

# ENVIRONMENTAL HEALTH RISKS OF PERSONAL CANNABIS CULTIVATION

Personal cultivation as described by the Cannabis Act (2017) will permit adults to cultivate up to four cannabis plants per household as of October 17, 2018. The Canadian Federal government will be responsible for regulating and enforcing industry-wide standards for commercial producers, while the provinces and territories will be responsible for overseeing the distribution and sale of cannabis, as well as developing guidelines and rules for growing cannabis at home. This fact sheet identifies health and safety concerns that may be relevant for personal cultivation and recommends key messages to help mitigate some of these risks.



## RISKS

- The presence of cannabis plants, products, and waste may increase the risk of inadvertent consumption
- The lack of an in-home possession limit and the challenges of enforcing the four-plant Federal guideline may facilitate the accumulation of large quantities of cannabis
- All stages of the production process (including cultivation, cannabis processing, and waste management) present access and poisoning risks
- US and Canadian poison control centre data suggest that children and pets are just as likely to consume cannabis resin (hashish), plant material, and unfinished joints as they are edibles (e.g., cookies and candies)

## KEY MESSAGES

- Treat all cannabis products as hazardous to children and pets (regardless of their perceived appeal)
- Create a dedicated grow space with controlled access (e.g., strong locks or alarms)
- Label cannabis products and keep them in a locked cupboard or container
- Keep local poison control information on hand in case of cannabis poisoning



### ACCESS AND ACCIDENTAL POISONING



## RISKS

- Young cannabis plants require high humidity, and mature plants create high humidity conditions (equivalent to seven tropical plants per adult cannabis plant)
- High humidity can lead to fungal growth on plants and mould issues in the home
- Odour can intensify during drying, curing, and processing and can impact well-being through annoyance, disruption, and stress
- Carbon monoxide (CO) is a by-product of hazardous CO<sub>2</sub> enrichment practices such as using generators, burners, compressed CO<sub>2</sub>, and venting furnaces and water heaters into the home which can lead to CO poisonings

## KEY MESSAGES

- Scale production according to the home's ventilation capacity, the occupants' mould sensitivity, and the ability to control odour
- Control mould and fungus by assessing and reducing moisture sources, growing in a humidity-controlled room, and using a dehumidifier
- Use a humidity monitor (hygrometer)
- Dispose of mould-infested plants quickly and safely (e.g., use personal protective equipment, follow municipal bylaws on proper waste disposal, and inspect the grow space for signs of fungus or mould)
- Consider non-ignition methods of CO<sub>2</sub> enrichment
- Equip all homes with a carbon monoxide detector and ensure regular testing

### INDOOR AIR QUALITY



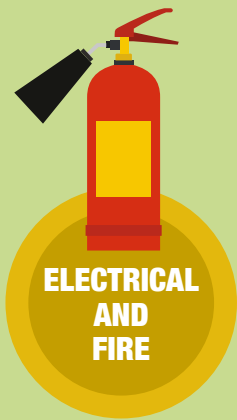


### RISKS

- To avoid crop loss, growers may be inclined to use potent pest control options. Cultivation conditions such as plants grown closely together, high humidity levels, and low ventilation rates can increase plant susceptibility to pests and, as a result, pest outbreaks can destroy crops quickly without intervention. Growers may resort to using strong pesticides to prevent these losses.
- Pesticides can become concentrated in hash oils, hashish, and other cannabis concentrates (e.g., wax, shatter, rosin)
- Improper storage of pesticides can also pose health risks to adults, children, and pets

### KEY MESSAGES

- Create a growing environment that reduces the susceptibility of plants to pests
- Limit pesticide use and avoid non-approved pesticides
- Follow Health Canada's general guidance on safe use of pesticides indoors

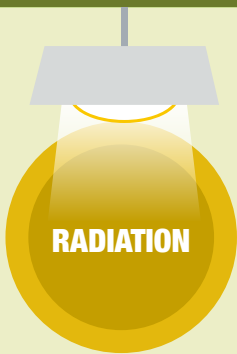
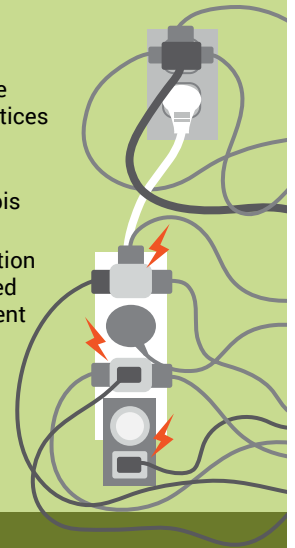


### RISKS

- Electrical and fire hazards are often related to improperly used/installed equipment or tampering with the electrical supply
- Lighting requirements, electrical overloads, and the presence of compressed gas, fertilizers, and pesticides increase the risk of fires, burns, and explosions
- Solvents can be used to extract cannabinoids to produce cannabis concentrates. The process involves "blasting" a pressurized organic solvent through a tube packed with cannabis, collecting the liquid that flows from the bottom, and purging the solvent using a heat source. This type of extraction is extremely hazardous, poses additional risks of fire and burns, and has resulted in hundreds of explosions since legalization in several US states.

### KEY MESSAGES

- Comply with municipal, building, electrical, and fire codes to ensure safe practices
- Consider the use of high-efficiency, low-power LED lights intended for cannabis cultivation
- Follow safety and installation instructions or hire certified installers for new equipment
- Be aware of the dangers (and legal consequences) of using organic solvents in cannabis concentrate processing



### RISKS

- Grow lamps are used to produce high intensity ultraviolet (UV) light to increase tetrahydrocannabinol (THC) content or control fungal spores in the air or on surfaces
- Growers can tamper with the bulbs to increase UV-C output which increases the risk of UV-related skin and eye damage

### KEY MESSAGES

- Limit UV exposure by turning off UV-emitting lights while in the grow space
- Wear personal protective equipment in grow spaces to protect skin and eyes



This fact sheet presents a list of risks and key messages associated with personal cannabis cultivation and is based on an evidence review titled *Growing at Home: Health and Safety Concerns for Personal Cannabis Cultivation*.

The full document and references can be found at:

<http://www.ncceh.ca/documents/evidence-review/growing-home-health-and-safety-concerns-personal-cannabis-cultivation>

For more information and resources on cannabis, please consult the NCCEH's Cannabis Topic Page at:

<http://www.ncceh.ca/environmental-health-in-canada/health-agency-projects/cannabis-resources-environmental-health>

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