Cannabis Solid Waste – a problem that's growing like a weed

The authors apologize for the use of puns.

By Richard Butler, Partner[1], Raeya Jackiw, Associate, with the assistance of Riley Weyman, Student-at-Law.

October 31, 2019

As we pass the one-year anniversary of Canada's legalization of recreational cannabis (happy Cannaversary!), the demand for cannabis in Canada continues to rise.[2] Cannabis cultivators and processors have been navigating licensing hurdles in an effort to increase production and profit from rising demand.[3] But not without challenges. CannTrust, a federally licensed and regulated cannabis producer operating a harvesting facility in Ontario, had its license suspended by Health Canada for growing Cannabis in five unlicensed rooms at its facility.[4]

CannTrust is now faced with the dilemma of how to destroy approximately $77 million worth of its inventory and biological assets.[5] The magnitude of CannTrust's dilemma is not an issue cannabis cultivators and producers in Ontario deal with every day. However, this situation raises questions about cannabis waste in general. How is cannabis solid waste regulated in Ontario?

---

1 Willms & Shier Environmental Lawyers LLP is focused on the full spectrum of environmental law, including agriculture, food production and natural resources law. Richard is the leader of the firm's Farms, Food and Cannabis practice. Our twenty lawyers make us the largest private sector environmental law firm in Canada.

2 Government of Canada, "Cannabis Demand and Supply", (modified, 4 October 2019), *Government of Canada*, online: <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/licensed-producers/market-data/supply-demand.html>.

3 Catrina Kronfli, "Supporting Ontario's Budding Cannabis Industry" *Ontario Chamber of Commerce*, online (pdf): <https://occ.ca/wp-content/uploads/Supporting-Ontarios-Budding-Cannabis-Industry.pdf>.

4 CannTrust Holdings Inc., "CannTrust Statement Regarding Health Canada Audit", (8 July 2019), *Cision Canada*, online: <https://www.newswire.ca/news-releases/canntrust-statement-regarding-health-canada-audit-842177803.html>.

5 CannTrust Holdings Inc., "CannTrust Advances its Plan Towards Regulatory Compliance", (14 October 2019), *Cision Canada*, online: <https://www.newswire.ca/news-releases/canntrust-advances-its-plan-towards-regulatory-compliance-843589430.html>.

With over half of Canadian licenses for cannabis cultivation and/or processing issued to operators in Ontario, it is critical for facility owners and operators to be aware of their legal obligations and liability.[6] Cannabis cultivation and processing emits solid, liquid and air waste products. Every type of waste raises its own legal concerns. What follows is an overview of how solid cannabis waste is regulated under the *Cannabis Act* and Ontario's environmental legislation[7].

Federal Regulation of Cannabis

Cannabis is regulated at the federal level by the *Cannabis Act*[8] and Cannabis Regulations.[9]

The *Cannabis Act* defines cannabis as any part of a cannabis plant (e.g. flower, leaf and seed) including the phytocannabinoids produced by the plant and any substance that contains any part of a cannabis plant.[10] This definition of cannabis excludes roots, non-viable seeds and mature stalks of the cannabis plant.[11] Any cannabis material that falls within this definition of cannabis must be dealt with in accordance with the *Cannabis Act* and the Cannabis Regulations.

The federal regime is largely silent on environmental-related issues, downloading regulation to the provinces. For example, searching for "water" or "waste" within the *Cannabis Act* or Regulations provides no guidance to producers or licence holders about environmental requirements.

Destruction of Cannabis Waste

Despite establishing a stringent regulatory regime for growing facilities, the Cannabis Regulations do not directly address disposal of cannabis waste[12], and there are no prescribed methods for disposal. However, the Cannabis Regulations do regulate the

---

6 Upland Agricultural Consulting, "Commercial Cannabis Production in British Columbia: Best Available Control Technologies and Regulatory Oversight of Environmental Considerations" (May 2019), *Canadian Agricultural Partnership* (Report), online (pdf): <https://www2.gov.bc.ca/assets/gov/environment/waste-management/industrial-waste/industrial-waste/cannabis-production/cannabis_bacts_report.pdf> [CAP Report].

7 We cannot review every type of waste, and every type of waste technology in the space provided; however, we provide an overview of solid waste issues and liabilities for cannabis cultivation and production.

8 *Cannabis Act*, SC 2018, c 16 [*Cannabis Act*].

9 Cannabis Regulations, SOR/2018-144 [Cannabis Regulations].

10 *Cannabis Act*, *supra* note 7, s 2(1) (the definition of cannabis also includes any substance that is identical to any phytocannabinoid produced by or found in a cannabis plant).

11 *Ibid.*

12 Solid waste from cannabis production can be categorized as either green (plant material) or non-green (rockwool, packaging or plastics). In this article, we will focus on the environmental impacts of the plant-based material.

destruction of cannabis, which regulation is mirrored in 'controlled substances' and narcotic legislation.[13]

Licensed cannabis processors and cultivators are authorized to destroy cannabis by methods that: (i) do not expose any individual to cannabis smoke or vapour, and (ii) meet all applicable federal, provincial and municipal environmental protection legislation.[14]

Destruction can occur on- or off-site, but the federal regulations require that destruction be completed in the presence of a qualified witness, with security clearance. The regulations also have destruction record-keeping obligations, requiring dates, pre-destruction weight, method and identification of witnesses[15].

What amounts to destruction of cannabis is currently undefined in the federal regulatory framework. Under the previous regulatory framework for medical marijuana, cannabis was considered destroyed "when it is altered or denatured to such an extent that its consumption and propagation is rendered impossible or improbable."[16] Since the term cannabis includes the phytocannabinoids produced by the plant, there was (and likely remains) a requirement to destroy the phytocannabinoids themselves – not just the physical plant material.[17]

Is Kitty Litter the Answer?

There is also little guidance from the federal government on what it currently considers an acceptable method of destroying cannabis.

One cannabis destruction method previously endorsed by Health Canada is referred to as the Kitty Litter Method. The Kitty Litter Method is described in a Health Canada Information Bulletin from 2016.[18] This 2016 Bulletin provides guidance to persons producing cannabis for their own medical purposes. It recommends rendering cannabis

---

13 Narcotics Control Regulations, CRC, c 1041 (the provisions relating to destruction enter into force on December 9, 2019). Cannabis and its preparations and derivatives were listed in section 17 of the Schedule of the Narcotics Control Regulations. Section 17 of the Schedule of the Narcotics Control Regulations was repealed by the Regulations Amending and Repealing Certain Regulations Made Under the Controlled Drugs and Substances Act which came into force when cannabis was legalized on October 16, 2018.

14 Cannabis Regulations, *supra* note 9, s 43.

15 Cannabis Regulations, *supra* note 9, s 229.

16 Access to Cannabis for Medical Purposes Regulations, SOR/2016-230, as it appeared on 15 October 2018.

17 The Access to Cannabis for Medical Purposes Regulations and *Cannabis Act* use the same definition of cannabis.

18 Health Canada, "Information bulletin: safety and security considerations when producing cannabis for your own medical purposes", Information Bulletin (Ottawa: HC, modified 11 August 2016), online: <https://www.canada.ca/en/health-canada/services/information-bulletin-safety-security-considerations-producing-cannabis-for-own-medical-purposes.html>.

unfit for use or consumption by blending the cannabis with water and mixing it with cat litter (for odour control) before disposing of it. The destroyed cannabis can be placed in the garbage and sent to the landfill.

More recently, the Alberta Government released an information sheet to provide "…proper management and disposal procedures for cannabis waste…" in Alberta. This document provides limited guidance for liquid concentrate waste, as well as compostable v. non-compostable mixed waste.[19] This document also permits the Kitty Litter Method, requiring a mixture composed of at least a 50% non-cannabis waste.

The Kitty Litter Method renders the consumption of waste cannabis 'impossible or improbable'. While the cannabis slurry generated by the Kitty Litter Method is unusable as a narcotic, the phytocannabinoids in the slurry remain intact, which impairs potential secondary use of the waste cannabis biomass. It's not surprising, therefore, that the only disposal option for the Kitty Litter Method is landfilling. Consider also the heavy cost to producers of purchasing 1 ton of cat litter for every ton of cannabis waste to be destroyed; plus the additional cost of sending two tons of material to landfill, instead of one.

Provincial and Municipal Regulation of Solid Cannabis Waste

With little guidance from the federal government, much of the regulation of cannabis waste and its destruction is left in the hands of the provinces.

What is clear from the federal Cannabis Regulations is that cannabis destruction methods must comply with all federal, provincial and municipal environmental protection legislation applicable to the location where the cannabis is destroyed.[20]

Cannabis cultivators, processors and property owners must be aware of provincial environmental laws governing emissions, waste and water use. In Ontario, these include the laws set out in the *Ontario Water Resources Act*,[21] *Pesticides Act*,[22] *Nutrient Management Act, 2002*,[23] and *Environmental Protection Act* ("EPA").[24] Failure to comply with these laws, or obtain the appropriate permit (an Environmental Compliance Approval or "ECA"), can result in regulatory Orders and prosecutions.

---

19 Government of Alberta, "Fact Sheet: Cannabis Waste Management" (October 2018), online: https://open.alberta.ca/publications/9781460141878>.

20 Cannabis Regulations, *supra* note 8, s 43(1)(a)(i).

21 *Ontario Water Resources Act*, RSO 1990, c O 40 [OWRA].

22 *Pesticides Act*, RSO 1990, c P 11.

23 *Nutrient Management Act, 2002*, SO 2002, c 4 [NMA].

24 *Environmental Protection Act*, RSO 1990, c E 19 [EPA].

In Ontario, the Kitty Litter Method and landfilling the output is currently an acceptable method for disposing and destroying solid cannabis waste biomass.[25]

However, with Ontario's new Food and Organic Waste Framework proposing to ban food and organic waste from landfills by 2022, cannabis processors and cultivators will need to look to alternative methods for disposing cannabis waste material.[26]

Possible Alternative Methods of Destroying Cannabis Waste Biomass

Incineration

Incineration remains an option for destroying cannabis if the process does not expose any individuals to cannabis smoke or vapour. Solid cannabis waste, including tree branches, leaves and brush, will likely meet the definition of woodwaste, in which case a waste ECA may be required. There are limited exemptions that may apply for smaller incineration operations, with limited storage.

When incinerating solid cannabis waste, producers and cultivators may also require an air ECA to address particulate matter.

Incineration may also trigger local municipal regulatory requirements, including fire and building code considerations.

Composting Cannabis Waste

A destruction method consistent with Ontario's Food and Organic Waste Framework could be to compost solid cannabis waste. This method involves grinding, mixing and incorporating cannabis waste with equal parts compostable mixed waste to render the cannabis unfit for consumption. The cannabis waste could then be composted on-site or transported to an authorized composting facility for re-use in agriculture. This firm has been advised by at least one composting organization that its on-site composting technology de-natures the phytocannabinoids in cannabis waste to non-detect levels.

On-site composting may require an ECA for waste. The EPA requires operators of waste management systems and waste disposal sites to obtain a waste ECA.[27] However, solid cannabis waste may be exempted from the requirement for an ECA if it is considered "agricultural waste".[28]

---

[25] CAP Report, *supra* note 6 at 55.

[26] Government of Ontario, "Food and Organic Waste Framework: Action Plan" (updated, 7 May 2019), *Government of Ontario*, online: <https://www.ontario.ca/page/food-and-organic-waste-framework#section-4>.

[27] EPA, *supra* note 23, s 27.

[28] General – Waste Management, RRO 1990, Reg 347, s 3 [Reg 347].

It is currently unclear whether solid cannabis waste meets the agricultural waste exemption, and so, a waste ECA may be required.

Anaerobic or Aerobic Digestion

Solid cannabis waste may also be destroyed on- or off-site with the help of an anaerobic or aerobic digester. Anaerobic digesters allow microorganisms to break down solid cannabis waste in an oxygen-free environment. Similarly, aerobic digesters use naturally occurring microbes to digest solid cannabis waste in an oxygenated environment. We have been advised that both technologies have been shown to significantly reduce phytocannabinoids to non-detect or near non-detect levels, and both can produce a biomass product ready for agricultural use.

Digesters often produce biosolid output, air emissions and liquid waste. ECAs may be required for all three outputs depending on the manner in which they are discharged into the environment.

Crop Waste

Subject to certain conditions, crop waste can be applied to land in Ontario. A waste ECA is not required for solid waste plant material that has been processed without the use of chemicals if it is transferred for direct transportation to a farm operation to be used to improve the growing of crops.[29] If your solid cannabis waste does not meet this exemption, ECAs or non-agricultural source material plans may be required in order to spread solid cannabis waste on agricultural land.

This method could be used to dispose of biosolid output from digesters or other solid cannabis waste that has been rendered unfit for consumption.

Going Forward

Cannabis cultivators and processors must pay close attention to applicable environmental laws. Failure to comply with laws can result in prosecutions and fines. Those seeking to establish new cannabis operations should seek legal advice to manage and reduce their exposure to environmental liability.

---

[29] *Ibid*, s. 3(2)(23).

Richard Butler is a partner at Willms & Shier Environmental Lawyers LLP in Toronto. Richard may be reached at 416-862-4837 or by e-mail at rbutler@willmsshier.com.

Raeya Jackiw is an associate lawyer at Willms & Shier Environmental Lawyers LLP in Toronto. Raeya may be reached at 416-862-4827 or by e-mail at rjackiw@willmsshier.com.

Document #: 1620326