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Edison Explains

Cannabis

How is the cannabis market reacting to the recent Canadian legalisation?

How has the recreational cannabis market evolved after Canadian legalisation?

Canada's legalisation of recreational cannabis created sudden interest from investors that was quickly smothered by the realities of the market.

The Horizons Marijuana Life Sciences Index fell from a daily NAV of US$26.07 on 15 October (two days before legalisation) to US$17.03 by 29 October. Meanwhile, the ETFMG Alternative Harvest ETF fell from US$40.9 on 16 October to lows of US$29.2 by 29 October.

The market in Canada is likely to develop slowly, especially as legal dispensaries, which must pass rigorous criminal background checks and apply for a C$30,000 licence in some cities, compete against well-established illegal operations.

It is important to note that Canada is not alone in shifting its regulatory stance on cannabis. Alongside legalisation efforts in the US, cannabis is now widely legal in the EU and Australia for medical purposes.

How is cannabis used medically?

Cannabis contains a complex cocktail of compounds known as cannabinoids. There are over 70 cannabinoids in cannabis, the most recognisable being tetrahydrocannabinol (THC), which is principally responsible for the cannabis 'high'.

A synthetic version of THC has been approved by the FDA in the treatment of cancer-related nausea and is being used to treat anorexia in AIDS patients.

The second-most abundant cannabinoid in cannabis, cannabidiol (CBD), is not psychoactive and has shown some promise in neurological diseases. A natural version of the chemical has recently been approved for use in certain paediatric epilepsies in the US.

Other cannabinoids are less well understood, but preliminary evidence suggests they might help with a range of diseases.

Edison's insight:

"Cannabinoid-based therapies have a lot of potential, but due to a historical stigma there has not been as much drug development of cannabinoids as there should have been. GW's recent FDA approval for CBD in Dravet syndrome and LGS will hopefully be the first of many." Maxim Jacobs, director of healthcare and research, North America

How do cannabinoids work?

Cannabis works on the body through cannabinoid receptors, which react to the compounds in cannabis.

Only two known cannabinoid receptors, CB_1 and CB_2, have been positively identified, although it is believed others exist. CB_1 receptors control the release of certain biological neurotransmitters and are associated with the psychoactive effects of the plant. CB_2 receptors are part of the immune system and found throughout the body, especially within the spleen.

CB_2 receptors are commonly activated by cannabinoids in or just outside the brain and control the migration of immune cells and the release of cytokines, a family of chemicals that act on the immune system.

How is cannabis produced commercially?

Cannabis manufacturing has some significant drawbacks that make large-scale manufacturing difficult. For instance, growing cannabis plants is time-consuming, with three- to 10-month cultivation cycles.

The plant then requires a high degree of purification to remove unwanted pesticides, moulds, bacteria and residual solvents to achieve a pure product.

For synthetic cannabinoids, these difficulties are worsened due to the need for chemical biosynthesis. The process is not as time-consuming as plant-based extraction, but can still take weeks. Synthesis also suffers from purity problems as the process can result in the creation of stereoisomers, which could affect the efficacy and safety of the product.

Which companies are growing cannabis?

For recreational use, the Canadian market houses the largest cannabis manufacturers. Among them, Canopy Growth Corp, with its 68,000kg of supply commitments as of August, is one of the most significant players.

Aurora, after the acquisition of its rival, Medreleaf for US$2.5bn, is also one of the

big players in the market, alongside Tilray and the Cronos Group.

The Cronos Group was the first over-the-counter marijuana company to list on the NASDAQ. As for Tilray, the company has suffered recently, alongside its peer group, from the recent cannabis sell-off. Its shares reached US$84.50 lows in October from highs of US$214 in late September.

Canadian companies are not limiting themselves to the recreational market either, with firms like InMed highly active in the Canadian medical field. InMed (and its biosynthesis platform) hopes to pioneer a new method of cannabinoid production that ensures medical purity.

What about the EU's cannabis market?

Canadian companies have shown an interest in the EU's medical market, with Aphria recently acquiring cannabis company Nuuvera, partly due to its licence to import medical cannabis into Italy.

As for Aurora, it acquired German cannabis distributor Pedanios in May 2017, while Canopy Growth bought Germany-based Medcann a year before in 2016. Tilray became the first company to export medical cannabis from North America to the EU in 2016.

For its part, MGC Pharmaceuticals has established cannabis-growing operations in the Czech Republic and Slovenia, having also constructed a GMP-approved cannabis resin extraction facility in Slovenia for its own pharmaceutical use. And Germany-based Lexamed recently entered a joint venture with medical cannabis investor Sativa.

Does cannabis help treat certain forms of cancer?

A common claim is that cannabinoids can not only alleviate the symptoms of cancer, but also promote cell death in malignant tumours. Some early studies have found that THC can induce death in glioma tumour cells and block certain cancer growth factors.

Other studies provide evidence that, under certain circumstances, cannabinoids can inhibit the growth of malignant tumours and interfere with the immune system's ability to detect and fight cancer cells.

Currently, there is no conclusive evidence that cannabinoids are a viable treatment for cancer and there have been few conclusive trials that could be used to apply for FDA approval.