



May 9, 2024

Delivered by email
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Feed Ingredient Committee
American Association of Feed Control Officials (AAFCO)
Erin Bubb, Ingredients Definition Committee Chair
100-1800 S. Oak Street
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RE: Considerations for total THC and CBD limits in hempseed meal for laying hens

We, the undersigned, are Canadian hemp food manufacturers. Our companies represent the majority of the hemp food ingredients, livestock feed ingredients, and branded hemp food products produced in North America. Hemp food manufacturing started in Canada in 1998 when hemp was first legalized in the country.

Canada's 26-year history of hemp production comes with rigorous safety controls. Canada and the USA share some of the same regulatory limits: no more than 0.3% total THC content by weight in the flowering heads and leaves of the hemp plant. This strict limit for approved hemp varieties helps to ensure that our primary food products – dehulled hempseed, proteins, and oils – do not exceed the total regulated limit of 10 ppm total available THC (delta-9 THC plus .877 x THC-A). These naturally-occurring trace levels are monitored and controlled through Health Canada's domestic regulations for hemp production and for processing hemp food products.

We are excited to learn that the official approval to feed hempseed meal to layer hens is imminent. It represents a first for the North American hemp industry to feed hemp ingredients to food-producing animals and will be beneficial to hemp growers, food processors, consumers, and the industry in general. The Canadian Hemp Trade Alliance (CHTA) is nearing completion of its own Canadian hemp feed application after conducting extensive research in feeding hempseed ingredients to multiple livestock species. Feeding approvals will help to reduce risks for the entire value chain by creating new markets for by-products while reducing supply chain waste.

While we are optimistic for the new market opportunities, we do have concern that the proposed limits of 2 ppm of total THC and 20 ppm of total CBD are too low when the hempseed meal is produced from hemp varieties that are commonly grown in North America. The observed variation of these natural constituents after decades of food manufacturing shows that most lots will not meet these low levels.

The root of our concern is that CFIA, the regulatory body responsible for feed registration approval in Canada, will look to other credible regulatory bodies as they review the Canadian data package and adopt the cautious precedent for cannabinoid limits recommended by FDA-CVM. We feel that the established limit of 10 ppm for total THC for hempseed-derived food products in Canada is more appropriate in that it will not require separate testing of lots to qualify for feed, an effort in cost and time that the feeding industry will not be prepared to incur. Hempseed protein is generally recognized as safe (GRAS) as a hempseed-derived food ingredient (GRN771), so should not be subject to even tighter controls as an animal feed.

Research conducted by recognized universities and research organizations in Canada, the United States, Europe, and other countries shows non-detectable THC and CBD levels in

animal tissue when fed hempseed-derived feed ingredients at recommended levels; representing negligible risk to humans. We know that the CHTA is willing to share its data if requested.

We are also concerned that the application of excessively low THC limits could be applied to future hemp feed ingredients that are not part of the human food chain. Hempseed Screenings, for example, represent approximately 20% of the bin weight of commercially harvested hempseed. This product is well suited as a livestock feed ingredient, particularly for meat- and milk-producing ruminants. Research completed by the Government of Canada (Agriculture and Agrifood Canada Research and Development Centre, Lethbridge, Alberta) found that the Total THC (48 ppm) and Total CBD (275 ppm) concentrations in Hempseed Screenings, when fed at a 20% inclusion rate, do not represent risks to human or animal health. The feeding trials confirmed that these Hempseed Screenings are both efficacious and result in zero detectable residues in milk, and most meat tissues. The feeding study confirmed: Total THC residues of 0.1 ppm in fat tissue and 0 ppm – 0.1 ppm (average 0.025 ppm) in brisket tissue; and, Total CBD residues of 0 ppm – 0.1 ppm (average 0.05 ppm) in fat tissue and 0 ppm – 0.2 ppm (average 0.175 ppm) in brisket tissue. These numbers show a very wide margin of safety when hemp ingredients are fed to food-producing animals.

Based on 2024 published research by the University of Manitoba, the expected commercial THC concentrations (mean + 2 Standard Deviations) for hempseed meal when used for livestock feed ingredients is:

$5 \text{ ppm} + (2 \times 0 \text{ ppm}) = 5 \text{ ppm}$, default to 10 ppm;

The expected commercial THC concentrations (mean + 2 Standard Deviations) in all other hemp livestock feed ingredients are:

Hempseed Oil = $5 \text{ ppm} + (2 \times 0 \text{ ppm}) = 5 \text{ ppm}$, default to 10 ppm;

Whole Hempseed = $5 \text{ ppm} + (2 \times 0 \text{ ppm}) = 5 \text{ ppm}$, default to 10 ppm;

Hempseed Hulls = $5 \text{ ppm} + (2 \times 0 \text{ ppm}) = 5 \text{ ppm}$ = default to 10 ppm;

Dehulled Hempseed = $5 \text{ ppm} + (2 \times 0 \text{ ppm}) = 5 \text{ ppm}$, default to 10 ppm;

Hemp Protein Concentrate = $5 \text{ ppm} + (2 \times 0 \text{ ppm}) = 5 \text{ ppm}$, default to 10 ppm;

High Fibre Hemp Protein = $5 \text{ ppm} + (2 \times 0 \text{ ppm}) = 5 \text{ ppm}$, default to 10 ppm; and,

Hempseed Screenings = $83 \text{ ppm} + (2 \times 25 \text{ ppm}) = 133 \text{ ppm}$, rounded to 135 ppm.

Based on the same research, the expected commercial CBD concentrations (mean + 2 Standard Deviations) for hempseed meal when used for livestock feed ingredients is:

$17.3 \text{ ppm} + (2 \times 6.03 \text{ ppm}) = 29.36 \text{ ppm}$, rounded to 30 ppm;

The expected commercial CBD concentrations (mean + 2 Standard Deviations) in all other hemp livestock feed ingredients are:

Hempseed Oil = $22 \text{ ppm} + (2 \times 9.54 \text{ ppm}) = 41.08 \text{ ppm}$, rounded to 45 ppm;

Whole Hempseed = $31 \text{ ppm} + (2 \times 5 \text{ ppm}) = 41 \text{ ppm}$, rounded to 45 ppm;

Hempseed Hulls = $37 \text{ ppm} + (2 \times 7 \text{ ppm}) = 51 \text{ ppm}$, rounded to 55 ppm;

Dehulled Hempseed = $17.7 \text{ ppm} + (2 \times 4.73 \text{ ppm}) = 27.16 \text{ ppm}$, rounded to 30 ppm;

Hemp Protein Concentrate = $19 \text{ ppm} + (2 \times 7.81 \text{ ppm}) = 34.62 \text{ ppm}$, rounded to 35 ppm;

High Fibre Hemp Protein = $13.7 \text{ ppm} + (2 \times 9.24 \text{ ppm}) = 32.18 \text{ ppm}$, rounded to 35 ppm; and,

Hempseed Screenings = $714 \text{ ppm} + (2 \times 236 \text{ ppm}) = 1,186 \text{ ppm}$, rounded to 1,200 ppm.

With the lower risk profile of CBD and research results showing negligible absorption to warrant human safety concerns, it could be suggested that no upper limit be established for CBD in any hemp livestock feed ingredient.

Considering that hempseed meal produced in North America has naturally occurring constituent (not adulterated and no added) THC and CBD levels that are higher than the proposed AAFCO limits, and that cannabinoid transfer to livestock tissue is negligible, we are suggesting that additional consideration be given to increasing the THC and CBD limits in feed to be at minimum equal to those indicated by the University of Manitoba paper.

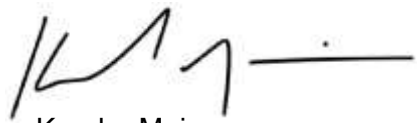
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