

Hemp Seed Meal for Dogs

Health and Feed-Value Analysis

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Executive Summary

Hemp seed meal is the protein- and fiber-rich fraction remaining after oil is pressed from hemp grain. Two published feeding trials have fed hemp seed products to dogs. In the controlled trial, all hematological and biochemical values remained within the physiological range, no adverse effects were observed, and the hemp group showed significantly lower cholesterol and liver enzymes than the comparison group. No published canine study has identified an adverse effect attributable to hemp seed products.

Dogs do not enter the human food supply in the United States. The strict tissue residue standard that governs cannabinoids in animal feed exists to protect the person eating the resulting meat, milk or eggs. For dogs that chain of exposure does not exist.

1. What the ingredient is

Hemp seed meal is what remains after hemp grain is mechanically pressed for oil. It is a seed byproduct, not whole-plant material. The seed fraction and the flowering fraction of *Cannabis sativa* behave differently, and the legislative ask concerns the seed fraction alone.

Chemical characterization of eight cold-pressed hemp seed derivatives was published by Mohamed et al. (2024) in ACS Food Science and Technology. Hemp seed meal is typically 25 to 39 percent crude protein with an omega-6 to omega-3 ratio of approximately 3.2 to 1 in the meal fraction, and a fiber content substantially higher than conventional protein concentrates. It also supplies gamma-linolenic acid, which soybean meal, corn gluten meal, fish meal and poultry by-product meal do not.

2. The canine evidence

Vastolo et al. (2021) — the controlled trial

A double-blind nutritional trial at a municipal kennel affiliated with the University of Naples Federico II. Eight crossbred dogs were assigned to two groups matched for gender, body weight and body condition score, and housed individually. A canned commercial diet was supplemented with the same amount, 3.5 percent as-fed, of either swine tallow or hemp seed cake. The trial ran thirty days.

All hematological and biochemical values remained within the physiological range for the species. No significant differences in body weight or body condition score were observed between groups or across periods, and all dogs were in good health at the end of the trial by clinical evaluation and blood parameters. The hemp group showed significantly lower cholesterol, aspartate transaminase, alanine transaminase, creatinine and creatine kinase, which the authors attributed to the more favorable fatty acid profile. The authors describe the results as preliminary and conclude that hemp seed cake is a suggestable source of polyunsaturated fatty acids for dogs.

Frazzini et al. (2023) — hulled hemp seed

Evaluated hulled hemp seeds in a complete and balanced homemade diet for adult dogs, reporting effects on immune parameters. One caution applies to how this study is used: its digestibility figures compare a homemade diet against a commercial diet, not hemp against a hemp-free control. The study does not therefore support a claim about hemp seed digestibility in dogs, and the Coalition does not make one.

Comparative context from other press cakes

Godglueck et al. (2025) fed four oilseed press cakes to eight dogs in a Latin square design, reporting apparent protein digestibility of 85.11 percent for pumpkin, 82.35 percent for soy, and 77.52 percent for linseed, the lowest. Hemp was not among the four. It is offered only as an analog for how oilseed press cakes behave in dogs, and it indicates that press cakes are not uniform — the diet highest in insoluble fiber performed worst on protein digestibility.

3. The cannabinoid question

AAFCO definition 71.5 specifies ceilings of 20 ppm total cannabidiol and 2 ppm total tetrahydrocannabinol, computed as the neutral form plus 0.877 times the acid form. A figure quoted as a simple sum of acid and neutral forms is not comparable to those limits. The analytical method matters as well: the method FDA accepted for the laying hen application is the reference standard for subsequent submissions.

Across species fed the seed fraction, tissue cannabinoid concentrations have been either non-detectable or confined to fat at parts-per-billion levels far below thresholds regulators treat as safe for people eating the resulting meat. In horses, no cannabinoids were detected in plasma or synovial fluid to 50 ppb after 35 days of feeding the oil fraction. Separately, cannabidiol has been fed daily to healthy dogs over extended periods in published safety work without adverse findings, which addresses the cannabinoid question in the species directly even though those studies concern isolated cannabidiol rather than hemp seed meal.

4. The state of the evidence

What the canine record establishes

- Hemp seed cake at 3.5 percent as-fed for thirty days produced no adverse effects, with all hematology and biochemistry within physiological range.
- The hemp group showed significantly lower cholesterol, AST, ALT, creatinine and creatine kinase than the tallow comparison.
- Body weight and body condition score were unchanged.
- Hemp seed meal supplies gamma-linolenic acid, which the conventional protein meals used in pet food do not.
- No published canine study reports an adverse effect attributable to hemp seed products.

What remains open

- The canine evidence base is two trials, the controlled one with eight dogs over thirty days. It is a small record and the authors themselves describe their results as preliminary.
- No canine trial has fed hemp seed meal above 3.5 percent of the diet.

— Apparent total tract digestibility and fiber fermentability for hemp seed meal have not been characterized in dogs. These inform formulation rather than safety.

All three are addressable with established protocols and sit on the Coalition's research agenda. None concerns cannabinoid exposure, and none is an adverse finding.

Appendix: sources

Source	Type	What it supports
Vastolo, A. et al. (2021), Front. Vet. Sci.	Peer-reviewed	Controlled canine trial, hemp seed cake at 3.5% as-fed
Frazzini, S. et al. (2023), Ital. J. Anim. Sci.	Peer-reviewed	Hulled hemp seed in a homemade canine diet. Digestibility comparison is diet-to-diet, not hemp-to-control
Godglueck, A. et al. (2025), Animals 15(22):3279	Peer-reviewed	Oilseed press cake digestibility in dogs. Contains no hemp; analog only
Mohamed, N. et al. (2024), ACS Food Sci. Technol. 4(1):88-103	Peer-reviewed	Chemical characterization of hemp seed derivatives
AAFCO Official Publication (2026), definition 71.5	Regulatory	Cannabinoid ceilings and computation formulas
FDA GRAS notices 765, 771, 778 (December 2018)	Regulatory	No-questions responses for hemp seed ingredients in human food

Health, nutritional and regulatory statements reflect the current published evidence and the Coalition's reasoned positions. The Hemp Feed Coalition is neither the FDA nor legal counsel. Regulatory framing is to be confirmed by counsel before external use.

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