

DAIRY VETERINARY NEWSLETTER

November 2018

Medical Marijuana and Veterinary Medicine - What Might the New Utah Law Mean? What about Cannabinoid Feeds for Dairy Animals?

The subject of this newsletter may be controversial for some readers. Rest assured that it is not meant to be cavalier or to address recreational use of cannabis. Medical marijuana is a timely subject, including for treatment of animals, possibly including dairy animals, as well as humans. Use of medical cannabis is now approved in some form in more than 30 states, including recently in Utah. As always, this newsletter is not intended to recommend any commercial products, or to condone or condemn cannabinoids, but only to provide information.

A few months ago I was at a veterinary conference in another state and got a Lyft ride. My driver's main job was working in a licensed medical marijuana dispensary. When I mentioned that I was from Utah, he commented that he supposed we would never have legalized medical marijuana here. I told him that we had a statewide ballot initiative and it appeared that it might very well pass; he was quite surprised. He proceeded to tell me quite a bit of information I was not familiar with regarding the dispensing, forms, and uses of medical marijuana that patients obtained where he worked. (Interestingly, he could not tell me anything about dosage in any units, per pound of body weight, how many cookies or drops a person of a certain weight range should eat, etc. He was directly involved in preparing and dispensing marijuana but said he did not deal with terms like dosage per pound, etc.) On November 6, 2018 Utah voters passed Proposition 2 in statewide voting. This measure “supported legalizing the medical use of marijuana for individuals with qualifying medical illnesses.” As is the case when any new law at any level of government is made, there is a bill or referendum that passes, but then the complex law itself must be written.

There is an active discussion currently taking place in Utah regarding the actual wording and enforcement of the use of medical marijuana. B. Rodgers reported in the Salt Lake Tribune on November 27, 2018 regarding controversy over the Utah Medical Cannabis Act, often described as a replacement to counter the will of Utah voters, which is to be discussed at a special legislative session on December 3, 2018. It may be some time before legislation is approved and goes into effect; two-thirds of Utah legislators must approve the law(s).

I found a good refereed review article about many aspects of medical cannabis by M. Bridgeman et al., Pharmacy and Therapeutics, March 2017. Some information from that review follows below.

Medical cannabis products and federal and state regulations

Some facts about cannabis use in the U.S.:

- 81% of U.S. respondents supported legalization of cannabis for “medicinal purposes” according to a 2016 national poll (Quinnipiac University). (53% of Utah voters supported this in the recent vote.)
- 63% of veterinarians responding to the Veterinary Information Network 2018 survey reported that pet owners ask them about marijuana at least monthly; 8% say they are asked daily about it for animals.

- Proportion of the population reporting medical cannabis use is only available by state; I could find no national summary. The highest reporting states were California and Maine at 3%, but states often classified as conservative such as Arizona or Montana had 2% reported using it, while states often considered liberal (or progressive, “blue”, etc.) such as Vermont or Massachusetts were far lower, around 0.7%. New York and Arkansas both had only approximately 0.2% reported medical users, despite being in many ways at opposite ends of the political spectrum. (Utah was one of a few states with no reported medical usage data.)
- “Marijuana (cannabis, THC)” is still listed as a Schedule I controlled substance by the Drug Enforcement Administration (DEA); this means that it is considered 1) with a high potential for abuse 2) to have no currently accepted medical use in the U.S. 3) to have a lack of accepted safety for (medical) use.
- The DEA website acknowledges that many states “have legalized marijuana for personal, recreational use or for medical use” and may have separate schedules for cannabis from the federal standards. However, there is no discussion of, or attempt to reconcile this regarding legality of or penalties for possession of “Marijuana (cannabis, THC)” in such states that have legalized it. This made national news earlier this year when the U.S. Justice Department began to threaten prosecution of medical marijuana users even in states having approved it, citing federal authority. This was strongly resisted by other levels of government and the legal system in numerous states, and has subsequently received little attention. (Note below that while the DEA still considers cannabinoids illegal, the Food and Drug Administration has approved several. Government disagreement contributes to considerable confusion about marijuana laws.)
- The FDA has been working on possible approval of medical cannabis for at least 4 years. The FDA has approved cannabidiol (CBD) (Epidiolex), dronabinol, a synthetic THC (Marinol, Syndros), and nabilone a synthetic THC derivative (Cesamet). CBD is the most commonly used of these.

Are other cannabinoids besides THC “better” for medical usage and efficacy?

This is a complex subject. THC is considered the “major psychoactive component of cannabis” according to the Bridgeman paper. Nearly every publication or medical opinion on cannabis emphasizes that studies of safety, dosage, and side effects of the drug as well as evidence of treatment efficacy are incomplete and more scientific study is needed. The potential for adverse effects of THC including impaired judgment, dependency, numerous cardiac and neurological diseases etc. are emphasized by medical personnel. This has resulted in widespread interest in other cannabinoids with “weak or no psychoactivity [that] have promise as therapeutic agents in humans”. Cannabidiol, or CBD, mentioned above, has emerged as one of the most studied and apparently most dispensed “nonpsychoactive component” cannabinoid drugs for therapeutic uses in humans and animals. It is used to treat epilepsy, diabetes, cancer (possibly to alleviate nausea of chemotherapy, but simply listed as treating “cancer”), psychosis, some other neurologic diseases (ironically the last two disease categories have been associated with prolonged use, usually by smoking, of THC), and one of the more common applications, as an anti-inflammatory. In most of the world, CBD use is a mixture of approved uses and non-approved uses. A great review of the side effects (relatively rare and 97% not considered “serious” by the authors) of medical cannabinoids is a paper by T. Wang et al., Canadian Medical Association Journal, June 2008.

Usage of CBD or other cannabinoids by veterinarians for treatment of animal diseases

The foremost thing that all veterinarians should know about cannabinoids in animals is that despite the fact that pet stores and other pet suppliers are selling many marijuana or THC compounds for pets, it is illegal in every state for veterinarians to prescribe or dispense cannabinoids to animals. Despite the majority of states having legal medicinal use of some kind, veterinarians are not included in any of the state laws except one new law in California. In all other states, it is not even legal for veterinarians to discuss THC or cannabinoid use when pet owners bring in products, ask about products, etc. including those they are already administering to their pets. Several state veterinary associations are actively trying to include veterinarians in the laws, at least to be able to discuss marijuana and cannabis compounds,

but such efforts have all failed with the exception of California's new law passed in August 2018, allowing vets to discuss cannabinoids.

The market for CBD and other cannabis related compounds to dogs and cats is huge, estimated at \$10 billion or more. Companies selling these, mainly hemp or CBD products, have skyrocketing stock prices and the market is large and growing. Many cannabinoid pet products are readily available on line, including capsules, pills, oils, and treats. Dosages on line for CBD oil in animals vary widely, with large differences in dosage per pound of body weight with no evidence provided for how the dosages were arrived at. There is clearly a void in scientific evidence for, or any legal provision for veterinary oversight of cannabinoids for pets.

What about cannabinoid treatments or other products for dairy animals?

Indeed there are some cannabis products for dairy animals. Hemp is the dominant plant/compound; the most common seems to be feeding of hempseed cake, which is low in THC concentration. There is some evidence that feeding hempseed cake was associated with increased milk production in Europe. A paper by S. Wang et al., Journal of The Science of Food and Agriculture, August 2017, also reported preliminary evidence that hemp in the diet of one cow was associated with 18% less methane emission per unit of dry matter than a conventional ration. There is also a transfer of THC into milk, resulting in either withdrawal times or national bans on feeding cannabis compounds to lactating cows in many other countries. Hemp is also fed to goats, with commercial claims in the U.S. including protein supplementation and heat synchronization. Utah is one of 38 states that allow cultivation of hemp for "commercial, research or pilot programs". Originally limited to state agricultural colleges and departments in 2014, the program now has thousands of licensed growers in many states. 17 states including Colorado, Nevada, Oregon, and Wyoming are ignoring DEA and allow commercial industrial hemp growth. Many websites advertise hemp feed for livestock or indicate that a farm is feeding it to their livestock. Some feed company websites cite things like "good meat flavor in hemp fed livestock". A Foundation for Economic Education report of June 28, 2018 says, "Nobody has gone to jail. The feds haven't levied any fines. The DEA hasn't sent in the SWAT team to destroy -- hemp fields. A DEA spokesman even admitted -- that the agency is not enforcing the hemp law."

Nevertheless, there is no state permitting commercial livestock feeding of hemp, hempseed cake, or any cannabis compound. I can find no evidence of it being fed to lactating cows or goats. Sen. Mitch McConnell of Kentucky, well known as a conservative, is leading the effort to fully legalize industrial hemp. If there's a Farm Bill, it'll be in there, I guarantee that," he said on November 9, 2018. "In terms of food and medicine -- it's an extraordinary plant." He also stated that it would be "lightly regulated" by USDA and that the Justice Department would not be involved. There is a need for more safety and efficacy studies for hemp or other cannabinoid feeding to livestock, including animal health or effects on products such as meat or milk. Deregulation and societal interest is ahead of the science.

What does this mean for dairy veterinarians in Utah or other states with legalized medical marijuana?

- Given the fact that legislation is not yet passed, and the debate regarding the draft legislation in Utah, this is impossible to say for sure. Some things that are likely to result from the new law:
- Pet owners' interest in, purchases of, and questions regarding cannabinoid products for pets will likely continue to increase.
- Veterinarians who do any companion animal practice will likely be asked more questions about marijuana, hemp and other related compounds for pets. This includes toxicity questions after pets eat human products.
- Feeding or other treatment of dairy animals or dairy breed meat animals with hempseed cake or other cannabis related compounds may not be approved by the FDA anytime soon, but if the farm bill passes and regulation passes to USDA, it is unclear what may happen or which agency(s) will have oversight. Utah farmers are showing clear interest in growing industrialized hemp. Utah dairy veterinarians may be asked about this.

5600 Old Main Hill
Logan UT 84322-5600

- Scientific controlled studies regarding efficacy, safety to both animals and food consuming humans, side effects, and cost-effectiveness of cannabinoid compounds are needed.
- Utah's new law will likely not allow veterinarians to prescribe or dispense cannabinoids. The Utah Veterinary Medical Association board has been discussing medical marijuana for years, and is considering whether to lobby for inclusion of veterinarians in the new law at least to be able to discuss these compounds with animal owners, as in the new California law. This of course includes veterinarians of any opinion, including those opposed to their use at all; we should all be able to discuss cannabis compounds. UVMA does not seek to condone or proscribe opinions on cannabis, but wants veterinarians to be able to safely discuss it with clients.

I would be very glad to hear from our readers regarding their experiences and opinions on cannabinoids, including any new information. The situation with these compounds is rapidly evolving.

Please let us know your comments and suggestions for future topics. I can be reached at (435) 760-3731 (Cell), or David.Wilson@usu.edu.



David Wilson, DVM, Extension Veterinarian

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