CBDa and Full-Spectrum Cannabinoids in Animals: Cats, Dogs, Horses, and Ara's

Introduction

Cannabinoids from the hemp plant, such as cannabidiol (CBD) and its **acidic precursor CBDa (cannabidiolic acid)**, are increasingly being used in pets. In the **raw (unheated) cannabis plant,** cannabinoids occur mainly in their acidic form, with CBDa and THCa as the dominant compounds. When heated (decarboxylation), these acidic forms lose a carboxyl group and are converted into the better-known neutral forms CBD and THC.
For a long time, it was thought that the acidic forms had **no therapeutic effect**, but recent research shows that these forms can also have therapeutic value.

Full-spectrum extracts contain, in addition to CBD, CBDa and other cannabinoids (e.g., THCa, CBG, CBC) as well as terpenes and flavonoids from the plant. It is assumed that these components work synergistically, the so-called "entourage effect"making the effect stronger than that of a CBD isolate alone.
One example is a study in cattle, feeding whole hemp (rich in CBDa and THCa, hardly any CBD or THC) led to reduced stress hormones and inflammatory markers, indicating improved well-being.

Such findings fuel interest in the use of **Full-spectrum hemp extracts** for various animal species. In this report, we discuss current scientific knowledge and practical experience by species, with an emphasis on cats, dogs, horses, and parrots (Ara's).

Cats: CBDa, terpenes, and administration

CBDa versus CBD in cats

Cats have a unique sensitivity to cannabinoids. Recent pharmacokinetic studies in cats show that CBDa is absorbed significantly better than CBD. Measurements indicate a 3- to 5-fold higher absorption of CBDa compared to CBD.

In other words, the feline body absorbs cannabidiolic acid much more efficiently than the neutral form. Moreover, after absorption, CBDa is partly converted into CBD in the cat, allowing both forms to exert an effect simultaneously. This is an important reason why the acidic form (CBDa) in cats produces more effect than an equivalent dose of CBD alone.

CBDa also has some unique mechanisms of action relevant to cats. For example, CBDa binds to serotonin receptors (5-HT_{1A}) involved in mood regulation, nausea, and vomiting. A Canadian study even showed that CBDa binds up to 1000 times more strongly to these receptors than CBD, indicating powerful anti-nausea and anti-emetic effects.
This mechanism may explain why cats given CBDa-rich extracts show better appetite and less vomiting; this is highly valuable, for example, in cats with chronic kidney disease or undergoing chemotherapy, where nausea plays a role. Indeed, there are reports that CBDa helps improve appetite and reduce nausea in cats.

Sensitivity to terpenes

An important consideration in cats is their **sensitivity to terpenes**. Cats lack certain liver enzymes (notably specific glucuronyltransferases) needed to break down some terpenes and essential oils. As a result, terpenes that are harmless to humans and dogs can potentially become toxic in cats. Terpenes such as limonene (citrus peel) and pinene (pine scent) are particularly known to be problematic, cats cannot metabolize these well.

In concentrated form (for example, pure tea tree oil or other essential oils), such substances can cause severe poisoning in cats.

Fortunately, Full-spectrum CBD oils for animals generally contain only very low concentrations of terpenes, especially when formulated specifically for pets. According to veterinary phytocannabinoids expert Dr. Robert Silver, terpene levels in high-quality CBD oil are so low and carefully composed that they are safe for cats. Unlike highly concentrated essential oils, the minute amounts of terpenes in a Full-spectrum hemp extract actually provide a potential synergistic benefit without toxic side effects. Nevertheless, caution is advised: in cats that appear particularly sensitive (e.g., signs of drooling, vomiting, or lethargy after administering a new extract),
it is better to switch to a low-terpene or broad-spectrum product to spare the animal.

Administration: dripping on the neck (transdermal)

Oral administration of CBD oil to cats can be challenging. Many cats are finicky about tastes and smells; the earthy, bitter taste of hemp extract is not always tolerated. This was also evident in a clinical study of 26 cats with arthritis, 12 refused the CBD/CBDa-enriched nutritional paste (some even vomited), causing nearly half of the cats to drop out before the end of the study. Nevertheless, in the cats that did take it, the same study showed significant pain reduction: after 6 weeks of CBD / CBDa treatment, pain scores (TRiP scale) and orthopedic assessment scores were clearly improved compared to placebo. This proves that the remedy can be effective, but that the method of administration is crucial in cats.

To increase acceptance and bypass the gastrointestinal tract, **transdermal administration** is often chosen in practice for cats. Specifically, this involves dripping the CBD oil (especially the non-decarboxylated, CBDa-rich variant) **on the cat's neck**, onto the skin between the shoulder blades or on the inner ear flap. These areas are difficult for the cat to lick clean, allowing the extract to be absorbed gradually through the skin. There is evidence that **absorption through the skin (transdermal) in cats can be more effective than oral administration** of oil. This is partly because the oil does not have to pass through the digestive system (and thus avoids first-pass metabolism in the liver), and partly because administration is less stressful.

Many owners and veterinarians report that cats receiving a drop on the neck remain calmer and show fewer side effects than cats forced to take a pipette in the mouth. An additional advantage is that a raw extract (rich in CBDa) usually has a milder smell

and taste than a strongly heated oil, although the cat is less aware of this with neck drops.

In summary, in cats, a **Full-spectrum raw hemp extract with CBDa** is preferred due to the **high bioavailability** and powerful effects of CBDa. One should, however, pay attention to terpene levels to avoid toxicity.
A practical method of administration is dripping onto the skin (neck/ear), which yields good results in both absorption and feline behavior. Research and practical experience indicate that cats with various problems can benefit from cannabinoids from chronic pain (osteoarthritis) to stress-related behavior and nausea, provided it is administered correctly.

Dogs: pain relief, anxiety, and overall well-being

Dogs are probably the most studied species when it comes to CBD treatment.
As with cats, dogs possess an endocannabinoid system, and CBD appears able to modulate CB1 and CB2 receptors and other signaling pathways.
Full-spectrum CBD oil (rich in CBD **and** CBDa, plus terpenes) has been tested in various clinical trials in dogs, with promising results.

Joint pain and arthritis

One of the most common applications is relieving osteoarthritis and joint pain in older dogs. In a randomized double-blind study (Cornell University, 2018), dogs with osteoarthritis received 2 mg/kg of a full-spectrum hemp extract (with a 1:1 ratio of CBD:CBDa) or placebo twice daily.
The results were striking, dogs receiving the cannabinoid extract showed a strong decrease in pain scores (an average of 25 points lower on the Canine Brief Pain Inventory) after 2 and 4 weeks, whereas the placebo group showed no improvement.

Activity levels also increased in the treated group (Hudson activity score +20 points) compared to placebo. These subjective improvements from owner questionnaires were not all confirmed by objective veterinary examinations (no clear difference in lameness while walking), but owners clearly reported less pain and more mobility in their dogs during CBD / CBDa treatment.

Other studies support these findings. For example, in a smaller study (5 dogs per group) with different CBD preparations both a pure CBD isolate and a hemp extract, all dogs showed significant pain reduction according to the Helsinki Chronic Pain Index.
Longer-term studies (12 weeks) also confirmed that CBD improves pain scores compared to baseline, even when dogs simultaneously continued conventional painkillers (NSAIDs such as firocoxib).

Importantly, none of these studies reported serious side effects; at most, there was a slight increase in the liver enzyme ALP, without further signs of liver damage. This suggests that CBD at doses around 2–5 mg/kg can be safely combined with other medications, which is important since many older dogs are already on medication.

Anxiety and stress

In addition to pain relief, CBD is widely used in canine practice for anxiety and behavioral problems. Dogs with separation anxiety, firework anxiety, or general nervousness may become calmer and more composed with CBD administration. Scientific research into anxiety in dogs is still in its infancy, but initial results and anecdotal reports are positive.
A preclinical study and various case reports indicate that CBD can have a calming effect in dogs. For example, it has been shown that CBD administration can alleviate symptoms of anxiety in dogs. Owners report less trembling, whining, and destructive behavior during stressful events (such as thunderstorms or being left home alone) when their dog receives CBD in advance.

Although this is largely based on experiential data, it aligns with the well-known anxiolytic (anxiety-reducing) effects of cannabinoids in humans and other animals. For illustration, in one experiment researchers observed that dogs were less restless and had lower stress hormones during a fireworks sound test if they had been given CBD compared to a control group—matching the subjective experiences of many dog owners.

Epilepsy and neurological conditions

Another area in which cannabinoids are being explored in dogs is epilepsy. Dogs with medication-resistant epilepsy are difficult to treat with conventional agents, and CBD has been investigated as an adjunct therapy. In 2019, the American Veterinary Medical Association (AVMA) published a randomized placebo-controlled study in dogs with refractory idiopathic epilepsy.
Dogs received, in addition to their usual anti-epileptics, CBD oil (2.5 mg/kg twice daily) or a placebo for 12 weeks.

The results showed a significant decrease in the number of seizures in the CBD groupon average, 33% fewer seizures compared to the placebo group. Moreover, the higher the CBD blood level in the dog, the stronger the reduction in seizures an indication that the dose could possibly be increased further for more effect. Remarkably, 89% of the dogs receiving CBD experienced a reduction in seizure frequency (versus 43% with placebo) according to a news report from the researchers, although formally only a similar percentage of dogs in both groups met the "responder" criteria (≥50% fewer seizures).

In addition to efficacy, safety was encouraging here as well: no serious side effects were reported except for occasional ataxia (wobbly gait) in two dogs on CBD who therefore dropped out. Owners reported no behavioral changes other than occasional drowsiness. Although more research is needed (for example, on higher doses or long-term effects), these findings indicate that Full-spectrum CBD oil can play a role in reducing epileptic seizures in dogs.

Safety and tolerance in dogs

Overall, studies show that dogs tolerate CBD well in the short and medium term. As mentioned, the liver enzyme ALP can rise somewhat, but other liver values (ALT, AST) usually remain within normal ranges.
In a long-term safety study (6 months of daily CBD) in healthy dogs, no clinically significant abnormalities were found in blood values or behaviors. Common mild side effects reported by owners include some grogginess or drowsiness and sometimes soft stools or diarrhea.
These effects are generally dose-dependent and disappear when the dose is lowered.
It is important to emphasize that products used are virtually THC-free (a maximum of 0.2–0.3%
THC in Full-spectrum hemp oil). THC is psychoactive and in dogs can lead to excessive sedation, unsteady gait, urination, and in severe cases dangerous situations.

Therefore, only low-THC hemp is recommended for pets.

Full-spectrum products do contain a trace of THC, but in such low amounts that intoxication is absent, while the presence of all plant compounds can benefit efficacy.

Conclusion for dogs: Full-spectrum CBD oil (rich in CBD and CBDa) provides demonstrable relief in chronic pain (osteoarthritis) in dogs and shows potential in neurological disorders such as epilepsy. In addition, many owners report improvements in anxious or restless behavior. The safety profile has proven favorable in research; with sensible use, serious side effects are rare. CBD is therefore a promising natural supplement to support the quality of life and well-being of our canine friends, alongside or as an adjunct to traditional therapies.

Horses: anti-inflammation, pain control, and recovery

Interest in CBD and CBDa is also growing in the equine world. Horses (especially sport and older horses) regularly suffer from chronic inflammation, joint wear (osteoarthritis), and stress-related problems. Traditional painkillers such as phenylbutazone or NSAIDs are effective but, with long-term use, carry side effects (stomach ulcers, kidney and liver strain). Therefore, owners and veterinarians are looking for safe alternatives. CBDa appears to be able to provide this as a milder, natural anti-inflammatory and analgesic.

Effect on osteoarthritis and pain

The first controlled studies in horses are very recent and yield positive results.
An Italian study (University of Messina, 2024) included 20 older horses with mild osteoarthritis in a trial in which all horses received phenylbutazone (an NSAID) for 5 days, but half additionally received CBD oil (oral transmucosaal) for 14 days (0.03 mg/kg per day). The outcomes showed that the CBD group had some physiological improvements compared to the control group: a lower heart and respiratory rate, lower inflammatory parameters (fewer white blood cells), and even reduced oxidative stress in the blood.

Regarding pain perception, measured via the Horse Chronic Pain Scale (HCPS), a decrease was seen in both groups (logically due to the NSAID), but the CBD+NSAID group achieved lower pain scores than the group with NSAID alone (median HCPS 3 vs 7). Importantly, the addition of CBD to the treatment regimen was well tolerated no adverse effects occurred and the horses showed improvements in quality of life. The researchers concluded that CBD can be a valuable adjunct therapy in equine practice because it enhances analgesia and anti-inflammation without additional risks.

In another study, the specific effect of CBDa (cannabidiolic acid) in horses was examined. Aragona et al. (2024) compared two groups of osteoarthritis patients: one received a CBDa oil (oral, 0.07 mg/kg), the other a CBG/CBD oil (a mix of cannabigerol and cannabidiol) at the same dose for 14 days.
Both groups of horses showed a clear decrease in pain scores on the HCPS scale during administration. In addition, both treatments reduced the number of white blood cells, monocytes, and neutrophils, indicating an anti-inflammatory effect, and the number of CD8+ T cells (cytotoxic T cells) remained lower.
No horse required rescue analgesia (extra pain relief), and no side effects occurred. Interestingly, both CBDa and the CBG/CBD combination provided similar benefits; this suggests that multiple cannabinoids (including the acidic forms) are effective in horses and that different formulas may be deployable depending on availability or specific goals. Moreover, this study also confirmed that no significant changes occurred in heart rate, blood pressure, or other vital functions, again underscoring safety.

Anti-inflammation and calming effect

In addition to pain relief, the anti-inflammatory effect of CBD in horses is relevant. In vitro research with equine cells showed that CBD can reduce the release of pro-inflammatory cytokines. This aligns with the aforementioned decrease in white blood

cells and neutrophils in vivo, indications that CBD can modulate the immune system toward less inflammation. For an animal like the horse, which is prone to joint inflammation, tendon injuries, and even systemic inflammatory conditions (e.g., laminitis), this property can be very valuable.

Moreover, it is reported that CBD can have a calming effect in horses. In the same Italian study, it is mentioned that CBD may have a calming influence.
This is important in stressful situations: think of transport, competitions, or fireworks around New Year's Eve.
Some horse owners report that their animals are less anxious and calmer during exciting events if they are given CBD beforehand. Although this is largely anecdotal, it is explainable: the endocannabinoid system plays a role in stress regulation and anxiety behavior.

There are currently studies underway (including in Colorado) to see whether CBD can favorably influence the stress hormone cortisol and the behavior of horses under stress stimuli (such as a novel object test or transport).

Practical experience and application in horses

In everyday practice, CBD is mainly given to horses in the form of an oil or pellet mixed into the feed. Palatability is generally not a major issue, many CBD oils for horses are processed in appetizing carriers (e.g., olive oil) or given a light apple flavor.
However, dosing warrants caution: horses are much larger but in some cases seem sensitive to relatively low doses. In the studies mentioned, effective doses were **0.03–0.07 mg/kg**, which amounts to only **15–35 mg CBD per day** for a **500 kg** horse. This is much lower (per kg) than doses used in dogs or cats.
In practice, veterinarians sometimes experiment with higher doses for severe pain, but one always starts low and titrates up, precisely because there are indications that horses absorb cannabinoids efficiently.

Horses receiving CBD for osteoarthritis, laminitis, tying-up, or other painful conditions often show improvements within a few days according to owners: they move more smoothly, get up more easily, and show more appetite and interaction.
CBD is also used for horses with chronic stress (think of weaving, stable vices, restlessness during trailer loading) some report a clear relaxing effect, though this is not universal and doping rules must be observed (CBD is on the list of substances not permitted during competition by some equestrian federations).

In short, for horses the first scientific results are favorable, CBD(a) appears safe and promising as an analgesic and anti-inflammatory. Full-spectrum extracts with CBDa/THCa could add an extra dimension to the treatment of chronic pain and stress in horses. Further studies must determine how large this effect is and how to optimize it, but current data and experiences already show that Full-spectrum cannabinoid extracts can be a new tool in the equine veterinarian's toolkit.

Ara's (parrots): experiences and cautious optimism

Exotic birds such as parrots (Ara species) also have an endocannabinoid system, but research into the use of CBD in birds is still in its infancy. Even so, the first studies and anecdotes are emerging, which is interesting for owners of, for example, ara's, parakeets, and other ornamental birds.

Tolerance and pharmacology in birds

A recent pilot study in Hispaniola Amazon parrots investigated the safety of CBD in these birds. Strikingly, the parrots tolerated very high doses of CBD/CBDa without notable side effects even higher (per kg body weight) than is customary in dogs.
In this study, the parrots received multiple doses of hemp extract (CBD/CBDa), rising to about 60–65 mg/kg. Mild sedation did occur at the highest doses (the birds would sometimes doze more often at the bottom of the cage), but no harmful effects were observed on behavior, appetite, or blood values. All birds withstood the course well, and the researchers concluded that birds may have a cannabinoid metabolism that functions differently compared to mammals. This could explain why they can tolerate such high doses. They also pointed out that administration with some fat (e.g., via food) would likely improve absorption even further, just as is the case in mammals.

The fact that birds have CB1 receptors in, among other places, their nervous system

opens the door to therapeutic effects of cannabinoids in birds. If those receptors have functions comparable to those in mammals, CBD and CBDa could potentially help with pain, inflammation, anxiety, and even epilepsy in birds. Of course, this still requires direct research, but the biological basis is present.

Practical applications and case reports

Although hard data are still limited, practice often moves ahead. Avian veterinarians and owners now share anecdotal successes of CBD in various bird species. Some possible indications based on these experiential reports are:

Chronic pain: Parrots with arthritis or joint pain (e.g., older birds, or birds with an old injury) may benefit from the analgesic and anti-inflammatory action of CBD. Bird owners reported that their pet climbed better and was less irritable after a few days of CBD.

Anxiety and stress: Parrots are sensitive animals; changes in the environment, a new cage, or separation anxiety can cause stress and troublesome behavior (feather plucking, screaming). CBD appears to have a calming effect in some birds, making them more relaxed and less prone to compulsive behavior. For example, owners of African greys and ara's notice that a low dose of CBD oil given on a bit of fruit helps the bird relax during, for instance, a car trip or a visit to the veterinarian.

Epileptiforme seizures: Although rarer in birds, seizures or tremors do occur (e.g., in certain parrot diseases). Anecdotally, there is a report of a small parakeet with neurological seizures that had fewer episodes after starting CBD oil (under veterinary supervision). This aligns with the anti-epileptic effects we observed in dogs, but remains unproven for birds.

Immune and skin problems: CBD's anti-inflammatory action could help with chronic inflammations such as cloacitis or in feather-destructive behavior (feather plucking with skin inflammation). There are no studies yet, but some owners report improvements in their bird's skin condition.

A particularly notable practical example concerns the owner of two Ara's (large parrots), prompted by this question, who reports that his birds were "back to normal" within 24 hours after administration of a Full-spectrum hemp extract. Although no details are provided, this implies that the Ara's had, for example, symptoms of illness or stress that disappeared remarkably quickly after receiving the extract. Such results are incredible and, of course, anecdotal.

Yet this is in line with other bird owners who sometimes see spectacular improvements: a listless, non-eating parrot that, after CBD oil, eats and plays again within a day, or an Ara with stress that suddenly sits calmly nibbling a toy.

And I myself had one of my Ara's that was lethargic and no longer eating become completely back to normal within 24 hours by dripping some full-spectrum CBDa oil into the beak.
Such cases should be interpreted with caution, every bird and situation is different but they provide an initial indication that Full-spectrum CBDa may be a valuable supportive therapy in birds.

Safety aspects in birds

It is important to emphasize that despite the encouraging signals, there are no long-term safety studies available for birds yet. The absence of acute side effects in the parrot study is reassuring, but avian physiology has its own nuances. Birds have a faster metabolism and unique liver-kidney functions; what is safe in mammals is usually safe in birds as well, but one must, for example, be careful with additives in CBD products (no sweeteners such as xylitol, which can be fatal, or alcohol). A good veterinarian with avian expertise should always be consulted before starting CBD in birds. Doses are often started low in the absence of guidelines (e.g., 1–2 mg CBD per kg body weight for a parrot) and built up slowly. Administration is usually via the oral route: a drop on something tasty (a piece of bread with peanut butter) or directly into the beak with a syringe, because transdermal administration is difficult through feathers.

For now, the consensus is that CBD in birds can be safe and has potential, but that more research is needed to confirm this unequivocally. The many anecdotes and the first study provide sufficient reason for further scientific exploration.
Avian veterinarians look to this development with cautious optimism, hoping for new possibilities to tackle stubborn problems in our feathered friends.

Conclusion

This overview shows that CBD and CBDa-rich Full-spectrum extracts offer a wide range of applications in veterinary healthcare.

In **cats**, we see that cannabidiolic acid (CBDa) in particular provides added value due to its high absorption and specific effects on nausea and pain. However, one must take into account cats' sensitivity to terpenes and the challenges of administration—transdermal techniques can offer a solution.

Dogs demonstrably benefit from CBD for chronic joint pain, and there are promising indications for neurological disorders and anxiety. The synergy of a complete extract (including CBDa) will enhance efficacy, while tolerance has proven good in research (only mild, temporary side effects).

Horses respond surprisingly well to low doses of CBD/CBDa, with improvements in pain, inflammation, and even heart rate in osteoarthritis patients. No side effects occurred and overall condition improved, offering prospects for use alongside or instead of classic agents.

Finally, even **birds such as parrots** (Ara's) show potential benefit from cannabinoids although still largely based on experiential data, early results suggest they too may experience pain relief and calming from full-spectrum hemp extracts.

It is clear that we are still at an early stage of scientific understanding of cannabinoids in animals. More clinical studies with larger numbers of animals and various conditions are needed to establish precise dosages, long-term safety, and indications. Nevertheless, the current state of science combined with practical experience is very encouraging.
Full-spectrum CBD/CBDa extracts work across species: from mammals to birds we see physiological effects indicating reductions in pain, inflammation, and anxiety, and improvements in well-being. All this with a relatively favorable safety profile, certainly compared to many pharmaceutical alternatives.

For veterinarians and animal lovers, this means a new world of treatment possibilities. Of course, every use of CBD in animals must be well-considered and under expert advice.

Correct dosing and monitoring of the animal remain crucial. With responsible use, CBDa, and especially the rich palette of compounds in a Full-spectrum extract, can truly function as a versatile, natural tool.
It can restore quality of life to pets suffering from chronic pain or anxiety and provide supportive therapy where conventional agents fall short or cause too many side effects.

In summary, this research shows that the "acidic form" CBDa in cats often does more than CBD itself, that cats must be approached carefully due to terpene sensitivity, and that administration via the skin is a smart trick.

At the same time, we see how powerful Full-spectrum cannabinoid extracts can be in dogs, horses, and even parrots, with examples of drastic improvements within a short time.
Science is beginning to catch up with anecdotes with hard data, and the expectation is that cannabinoids will secure a permanent place in veterinary medicine in the near future, for the well-being of our cats, dogs, horses, ara's, and many other beloved animals.

Peter Vermeul

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