

Cannabidiol Bulletin – February 2019

The Racing Medication and Testing Consortium (RMTC) received several inquiries regarding cannabidiol (CBD) and products purported to contain the active ingredient or substances related to it.

Background:

Cannabidiol is a constituent of cannabis. It is derived from both the marijuana and industrial hemp plants. It is not the substance responsible for the psychoactive effects in humans. It is, however, believed to exert some anti-anxiety, anti-inflammatory, and analgesic effects in humans. It is available in many over the counter (OTC) “nutritional supplements” and in one FDA approved prescription drug that is used to control two specific types of childhood epilepsy.

Recently, the Drug Enforcement Agency (DEA) rescheduled cannabidiol (not cannabis/tetrahydrocannabinol (THC)) from DEA Schedule I to a Schedule V. This change was made only for the single Food and Drug Administration (FDA) approved product described above. This product is distinct from the numerous CBD containing products that are presently available in the marketplace which are not FDA approved.

CBD products must contain less than 0.3% THC. As these OTC products are produced without regulatory oversight, this requirement is largely unenforced. For the purposes of racing, the ARCI has designated CBD products as Class 3B substances. The ARCI designated products containing more than 0.3% THC as Penalty Class 1A substances.

Purported Therapeutic Effects:

At the time of this bulletin, no peer reviewed published research was identified that evaluated the effects of CBD in horses. The purported effects – those that are used to market these products for horses – are based upon potential effects on the cannabinoid receptors and benefits of omega-3 fatty acids (of which CBD is not an optimal source).

The effects of CBD claimed in the horse include treatment of inflammation, ulcers, laminitis, colic, and decreased anxiety. None of these claims are substantiated with independent, peer reviewed research in the horse.

Researchers have published several articles regarding effects of CBD oil including:

- pain reduction in dogs with osteoarthritis¹;
- decreased fertility in male mice²;
- and decreased anxiety in humans³.

No research exists regarding similar effects in horses. These effects could occur because the horse does have cannabinoid receptors.

Risks of CBD Use:

While the DEA and FDA maintain strict control over the prescription medication containing CBD to treat epilepsy, there is no similar control over the OTC products. Like other largely unregulated products, there are risks regarding purity, consistency, and safety. The lack of regulation poses a risk to the trainer of a positive finding and to horse health.

Recently, an article was published that reviewed the characteristics of 14 different CBD oil-based preparations that are available commercially in Europe.⁴ The published findings stated that of the samples tested, over 2/3 of the products contained CBD concentrations that differed by more than 10% from the product's label. One product even contained a concentration of THC that would exclude it as a CBD product for the purposes of regulation by ARCI and cause it to be regulated as THC with its corresponding Penalty Class of 1A. THC at this concentration was documented in this product despite the manufacturer's declaration that the product contained no THC.

There is also risk of dangerous contaminants in CBD products. The lack of regulatory oversight for the extraction of CBD from the cannabis plant means that pesticides and insecticides used in the cultivation of the plants may also be present. These toxins may be concentrated in the final CBD product. In addition, as CBD is incorporated into other products such as gummies, bars, drinks, and sandwiches other contaminants such as chocolate or caffeine may be present. This could result in damage to horse health and positive tests.

Withdrawal Guidance

The RMTC cannot make any recommendation regarding withdrawal guidance for CBD containing products. The variability among the many OTC products makes performing research to provide reliable information impractical and costly. The concentration of CBD varies widely from label concentrations because, unlike prescription medications, there are no requirements for consistency with label concentration claims. Moreover, a trainer, veterinarian or regulatory authority testing these substances is futile because inconsistencies in concentration often occur between batches from the same manufacturer.

The safest course of action for a trainer or owner is to consult a veterinarian regarding all horse health concerns, have a veterinarian diagnose any illness, and then prescribe FDA approved products to treat the horse accordingly.

If you have further questions, contact RMTC at contactus@rmtcnet.com or 859-759-4081.

¹ Gamble, L.J., Boesch, J.M., Frye, C.W., *et al.*, Pharmacokinetics, Safety, and Clinical Efficacy of Cannabidiol Treatment in Osteoarthritic Dogs (July 2018) *Front Vet Sci.* 23:5, 165.

² Carvalho, R.K., Souza, M.R., Santos, M.L., *et al.*, Chronic Cannabidiol Exposure Promotes Functional Impairment in Sexual Behavior and Fertility of Male Mice (October 2018) *Reprod. Toxicol.* 81:34-40.

³ Elms, L., Shannon, S., Hughes, S., *et al.*, Cannabidiol in the Treatment of Post-Traumatic Stress Disorder: A Case Series (December 13, 2018) *J Altern Complement Med.* Epub ahead of print: doi: 10.1089/acm.2018.0437.

⁴ Pavlovic, R., Nenna, G., Calvi, L., *et al.*, Quality Traits of "Cannabidiol Oils": Cannabinoids Content, Terpene Fingerprint and Oxidation Stability of European Commercially Available Preparations (May 2018) *Molecules* 223:1230.