Has Cannabis/Hemp's Day FINALLY ARRIVED?

By Scott Hewitt, CEO and Dr. Vincent James, CTO
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It was 83 years ago when *Popular Mechanics* VOL 69 February 1938 NO.2 had on its front cover: "Hemp – The New Billion Dollar Crop". Ironically at the same time, Congress enacted the Marihuana Tax Act of 1937, designed to reduce the hemp industry through excessive taxation. It was not until 1969 that the Act was struck down by the U.S. Supreme Court.

In February 1938, the *Popular Mechanics* magazine article was not only about the potential of Hemp as the "New Billion-Dollar Crop", but as the article pointed out, it was also the "machine" that enabled American Farmers to solve the 6,000 years old problem. This 1938 machine made it possible to remove the fiber-bearing cortex from the rest of the stalk, making hemp fiber available for use without prohibitive amounts of human labor. In 1938 the machine that would change the world was the "decorticator" (a machine that prepares something for further processing). The decorticator was classified as a heavy machinery device designed to strip the outer layers of material from seeds, plants, and small shrubs and trees. For over 6,000 years, Hemp has been seen as a crop with a thousand molecules, and with it, a thousand products. The decorticator made it possible to now access many of those molecules.

Popular Mechanics magazine's original goal in 1902 was to publish articles on home improvement, automobile maintenance, and new advancements in technology and science. In 1938 it was the decorticator that represented the advancement in technology and science for working with hemp. In 2021 the "New Billion-Dollar Crop" is still Cannabis/Hemp, but with the advances in technology and science and the evolution of thinking "outside the box", the 'machine' is now the Community Bio-Refineries' process.

BILLION-DOLLAR CROP

petition with coolie-produced foreign fiber while paying farmers fifteen dollars a ton for hemp as it comes from the field.

From the farmers' point of view, hemp is an easy crop to grow and will yield from three to six tons per acre on any land that will grow corn, wheat, or oats. It has a short growing season, so that it can be planted after other crops are in. It can be grown in any state of the union. The long roots penetrate and break the soil to leave it in perfect condition for the next year's crop. The dense shock of leaves, eight to twelve feet above the ground, chokes out weeds. Two successive crops are enough to reclaim land that has been abandoned because of Canadian thistles or quack grass.

Under old methods, hemp

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Top, modern version of linen duster made from hemp. Bottom, harvesting hemp with a grain binder. Hemp grows luxuriously in Texas

IMAGE BY DOMENICO MARCOZZI FROM PIXABAY

Fast-foreword to today. Attitudes have shifted significantly; the federal government has begun to soften its stance (somewhat) on Cannabis/Hemp. Even the Farm Bill of 2018 authorized the cultivation and production of industrial hemp once again. The majority of the states have accepted cannabis in one or multiple forms, which has resulted in a "gold rush" of sorts by new businesses and has even created a new investment sector.

Speculators and the get-rich-quick types moved in to be the first to capitalize on this new-found tolerance. CBD oil (with and without THC added) came out of the shadows and has become mainstream with its medical-type properties. We can now even pick up some of these products at our local Walmart. But what has really happened? Cultivation is happening everywhere, but on a relatively small scale; dispensaries have opened to provide the public with cannabis products from THC-laden products (where it is legal) like smoking materials and edibles (like cookies, brownies, gummy bears and more), to CBD oils, creams and ointments. Sadly, these people focus on only these features and are ignoring the rest of the plant.

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In the rush to be the 'first with the most', no one thought about the "middle part" of the process, such as what to do with the leftover waste materials. Producers have learned – mostly the hard way – that many states' EPA frown on most of the common disposal techniques like burning, mulching, composting, etc. California, for example, states that land which has been used for hemp composting may not be used for anything else for 10 years – and that comes after levying heavy fines. The reasoning is that there are trace amounts of THC present in the stalks, roots, and other leftovers from the plant. Even recent news magazine articles focus on only one aspect: the end items, their markets, their legal status, who is making these end items, and so on. From their articles, a person might conclude that the ability to make these end items just magically appears.

A fair number of growers/producers have banded together into co-ops and other associations to try to come up with ways to deal with the waste. The problem is that there is limited availability of research material available to help address these problems; some of what does exist is now woefully outdated. When hemp was outlawed by the feds, it also banned any entity outside the government from doing any active participation with or research on cannabis/hemp. And since they wanted it all to go away anyway, the U.S. R&D efforts dropped to zero. But not all is lost. Even though the R&D ban remains for any entity or institution with any ties to the federal government (such as universities receiving federal grants and student loan proceeds), there are still those working to open eyes.

38 years ago, an unassuming Applied Scientist co-invented biodiesel fuel exclusively via fermentation. He even trademarked the term "biodiesel", which has since become generic after the government began to use it with impunity. The problem in 1983 was that his biodiesel fuel cost over $17/gallon to produce. To give this new biofuel a future, he continued his R&D efforts to bring down the production cost and/or come up with other value-added products from the process to make it economically sustainable. After many years of trial and error, with several major universities and the USDA as research partners, they "broke the code". Housed under the auspices of Community Bio-Refineries LLC (CBR), (*www.communitybiorefinery.com) the process enables the introduction of virtually anything that grows (feed stocks and biomass), breaking it down into micron-sized particles, conveyed only by cold water. No heat or chemicals are used anywhere in the process. There are six principal steps, each feeding into the next, which extract a host of value-added products until all that remains is hyper-pure water – which is then recycled back to the beginning of the process. The process yields perfect plant protein isolates, high oleic oils, sugars for fermentation into biofuels, biodegradable plastics, fish feed for aquaculture and hydroponics and much more. Every molecule is used – zero waste, zero pollution – totally green. But what has this to do with cannabis/hemp?

Recently, CBR's Chief Technology Officer, Dr. Vincent James, was approached by several California vintners who had lost significant acreage of grape vines to wild fires. Even after replanting new vines, it takes many years before these vines can be productive. To help hedge their losses until the vines were ready, they decided to plant cannabis on the affected acreage and sell the yield to end-item producers. They did so, and all seemed like they had hit on a workable solution – until it was time to dispose of the waste. In swooped the California EPA to school them on the rules, impose fines, and inform them that there were only two licensed disposal companies in the state authorized to get rid of cannabis/hemp waste properly. After the disposal tipping fees, there was little left to show for their efforts. They asked Dr. James if his company's process could properly dispose of hemp waste. After a quick verification

conversation with their CEO, the answer was “absolutely”.

Community Bio-Refineries was in the throes of revamping their website; as such, they decided that since there was so much new information to be conveyed about cannabis/hemp that the best solution was to create a sister website vs. bogging down their main site. Since U.S.-based research material was virtually non-existent, they looked toward the research efforts of several European scientists as well as well-respected Japanese scientists. They found a mountain of great information, much of which astonished them. From this research, they found that hemp/cannabis can be introduced into the CBR process as not only biomass, but also as a feed stock. There are components of the plant that have astronomically nutritive traits. Who knew?

Community Bio-Refineries internally created a specialized division responsible for the processing of cannabis/hemp. CBR has dubbed this division the “Hemp-BioRefinery” (HBR) with its sister website of *www.hemp-biorefinery.com.

The HBR will process hemp materials to produce, by isolating and recovering, high quality protein isolates and high oleic oil (different from CBD), i.e., ‘nutraceuticals’; cosmeceuticals; various other cannabinoids for biomedical applications; sugars for fermentation via a fast-fermenter to create bio-butanol; recovered PLA and PHA for the production of biodegradable plastics; recovered hydrogen to operate hydrogen fuel cells to completely power the plant; and of course, hyper-pure water. No pollution, no waste.

With what the CBR/HBR brings to the table, the 1938 Popular Mechanics assertion that hemp was “the next billion-dollar crop” may have missed the mark just a bit. 1938 could not enjoy many of the capabilities since developed by the CBR/HBR and others. Consider what those billion dollars would be worth in today’s dollars given almost any rate of inflation. Venture capital firms looking to grab a piece of it all estimate that the entire industry will be valued at over $100 billion once the federal government relinquishes it restrictions. Sounds pretty good, but the VCs of the world don’t know about CBR/HBR and all it can bring to the cannabis/hemp table. We anticipate the industry will be worth a great deal more.

**Please Note: The aforementioned websites have been designed to be educational, informative, and SEC compliant. CBR has instituted a private offering via SEC Reg D 506(c) allowing its promotion via the internet.*

About Hemp Bio-Refinery

Hemp-BioRefinery

With over 35 years of research and development in cutting-edge green technology, the Hemp Bio-Refinery makes it easier being "Green!"

Our Vision is to create networks of economically sustainable Hemp-BioRefineries (HBRs) in local communities throughout the U.S. and internationally to help establish sustainable green communities throughout the U.S. and beyond by providing food, energy in the form of biofuels and green electric power, and bio-products to help meet the goal of energy independence of local communities and our nation from foreign oil.

A company whose:

- process uses every molecule of whatever source plant material it chooses to process (ZERO WASTE);
- process generates ZERO pollution; whose process involves NO heat or chemicals;
- process creates GREEN electricity to power its plants with excess available for the local community;
- process creates BIODEGRADEBLE PLASTIC;
- process creates BIO-BUTANOL to be at the heart of “The Next Generation of BIOFUELS”.

HBR is capable of processing virtually anything that grows; however, it will focus on a variety of feed stocks (plants that people can eat) and types of biomass (plants used for a variety of other purposes). Most recently, HBR introduced HEMP/CANNABIS (through its Hemp-BioRefinery division) as both a feed stock AND a biomass source. As such, HBR offers the opportunity for truly interested investors to be involved with this recently legalized plant source, but in a way that is exponentially beyond companies merely making variations of THC-laden snacks, gummies and/or CBD oil.

For over 35 years, we have been in the R&D business perfecting this process – which began simply as a way to make biofuel exclusively from fermentation (no petroleum). Our founder actually invented and patented the very first biodiesel from fermentation – and even trademarked the term “biodiesel”. The name eventually became “generic” when even the government used it freely.

So, the next time you are sitting at your favorite French Restaurant, you can choose the special of the day, 'Cuisses De Grenouilles' (Frog Legs), an entree rich in protein, omega -3, vitamin A, and potassium that tastes like chicken, or have the perfect "Green Protein Isolate Smoothie" made from a completely intact protein isolate that is an odorless and tasteless grain." Either way, the Hemp Bio-Refinery is the best choice!

www.communitybiorefinery.com (CBR) | www.hemp-biorefinery.com (HBR)