A Budding Innovative Cannabis Solution: Shipping Container Farms

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Since legalization, the upsurge in cannabis cultivation, processing and retailing has ignited innovation. Cannabis growers, processors and retailers are continuously looking for new and improved ways to circumvent the many challenges associated with traditional methods of cannabis cultivation, production and sales, such as constraints on space, harsh or unpredictable climate conditions, plant disease, mold, pests and limited growing seasons. Furthermore, industry challenges such as costly start-up expenses, lengthy construction periods, and burdensome licensing processes have also incentivized industry players to develop cost-effective, efficient, and compliant strategies.

Based on these challenges, it is no surprise that the recent trend of container farms, and in particular, cannabis container farms has grown in popularity. Reclaimed shipping containers are increasingly being used worldwide as a successful alternative to traditional farming methods. This article will explore the unique solutions that shipping containers offer to overcome some of the common limitations associated with cultivation, production, processing and retailing facilities and operations in the cannabis sector.

SHIPPING CONTAINERS FOR CULTIVATING, PRODUCING AND PROCESSING CANNABIS

How does it Work?

Various companies[1] have used commercial shipping containers to build secure cannabis facilities that precisely control air temperature, water temperature, humidity levels, CO^2 levels and ventilation. These enclosed containers also allow crops to be maintained in a more safe and discreet manner. These shipping containers – which are also being marketed by some Ontario companies for produce farming[2] – can be placed in any location with a flat and solid ground and access to water and power for irrigation and electricity for light.

What are the Benefits?

The following benefits can be realized by using shipping containers in the cannabis industry:

- *Increased Production:* According to Delta 9, a Toronto Stock Exchange listed cannabis company, their "grow pods", which come with standardized hydroponic growing methodologies,[3] can produce roughly 32.5 kilograms of cannabis per year – valued at somewhere between $300,000 and $400,000 at current retail prices.[4]
- *Accessibility:* As a "turnkey" solution, shipping containers are being marketed to both new and experienced cannabis facility operators. The set-up process is generally quick, easy and requires limited resources.
- *Flexibility:* Shipping containers allow greater flexibility in selecting a suitable location, whether it be in an urban or rural setting. The compatibility and portability of shipping containers also makes transportation and re-location easier and more cost-effective.
- *Environmentally Conscious:* Shipping container farms generally recycle their own water, using up to 90 percent less water than a typical 1.5 acre land farm.[5] Local production also eliminates the long travel distances that are often necessary for suppliers to transport goods to certain markets. In rural communities in northern Canada, for example, the costs associated with transport often exceed the expense that would be required to power an enclosed shipping container.
- *Reduce the Risk of Crop Failure:* Shipping containers generally promote healthier, better-controlled environments, making them more resilient to pests, mold, mildew, and plant disease. However, if contamination occurs, it is compartmentalized to one area. Since the contaminated cannabis can be destroyed without spoiling other crops, the amount of loss in product is significantly more limited than that often seen in large, open greenhouse facilities.[6]
- *Space and Reduced Facility Costs:* Cannabis cultivation requires substantial growing space. However, there are significant costs associated with acquiring and maintaining suitable premises to cultivate cannabis. Even where a start-up cannabis company finds a suitable premises, many building owners will be reluctant to rent out space that is being used for cannabis. Shipping containers provide an effective solution to these challenges. Shipping containers also make it easier for companies to increase production, as they may be "stacked" on top of one another, allowing a company to increase its growing and processing capabilities without the need for more space.
- *Security:* Cannabis cultivation, production and processing has a need for heightened security given the high value of the crop. Strict security standards are mandated by the *Cannabis Act* (Canada) and its Regulations. Part 4 of the Cannabis Regulations sets out physical security measures that are required and are necessary to secure sites where licence holders conduct activities with cannabis. Shipping containers provide exceptional security to meet those standards. The sight of stacked reinforced steel containers will deter thieves and achieve the physical security goals the Canadian federal government is looking for.

SHIPPING CONTAINERS IN THE RETAIL CANNABIS MARKET

The shipping container trend has also disrupted mainstream retailers, as shipping containers are increasingly being used in the retail space in a number of different industries. For instance, Stackt Market in Toronto has taken unused land and transformed it into a new, sleek outdoor mall built entirely of shipping containers. [7] It consists of over 30 retailers, service providers, event spaces and a brewery.[8]

Shipping containers are also being used to revamp the cannabis retail sphere, disrupting mainstream retail providers by bringing legal cannabis to more markets and alternative destinations. Toronto-based POPCANN, has launched their modular cannabis stores, and plan to "aggressively" expand across the country. The retail stores range in size from 400 to 800

square feet, and are all built from reclaimed shipping containers. POPCANN's mandate is to ensure that legal cannabis is accessible to all Canadians. The optimal sizes, layouts and transportability of the stores will enable the company to bring legal cannabis to remote communities, music festivals, seasonal towns and other non-traditional retail environments, similar to how events are now temporarily licensed to sell and serve liquor. The company is currently applying for retail licenses and expects seven to 10 stores to be fully operational this year.[9]

In describing how POPCANN originated, co-founder Michael Girgis stated, "The structure of the shipping container is used in the retail space by many other industries. POPCANN is leading the charge in positioning the shipping container–plus all the innovative technology inside them–as new, practical solutions for the cannabis industry."[10] The company's projective mapping technology can create any theme within the store, change the mood and atmosphere at the touch of a button, and create an immersive customer experience. The company is also exploring using augmented reality to let customers engage with product.[11]

The company says the stores will include patent-pending security technology for age-restricted entrance, secure and stream-lined ordering, and fulfillment on-site. A temporary unlicensed prototype can be found in downtown Toronto.[12]

Farm-Gate Retail Cannabis

Similar to craft breweries and wineries, Ontario consumers will soon be able to purchase cannabis from licensed cannabis processors and micro-class cannabis farms.[13] Reclaimed shipping containers functioning as farm-gate cannabis stores make as much sense as the Belgian Moon premium small batch brewery built inside three shipping containers in the heart of downtown Toronto.[14]

INNOVATION IN THE CANNABIS INDUSTRY

To survive and thrive in an increasingly competitive and saturated market, cannabis companies will need to be prepared to embrace innovation and step away from traditional cannabis cultivation, production, processing and sales methods. The use of shipping containers provides merely one example of innovation in the cannabis realm. There are countless other ways, such as the use of aquaponics – a combination of fish farming and soilless hydroponics – that are revolutionizing the cannabis industry. Ultimately, to stand out from the crowd, cannabis companies will need to continue to be sensitive to consumer demands, embrace innovative, efficient and cost-effective solutions, and adapt to the inevitable change that can be expected in the industry.

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[1] See for example: Canna Box Containers, online: <https://cannaboxcontainers.com/>; Delta 9, online: <https://www.delta9.ca/>; Box Container Group, online: <https://boxcontainergroup.com/grow-box/>; GrowBox, online: <https://growboxco.com/grow-boxes/>; Micro Lab Farms, online: <https://www.microlabfarms.com/>.

[2] Lilian Schaer, "Canadian container farming system aims to grow markets", Farmtario (23 December 2019), online: <https://farmtario.com/news/canadian-container-farming-system-aims-to-grow-markets/>.

[3] Karen Graham, "Winnipeg Cannabis grower branches out into Grow-Pods", Digital Journal (16 January 2019), online: <digitaljournal.com/business/winnipeg-cannabis-grower-branches-out-into-grow-pods/article/541087>.

[4] Austin Grabis, "'Some assembly required': Cannabis grow pods turn into new business opportunity for Winnipeg company," CBC (14 January 2019), online: <https://www.cbc.ca/news/canada/manitoba/cannabis-grow-pods-winnipeg-1.4975464>.

[5] Box Container Group, "The Benefits of Hydroponics", online: <https://boxcontainergroup.com/grow-box/>.

[6] *Supra*, note 4.

[7] Stackt Market, online: <https://stacktmarket.com/>.

[8] *Supra*, note 7.

[9] Mario Toneguzzi, "Prefabricated Cannabis Store Concept Plans Aggressive Expansion in 'Alternative Destinations'", Retail Insider (13 June 2019), online: <https://www.retail-insider.com/retail-insider/2019/6/prefabricated-cannabis-store-concept-plans-aggressive-expansion-in-alternative-destinations>.

[10] *Supra*, note 9.

[11] *Supra*, note 9.

[12] *Supra*, note 9.

[13] Matt Lamers, “Ontario’s cannabis processors, micros not barred from farm-gate retail”, (6 January 2020), online: <https://mjbizdaily.com/ontarios-cannabis-processors-micros-not-barred-from-farm-gate-retail/>.

[14] “Belgian Moon Mobile Brewery Now Open at Toronto’s Stackt Market”, Canadian Beer News (10 April 2019), online: <https://www.canadianbeernews.com/2019/04/10/belgian-moon-mobile-brewery-now-open-at-torontos-stackt-market/>.

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