

# Cannabis quality involves careful science and carefree highs

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To deliver quality cannabis, producers must simultaneously aim for both careful science and carefree highs. Credit: Esteban Lopez/Unsplash

Canada's legal cannabis industry continues to make progress. Product shortages are decreasing. [Store numbers](#) are increasing. And [edible cannabis regulations](#) have just been finalized.

With these basics falling into place, the industry and its regulators can focus more on competing with black markets. Product quality is one area where legal suppliers might have advantages. But to deliver good quality cannabis, producers must simultaneously aim for both careful science and carefree highs.

This dual goal is partly due to government policy. Cannabis producers and products are federally regulated, much like pharmaceuticals. Health Canada oversees [producer licences](#), [package designs](#) and medical cannabis sales.

Meanwhile, cannabis retailing is provincially regulated, much as with alcohol. In Ontario, for example, [one provincial agency](#) runs wholesaling and online sales. Another handles [retail licences](#) and [employee qualifications](#).

## Preventing defects

This regulatory approach emphasizes conformance to rules and specifications. Such *conformance quality* helps prevent product defects and consumer harm.

For example, cannabis producers must follow Health Canada's [Good Production Practices](#) (GPP). These include [testing to ensure products](#) don't contain pesticides or mould, but do contain the promised levels of [THC \(tetrahydrocannabinol\) and CBD \(cannabidiol\)](#).

Such testing should help legal products be more reliable than black-market ones. Indeed, some [consumers have found](#) their moderate-strength legal products provide the same high as their supposedly high-strength illegal ones did. Evidently some illicit suppliers exaggerate their products' attributes. They know they won't be tested.

Health Canada also requires producers and distributors to [track all their cannabis](#). Each month they must report the amounts harvested, processed, or sold.

Many organizations exceed these legal minimums. For instance, retailers aren't required to test products. But Québec's cannabis agency tests [10 products per supplier](#) each month to confirm their contents.

Similarly, some producers have adopted [international quality standards](#) like [ISO 9000](#). Others have formed a [cannabis industry quality association](#).

## Grow from cuttings

Producers do other things to ensure product consistency. Many grow their plants from cuttings rather than seeds. This helps each plant match its "mother's" traits.

Indoor growing can also improve consistency. It's more expensive than using greenhouses or open fields, but it gives more control over [growing conditions](#).

Despite these efforts, problems sometimes occur. Producers have recalled [13 cannabis products](#) since October. Some merely had [labelling errors](#). But others concerned [mould contamination](#), [insufficient THC](#) or [unlicensed production](#).

(Incidentally, Health Canada encourages consumers to [report any adverse side effects](#) they experience from cannabis use.)

Of course, consumers don't just want to avoid problems. They also want to gain benefits.

## Designing products

So producers must design products to satisfy and delight their customers. But ensuring good *design quality* is difficult. That's because consumers' preferences vary widely and product designs offer many options.

The most basic product format is dried cannabis for smoking. But even it requires many decisions. Producers must select plant varieties and growing conditions that will yield [high quality "top shelf"](#) flowers. And they must choose whether to sell the result as dried flower, pre-rolled joints or even [filter-tipped "cigarettes"](#).

Oils and other extracts start with dried plants and add more process steps. Oils can be extracted, purified, blended and diluted into many formulations.

Cannabis foods, drinks and lotions combine extracts with additional ingredients and additional decisions. For example, should cannabis-infused beverages taste like cannabis or like something else? Should they be sweet, sour, salty or spicy?

## Creating experiences

But since cannabis is a drug, the quality of its effect also matters. Cannabis producers are clearly designing tangible goods. But they might want to adapt concepts relating to intangible "experiential" services like entertainment. What experience should they offer the consumer?

Recreational users desire pleasant effects ranging from mild relaxation to powerful highs. When smoking cannabis, they also care about its aroma.

By contrast, "wellness" users seek better health, while medical users need [specific treatments](#). These consumers mostly prefer cannabis oils. Those allow more precise dosages and avoid smoking's harms.

As producers gain experience, they could increasingly experiment with cannabis product formulations. Which mixes of THC, CBD and other cannabinoids give the best recreational highs? Or the most medical relief?

Some experimentation is already under way for beverages. With traditional cannabis drinks, the buzz arrives and fades much more slowly than that of alcohol. Companies are consequently developing [beverages with faster onset and recovery times](#). These will better suit "social drinking" situations.

## **Extra challenges**

One quality challenge facing product designers is scientific. Cannabis contains THC, CBD and many other [cannabinoid chemicals](#) whose effects are not well understood. So, much trial-and-error will be needed at first.

Other challenges are regulatory. For example, producers are already designing edibles like [cannabis chocolates and sugars](#), but they can't test them with consumers until October. So product feedback techniques like tasting panels aren't yet possible.

Product designers also must deal with inherent contradictions in public policy goals. Legal cannabis products must be appealing enough to draw existing users away from illicit suppliers. But not so appealing that they attract many new users, or accidentally get ingested by [unsuspecting adults, children or pets](#).

In other words, cannabis quality must be high, but not too "high."

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