can be used for growing and fertilizer.

*[More information on anaerobic digestion](#)*

**Landfill or Incineration:** contact your local municipality to see if these are options in your area.

For more information and to determine if you require a waste discharge authorization, visit

<https://forms.gov.bc.ca/environment/wda-enquiry/>

## Liquid Waste Management

Operators of outdoor, indoor, and greenhouse operations need to properly manage liquid wastes, including leachate and fertigation water. Liquid waste must not be discharged into the environment without a valid authorization. If you are considering discharging into a municipal drain system, this is only an option if the waste meets municipal effluent discharge standards. Contact your local municipality for more information.

If you need to dispose of collected or contained leachate or fertigation waste, management options include:

- adding it to agricultural composting or storage pile;
- mixing it with nutrient sources before applying nutrients to crops (e.g., in greenhouses, water recirculation techniques may reuse leachate as a nutrient source and conserve water);
- treating it before discharging to land or water; and
- sending it off-site to an authorized third-party for treatment.

### Approval for Wastewater Treatment Systems

*If you plan to install a wastewater treatment system, the AEM Code requires that you obtain Director approval prior to construction of the treatment system. For more information on obtaining approval, please contact: [wastedischargeapplicationinquiries@gov.bc.ca](mailto:wastedischargeapplicationinquiries@gov.bc.ca)*

## Nutrient Management

If you are applying nutrient sources (e.g., fertilizers and soil conditioners) to crops in an indoor or greenhouse operation, you must ensure that:

- nutrient sources do not escape during transportation or piping;
- nutrient sources are not discharged to a watercourse, across a property boundary or below the water table;
- total nitrogen applied from all nutrient sources is equal or less than the amount of nitrogen needed for optimum growth and yield; and
- records are kept of crop nutrient requirements, nutrient application rates and types of nutrient sources applied.

## Odour and Air Emissions Management

Federal regulations require air filtration systems for buildings where cannabis production occurs. Growing operations should use the *best available technologies* (e.g., carbon filters, biofilters) to help control odours. Some odours are part of normal farm operations, but growers must be aware that air contaminants (substances that can cause harm, injury, or interference) must be managed. Review the *AEM Code* for more information.

## Cannabis Extraction Waste

Extraction of cannabis oil is generally done with solvents, such as ethanol, butane or propane, or without solvents using supercritical CO<sub>2</sub> extraction. Cannabis extraction may produce hazardous wastes. It is your responsibility to determine if waste is hazardous and to properly dispose of the waste. You may want to work with a consultant or laboratory to help with testing and classification of waste. For more information and resources on hazardous waste visit <https://www2.gov.bc.ca/gov/content/environment/waste-management/hazardous-waste>

Processing facilities require a waste discharge permit under EMA to authorize the discharge of air emissions, and solid or liquid waste from processing. To determine if your operation requires a permit to discharge send your enquiry to: [WasteDischargeApplicationInquiries@gov.bc.ca](mailto:WasteDischargeApplicationInquiries@gov.bc.ca)

### Outdoor Hemp Production

*Outdoor hemp is produced under an Industrial Hemp License, but biomass used for CBD extraction falls under the Cannabis Act. Hemp producers should follow the same waste management practices for CBD-containing biomass (flowers, stems, viable-seed, and leaves) as for cannabis.*

## Recycling Programs in B.C.

Recycling and safe disposal options are available for many products used in cannabis growing and processing including packaging, electronic and lighting equipment, light bulbs, batteries, pesticides and more. In B.C. the Recycling Regulation requires producers (manufacturers, distributors, retailers) to take responsibility for collecting and recycling their products. Free recycling programs are available for many products. For more information, visit the *Recycling Council of BC website* or contact your local municipality.