

HEMP, HEMP, HOORAY? AN OVERVIEW OF CBD PRODUCTS



It is roughly estimated that several million Americans use medical marijuana to treat various conditions, such as epilepsy, pain, muscle tremors, nausea, and anxiety disorders. No wonder, then, that eventually someone looked at their dog or cat with a similar condition and asked, "Could this also help my pet?" You may even know someone who has purchased "CBD" for their furry family member. But what even is CBD- is it the same thing as marijuana? Is it okay to use for your dog or cat? Or are all those internet articles about the miracles of CBD just blowing smoke?

Cannabis refers to plant varieties from the Cannabaceae family and the products derived from it. Two types of cannabis include hemp and marijuana. These plants contain hundreds of chemical substances, the two most widely-known being THC and CBD.

THC is the compound in marijuana that produces the sensation of being "high." THC is toxic to pets. Hemp plants contain no more than 0.3% of TCH on a dry matter basis, while marijuana plants contain more than 0.3% TCH on a dry matter basis.

There are many different strains of hemp, each of which has a different mix of the over 400 active compounds in the plants. Although there is active research going on to identify which strains might be better for treating cancer and which for epilepsy, for example, hundreds of chemical substances means thousands of possible combinations. We are a long way from understanding the best way to accomplish treatment goals for specific diseases and problems.

CBD stands for "cannabidiol." It is a compound found in both hemp and marijuana plants and has quickly become a major player in the pet industry. The Agriculture Improvement Act of 2018 removed hemp and the substances derived from it from the Controlled Substances Act, but did not give power to the FDA to regulate it. This created an opening for hemp-related products, such as those with CBD, to be made. In recent news, the FDA has approved four cannabis-related drugs for use in people with difficult-to-control epilepsy. However, the FDA has not approved any cannabis-related drugs or food for use in animals. (The term "supplement" is actually not even recognized for animal products; products must either be classified as a drug or as food.)

THE SCIENCE BEHIND HEMP CBD + CBDA

All mammals have an endocannabinoid system (ECS), which is one of the oldest

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systems in the mammalian body. This system is responsible for maintaining homeostasis, or balance. Whatever is not functioning as it should, whether that be an inflammatory response, a cognitive issue, or a digestive issue, is brought back into balance by the ECS. Cannabinoid receptors are found throughout the brain and body and are activated when CBD + CBDA, terpenes, and the smaller cannabinoids are introduced in the body.

Receptors

CB1 and CB2 receptors are the primary receptors in the ECS but by no means the only receptors. CB1 receptors are located in the brain and spinal cord - the central nervous system. CB2 receptors are located mainly in the peripheral nervous system, the immune system, and the gut. When the body needs to address an imbalance, the specific receptors for that issue are activated, and CBD + CBDA stimulates the response.

Terpenes

Terpenes are additional compounds found in the hemp plant and are best known for their smell. However, they are important in other ways, such as promoting calm or helping with an anti-inflammatory response. Terpenes work together with cannabinoids to create an overall better effect, which is called the entourage effect.

While CBD and THC are the more studied cannabis compounds, there are hundreds of other cannabis molecules that could have therapeutic benefit. New research is focusing on questions such as:

- What mix of molecules best treats which problems?
- What is the appropriate dose of each molecule for providing therapeutic benefit? And how do we determine correct dosing for various types of CBD products, such as "drops of oil?"
- How do these products interact with other medications used in pets?

In 2018 and 2019, studies on CBD products focused on its use in dogs with arthritis and seizures. Both studies suggested "potential" for CBD product use in these diseases. Because only two small trials have been completed, they noted "confident claims of safety...are not justified."

At the present time, the effective dose of CBD for pain in dogs is thought to be 1-2 mg/kg twice a day. However, compounds containing a significant amount of another molecule found in hemp, CBDA, may be more effective than compounds containing mostly CBD and little CBDA. For other uses, such as cancer treatment and epilepsy, we don't know what levels or combinations of active compounds work the best.

In addition to concerns about safety and efficacy, there are also issues regarding manufacture and quality control. In a recent study of commercial veterinary hemp products, only 23% (3 out of 13 products) of hemp oil extracts met the levels stated on the label. The remaining 77% either had no level stated on the label or contained less than what was stated.

A 2017 study published in the Journal of the American Medical Association (JAMA) showed that human CBD products had wide variations in the amount of THC. If the amount of THC is too high compared to the amount of CBD, giving a

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dog enough of the product to provide 1-2 mg/kg of CBD might also be providing a toxic dose of THC. CBD-only products are available and, if they truly do only contain CBD, they should be safer than products containing THC. However, they are likely not to be as effective without some of the other chemical compounds, such as CBDA.

When choosing a hemp oil extract or other CBD product, it is important to understand traceability and manufacturing quality standards. Ideally, the company can trace the ingredients from seed to extraction to finished product. **There should be a certificate of analysis that guarantees legal THC levels, verifies the claims on the packaging, and demonstrates test results for contaminants such as heavy metals and pesticides.**

There is also the question of bioavailability – whether or not a pet has the ability to digest and absorb the active ingredients. For example, Chronoquin, one of the products that has laboratory testing behind it, has been tested and shown to reach an effective blood plasma concentration within 30 minutes of ingestion. CBD in oil-based liquid, called a lipid-emulsion oil, is absorbed better than chews, and the type of oil makes a difference, too. Oral products are absorbed better when given along with food. Topical products have been shown to be very poorly absorbed in dogs.

Recommended Cannabis Products

- ElleVet Mobility, containing both CBD & CBDA, ElleVetSciences.com
- Pet Releaf Soft Chews, petreleaf.com
- Canna4Pets CBD Blend, which is designed to treat cancer and contains 10 mg/ml CBD plus 0.4 mg/ml of THC. Canna4Pets.org

The Wisconsin Veterinary Medical Association is now allowing veterinarians to discuss cannabis with pet owners and provide information regarding related products. However, cannabis products are currently being marketed to pet owners variously as drugs, supplements, or food

additives. None of these comply with current FDA regulations.

Because so many pet owners are asking about or already using CBD products, we want to reduce risks to animal health and provide suggestions for how to best assess them. If you feel compelled to try one, we at least want you to choose a quality product! Here is what to ask:

1. Was the product made in the USA?
2. Does it have a Certificate of Analysis showing percentages of cannabis molecules, testing for heavy metal contamination, etc.?
3. Is the label easy to understand?
4. Does it provide information about strength of the product and dosing?
5. What is the base for the product? (It should NOT be an alcohol.)
6. What carrier oils are included?
7. What other ingredients are in the product?

CBD for pets is a new frontier in our profession. Veterinarians are expecting to learn more about CBD treatment potential in the coming years and have fewer restrictions placed on our ability to provide advice and guidance regarding the use of these products.

ELLEVET SCIENCES CBD PRODUCTS

We want your pets to get the best product on the market. With this in mind, we are now carrying CBD products from ElleVet Sciences, which we think are the best available. Here are some of the reasons we chose them:

- ElleVet owns their own hemp fields in Colorado, so they have complete control of the product from start to finish.
- They use the entire plant, so you get not only CBD but also CBDA, another very active component that helps the product work better, and terpenes, which have beneficial effects to augment the CBD.
- ElleVet products are cold-extracted, which retains CBDA. Most CBD products use a heat-extraction method, which degrades CBDA.
- ElleVet is the first company to do scientific studies on animal hemp products. They have 7 studies already published and 30 more underway. Their first landmark study was done on dogs with severe arthritis, and took place at the veterinary school at Cornell University. 80% of those dogs showed improvement that was rated as "significant" or "dramatic."
- They also did pharmacokinetic studies that looked at dosages and metabolism. This has led to the determination of ideal dosages and dosing intervals for several different uses. For example, a higher dose is needed for anxiety than for itching or arthritis.
- Another study was done on dogs with refractory atopic dermatitis, meaning these pets were itchy despite other allergy medications. 65% of these dogs had a reduction in itch scores of at least 50% while taking CBD, and in 1/3rd of the dogs that responded, the scratching and chewing resolved completely.
- Dosages have been determined for seizures, anxiety and cancer, and for cats as well as dogs.
- It's been found that CBD is not well absorbed in horses but CBDA is, so the ElleVet paste product in development should work much better than others in equines.
- In birds, it's been found that CBD can be used for feather picking (an anxiety condition that causes birds to pull their feathers out) and for pain management in raptors (including eagles, hawks and owls).
- There are several formulations – oil, chewable and capsule, so it's easy to find a form your pet will readily take.

Do you have a cat or dog with arthritis, anxiety, atopy, seizures or cancer? We'd love to discuss the use of CBD with you, for any or all of these medical problems! We are trying to find a balance between other supplements, prescription medications and dietary therapy, any or all of which might work best for an individual situation. CBD doesn't replace all these other therapies but it's another tool in the toolbox to help your pet to have a longer or happier life.