

Hemp Evolution

Over the years, there have been various misconceptions swirling around hemp. Many individuals may be quick to automatically associate it with marijuana, which is only half the story.

In reality, hemp, also called industrial hemp, dates back more than 10,000 years. It is in fact derived from the same species (*Cannabis sativa*) as marijuana, but the latter variety of the plant is grown for its high delta-9-tetrahydrocannabinol (THC) value (3-20 percent). On the other hand, industrial hemp only contains a THC content ranging from 0.05 to 1 percent, according to the North American Industrial Hemp Council.

Although it is not legal to grow hemp in the United States (unless it is research related), other nations, such as Canada and members of the European Union, are authorized to do so. Therefore, U.S. manufacturers can produce products containing hemp legally. This allows for endless possibilities, especially with its advantages and its multiple uses.

Hemp Benefits

As referenced to earlier, hemp is essentially derived from the same plant as its THC-containing counterpart, so by theory, they have similar advantages. Essentially, hemp produces results without the psychoactive effect.

"The endocannabinoid system is responsible for many cognitive and physical processes," said Ted Campdesuner, director of operations and compliance at North American Herb and Spice in Illinois, a company that manufactures a line of hemp products. "The body produces endocannabinoids, which bind to receptors throughout the central and peripheral nervous systems.

The most relevant receptors, CB1 and CB2, are found, for the most part, in the brain and immune system. When endocannabinoids bind with and activate CB1 and CB2 receptors it results in many physiological processes that regulate appetite, memory, pain, immunity and mood."

Campdesuner added, "whole food

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hemp extract is a natural source for phytocannabinoids. Phytocannabinoids are beneficial because they support a healthy endocannabinoid system."

In addition, according to Kelly Saunderson, manager of public affairs at Canada-based Manitoba Harvest Foods, a company whose foods feature this plant such as through its Hemp Hearts and Hemp Heart Toppers, hemp is also filled with protein among other nutrients.

"Hemp foods are packed with plant-based protein and omegas," noted Saunderson. "For example, one 30-g serving of Hemp Hearts contains 10 g protein and 10 g omegas. That's double the protein of a similar serving size of flax or chia seeds—and a broader spectrum of omegas. Hemp protein contains all ten essential amino acids. Hemp protein contains no known allergens and is easy to digest. Hemp foods also contain omega-3 and omega-6, including the rare omega-6 gamma linolenic acid (GLA). GLA is shown to help balance hormones, may

help reduce inflammation, and promotes healthy skin and hair (which is why see hemp beauty products). Hemp is the only food source of GLA."

Regardless of one's opinion on the matter, most can agree that having an additional way to gather the day's daily values is not holding anyone back, but rather, providing consumers with another

option. This is particularly important during a time when studies suggest that not enough vitamins and minerals can be found in an average meal.

Garnering Attention

"The hemp story is trending because convention, as we know it, is ending," noted Stuart Tomc, vice president of human nutrition at CV Sciences, Inc., a brand in California that is involved with cannabidiol-based medicine. "Ask anyone under 30 who works at a health food store if hemp should have ever been illegal in the first place. Prohibition ending is driving its popularity for now, but it is the results and reputation of hemp that will fast track it into the herbal hall of fame."

It should be noted that cannabidiol has been authorized for investigation as a new drug for which substantial clinical investigations have been instituted.

Therefore products containing cannabidiol are outside the definition of a dietary supplement. FDA (U.S. Food and Drug Administration) considers a substance to be "authorized for investigation as a new drug" if it is the subject of an Investigational New Drug application (IND) that has gone into effect.

There is an exception if the substance was "marketed as" a dietary supplement or as a conventional food before the new drug investigations were authorized. However, based on available evidence, FDA has concluded that this is not the case for cannabidiol.

Extraction

From a health standpoint, there are a variety of ways to extract nutrients from hemp, such as through pressing the hemp seeds, olive oil and carbon dioxide. However, it is important not to cause any damage to the product when using the techniques.

"CO2 extraction is a process by which compounds can be extracted at a very low temperature therefore preventing damage or denaturing of the material. Olive oil and cold press are other methods by which key nutrients and enzymes are maintained intact as part of the extraction process," said Campdesuner. "What is most important is to avoid heat and solvents during the extraction process. Heat can essentially burn off terpenoids that are beneficial to the material and toxic solvents such as



hexane, butane, and acetone can be found in residue form even after heat and pressure are applied to remove them.”

Ultimately, the versatility surrounding industrial hemp is undeniable, as a look into its future will provide perspective.

Gazing Into the Future

As mentioned earlier, it is only legal to grow hemp in the United States if it is done for research purposes. After more than a half-century ban, President Barack Obama signed the 2014 Farm Bill, making this official.



“With the 2014 Farm Bill allowing hemp to be grown for research purposes in states where industrial hemp is legal to grow, the market is very exciting right now,” said Saunderson. “We’re seeing hemp grown legally on

U.S. soil for the first time in decades. There is a lot of learning and opportunity ahead. Manitoba Harvest’s co-founders helped legalize industrial hemp in Canada back in 1998. Research trials were instrumental in getting hemp legalized so hopefully the same will be true for the U.S. market.”

Events such as these suggest that as time continues to progress, society is arguably beginning to become more “accepting” of the hemp trend, drifting away from a more “traditional” approach.

Jason Mitchell, ND, co-founder and president of California-based MetaCan, a company that offers a HempFusion line of vegetarian liquid capsule phyto-cannabinoids, said he feels that the future is bright, but also pointed out that with such a new concept, this is only the beginning.

“There’s obviously a lot of research and understanding on the fact that there is an endocannabinoid system,” said Mitchell. “There is this interaction with these compounds in the plant and

how it supports the body, and how it interacts with this system in the body. But starting to draw conclusions and being able to map out a future for it—we need a lot more work.”

At times, some ideals may take longer than others to gain acceptance.

“Social, cultural and technological changes are driving alternative thinking and convention—as we know it is dying,” said Tomc. “The promise of hemp and its billion-dollar crop date back to *Popular Mechanics* VOL. 69 February 1938—it’s only taken hemp 78 years to become an overnight success. Based on the new and first ever CBD Report, published by *Hemp Business Journal*, a *Nutrition Business Journal* publication, hemp and hemp-derived CBD is positioned to be the breakout ingredient of our lifetime. According to the must read report, CBD consumer sales are up 1,710 percent, primarily from the natural retail channel. With explosive sales growth matched only by testimonials that leave you speechless, hemp derived CBD offerings are here to stay.” **VR**

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