

## **Vincent Corporation / Rob Johnston Intro:**

Working at Vincent Corporation has been an incredibly rewarding experience over the past 6 years. Any experienced or aspiring process engineer can expect exposure to a broad range of customers and applications during their tenure.

VincentCorp is in the business of showing customers what our equipment does and then in turn being on the receiving end of a very broad spectrum of application enquiries. We see a lot of unique and interesting corners of the market, encompassing established & historically traditional markets as well as Innovative products and emerging trends to include the custom supplements and nutritional ingredients space

For many our equipment is a game changer providing a clear to path to continuous feed bulk processing. We're often told that our equipment was the difference between success and failure in their commercial journey. With this comes the often-unfettered view into organization, processes and industries.

## **Hemp**

VincentCorp was quickly established as a go-to vender for liquid/solid separation for dewatering as well as solvent extraction. This was across 300+ processors that sprung up across the US

When Bob Johnston at VincentCorp joined me at the Las Vegas trade show in December 2018, I remember him saying that he'd seen gold-rushes a couple times in his career and that this one was on par with any he'd seen. The energy, enthusiasm and velocity of spending was something to behold

It was exciting journey. In all, VincentCorp generated circa \$5M from March 2018 through March 2020. It's estimated that ~\$2B was raised by investors during this time. The world was their oyster, and it was the dawn of a market that was being billed as the biggest thing for years and decades to come.

During this time I spent the next few years on the road covering over 90,000 miles visiting and spending time in over 65 processors across the U.S. I met genius's, innovators, professionals, confidence men and women (who over-estimated their own ability) and also the conmen and criminals that you would expect to gravitate towards such a large amount of money being freely spent. It was the wild west.

Farmers, Processors, Formulators and retail brands couldn't flock to the promises of profit fast enough. Caution was well out the window by the Spring of 2019.

## **2018 Farm Bill and the legalization of Industrial Hemp**

The legalization of hemp in the 2018 Farm Bill was the culmination of decades of advocacy and legal challenges against the long-standing federal prohibition of cannabis. The 1970 Controlled Substances Act (CSA) classified all cannabis—

regardless of THC content—as a Schedule I controlled substance. This was no distinction between psychoactive marijuana and non-psychoactive industrial hemp and banned commercial hemp production for nearly 50 years

### **Turning point 2014**

The 2014 bill included a provision that defined industrial hemp as a distinct agricultural product. This led to multiple state sponsored pilot programs. By 2017, over 25,500 acres of hemp were being produced, and multiple universities and growers were involved, demonstrating both the viability of the crop and the public's appetite for hemp products.

### **The passage of the 2018 Farm Bill**

In December 2018 the Farm Bill was put into law, legalizing hemp by removing it entirely from the CSA, this paved the way for the broader commercial and interstate market that followed. Very specifically and relevant to the topic of this presentation it “legalized hemp and all its derivatives, extracts, and cannabinoids, so long as the final product contains less than 0.3% delta-9 THC by dry weight.” There was no mention of psychoactive properties, semi-synthetic, or fully synthetic analogues. This became an extremely important distinction by 2020.

### **Green Rush**

The Euphoria that accompanied the passage of the Farm Bill in December 2018 was met with a full steam ahead mantra by early entrants who had gambled on passage; and a game of catch-up by those who waited for legislative approval.

While investors, entrepreneurs geared up for product demand that was forecast in the billions of dollars, the U.S. Food and Drug Administration lagged on providing a clear regulatory pathway for adding CBD to foods and dietary supplements. This legal ambiguity deterred major companies from fully entering the market. All parties expected to hear positive developments in the months to come.

I met with multiple companies in the Winter of 2018 and Spring/Summer of 2019 who were actively in talks with Estee lauder, Coca Cola as well as other prominent FMCG brands. All promising major buy contracts once FDA approval was finalized. The whole supply chain was committed to a strategy of being ready for these seemingly inevitable and forthcoming orders.

On the production side, by March 2019 there were three Crown Iron Works hexane processing facilities in the U.S. which were retrofitted for CBD extraction. Each of these were capable of 50,000 lbs of Hemp input per day. In addition to these there were dozens of other processing facilities commissioned across the U.S. ready to receive harvested hemp.

The Spring of 2019 opened the door for Farmers across the US to put down commercial Hemp acreage. They saw multiple offtake channels for their crop with processing capacity available to handle their harvest. The resulting 2019 harvest became known as the seven-year crop. There was 7x more hemp grown than demand existed the previous year, for wholesale CBD extract.

Everyone was ramping up for the expected increase in demand from both consumers and corporate accounts.

A number of factors didn't work in their favor. First, the FDA guidance didn't materialize, stopping corporate enthusiasm in their tracks as well as damaging consumer confidence in CBD. Additionally, as more states legalized recreational marijuana, some consumers shifted from CBD-only products toward products containing (THC), the psychoactive compound in cannabis.

By August 2019 as the crops were coming in, a precipitous fall was seen in the price per lb that farmers were receiving for their harvest. There was far more supply than demand. In November 2019 prices were under \$5/lb compared to \$25+ only one year earlier.

Processing facilities who bought feedstock to produce CBD oil also experienced plummeting prices. CBD distillate which was selling for \$8,000/kg in the Spring of 2018 was changing hands for \$2,000 in Sept 2019. By January 2020 the price of distillate had dropped to \$750/kg.

The market had collapsed in spectacular fashion. There was far more supply of processed and refined CBD distillate/Isolate than the market required. Bankruptcies were announced weekly.

### **Pandoras box - Innovation born out of necessity?**

In late 2019 industry chemists started discussing delta-8, an isomer of delta-9 THC with a similar chemical structure. Manufacturers found they could convert hemp-derived CBD into concentrated delta-8 through an acid-catalyzed chemical process. It is psychoactive intoxicating effects, albeit ~50% less intense as compared to Cannabis delta-9(THC).

Legal advice from law firms concluded that the wording within the Farm Bill was very specific, in that it "legalized hemp and all its derivatives, extracts, and cannabinoids, so long as the final product contains less than 0.3% delta-9 THC by dry weight." With no mention of psychoactive properties, semi-synthetic, or fully synthetic analogues, it was considered a green light, all system go.

Processors that had survived until this point had found a way to add value to their existing product, giving them a needed lifeline by turning their \$750/kg CBD material into \$1800/kg Delta-8 product.

This process allowed for the creation of potent delta-8 products that could be sold legally in many states where delta-9 THC (the main psychoactive compound in marijuana) was still illegal. The popularity of delta-8 products exploded.

Within a year other powerful synthesized cannabinoids hit the shelves. THC-0, HHC, THCP, delta-10; some with far more potent psychoactive properties than delta-9 THC.

State and Federal carefully crafted and strictly enforced laws spanning 50 years governing the manufacture, distribution and sales of psychoactive compounds were circumvented without any pushback at the Federal level. A Loophole was found, and new industry was born. This industry transformed convenience stores, gas stations and vape shops across the country into unregulated drug stores with a broad range of psychoactive compounds available to the general public. A majority of these outlets being in states where even recreational Cannabis delta-9 THC sales were and remain illegal to this day.

To put some numbers on this market: Delta-8 THC market generated \$1.2 billion in sales in 2023, making up 44% of the overall hemp-derived cannabinoid market, which itself saw over 1,200% growth between 2020 and 2023.

2020 through the end of 2021 was the heyday for D-8 products. Many market participants who cautiously waited quarter after quarter for some edict to come down from the Federal government in the form of an amendment to the 2018 Farm Bill that would re-classify psychoactive synthetic and semi-synthetic products derived from Hemp. It never arrived. They had already seen the federal government take a hands off approach, and with this lack of guideline enforcement, this filtered all the way down to small communities and law enforcement agencies

In the meantime, the market began looking for the next big thing. As human beings we look to self-medicate, it is in our nature. This has been going on for 1000's of years, natural remedies as well as intoxicating substances are ingrained in our culture.

Many of the chemists, process engineers and business owners I'd worked with between 2018 and 2021 started calling with enquiries using a screw press for a broad range of new products

Testosterone boosters like Tongkat Alie, Fadogia Agrestis, Hair growth supplements as well as sought after stimulants/sedatives like Kava, Kanna, Amanita muscaria, muscimol and Kratom.

### **Kratom takes hold as a powerful new product offering**

By 2022 we started to see significant increase in enquiries for Kratom processing. We first hosted visitors at Vincent Corp in 2019 to run tests with kratom but years had passed with little further development.

Kratom is an herbal extract derived from the broad leaves of the tropical evergreen tree *Mitragyna speciosa* found in Southeast Asia. 70% of the global supply is grown in the Kalimantan region of Borneo. The leaves contain psychoactive compounds, primarily mitragynine and 7-hydroxymitragynine, which produce both stimulant-like effects at low doses and opioid-like sedative effects at higher doses.

Whereas Delta-8 was billed as THC-Light in that it was less than ½ the effect of Delta-9 THC, Kratom offered an even more mild and subtle psychoactive effect than Delta-8.

Traditionally Kratom was sold in crushed leaf form for use in hot teas, but processors porting over from the Hemp & Cannabis markets had developed SOPs to extract, purify and concentrate Mitragynene into a freebase/salt Isolate product. This then could be used by formulators in flavored drinks, pressed pills or gummies.

By 2023 I was visiting sites across the US. It was starting to feel like the beginning of another ‘gold rush’. That same year Chemists took the base Mitragynine extract and through semi-synthesis converted the product into a pure 7-hydroxymitragynine extract. The market exploded.

In 2023 it was estimated that the US market was \$1.5 Billion Kratom Sales and \$2.5 Billion 7-Oh sales. In 2024 it was estimated that Kratom product sales were \$2 Billion and 7-Hydroxy sales were \$7 Billion.

There are over 23 million daily users in the U.S. of Kratom products. A vast majority claim positive effects on their lives and find it a healthy supplement when used responsibly. You will be able to research and find bad stories also. It’s worth noting that some of the latest statistics show that 1 in 40,000 users have reported an overdose situation in the last year and 1 in 500,000 have resulted in death. Comparing to cigarettes and alcohol It creates an interesting perspective.

Once again an unregulated, intoxicating supplement is marketed to the U.S. population with no government oversight and control. It was full steam ahead for operations manufacturing, distributing and selling this supplement.

### **Federal government wakes up.**

In the past month there have been two major announcements, one at the Federal and one at the State Level. At the federal level the FDA and Dept of Health declared their concern about 7-Hydroxy and intent to schedule it as controlled substance. They called it an “immediate hazard to public safety”. At the same time they openly expressed support of the more mild, therapeutic Kratom leaf and extract.

With regards to recent government action; the FDA petitioned Congress last summer for more enforcement powers to deal with a number of concerns; 7-hydroxy and illegal imported nicotine vapes. In 2016 a bill was passed in congress for strict guidelines on

nicotine vape cartridges, but we had 9 years of no real enforcement. Just last month a \$16M inventory of imported nicotine vapes were confiscated in the Midwest.

Has the government woken up? Have they finally decided enough is enough and they need to close this box before it's too big to control? Only time will tell.

### **The Future**

The 2014 and 2018 Farm Bills created and spurred a new generation of chemists and process engineers. Many of whom had a personal interest as well as life experience within the counterculture movement. I've found and continue to find that these chemists endlessly scour scholarly articles dating back to the 1950s in search of natural remedies and intoxicating substances from far reaches of the planet in hope of finding uncommercialized substances and compounds in search of the next big thing. I cannot see this ceding anytime soon.

In many ways 50 years of carefully crafted legislation that carried strict regulation came undone with the legalization of CBD and its derivatives. Derivatives that were never intended to be made when the 2018 Farm Bill was enacted into law. These psychoactive compounds then paved the way for entrepreneurs to put other powerful botanical supplements on the shelves of retail outlets in almost every US state.

Pandora box was opened and \$10-\$15 billion worth of annual business interests command shelf space in 150,000+ convenience stores and gas stations across the US. These businesses know they have a captive audience with both expendable income and an appetite for new and novel supplements.

Federal and State government for the most part let this get away from them and the wheels of regulation are proving slow in comparison to the speed at which new products are landing on the shelves.

### **Final thought:**

Some of you may have entered US gas stations, convenience stores or online marketplaces to find a smorgasbord of powerful and questionably legal product offerings.

You may have asked yourself "How did this happen?"

I thought I'd come here today and pull a page out of my experience as a field engineer at Vincent Corporation to shed some light on "How this happened"

