

Hemp Seed Meal in Equine Nutrition: Current Knowledge and Ongoing Research

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Introduction

Hemp seed meal (HSM) is composed of high-quality protein, beneficial fatty acids, low starch, and high fiber, giving it a unique nutritional profile. Despite its potential, little research has evaluated the nutritional application of HSM in equine diets. To date, equine studies have focused primarily on hemp seed oil and cannabinoids, with only limited work on HSM as a broader feed component (Springer et al., 2023). Preliminary findings suggest that HSM is readily consumed by horses and may provide a valuable alternative protein and fiber source. However, the nutrient digestibility and safety of HSM for horses remain largely uncharacterized (House et al., 2010; Presto et al., 2011).

Materials and Methods

A two-phase project is underway at Cornell University to evaluate the use of HSM as an ingredient in horse diets. The first phase will assess nutrient digestibility using eight mature geldings in a repeated 4 × 4 Latin square design. Horses will receive grass hay and feed concentrates formulated to contain graded concentrations of HSM. Following dietary acclimation, fecal collections will be conducted to determine whole-tract digestibility of protein, fiber, and energy using established marker and regression approaches.

The second phase will examine the long-term safety of feeding HSM. Eighteen horses will be fed diets with graded concentrations of HSM over a 12-week period. Body weight, condition score, and standard health parameters, including blood chemistry, will be monitored to ensure tolerance and identify potential health risks. In addition, the blood cannabinoid profile will be measured at the beginning and end of the study to assess the potential contribution of cannabinoids from HSM.

Expected Outcomes

This project will provide the first controlled evaluation of HSM digestibility and safety in horses. Given its nutritional characteristics, HSM may serve as a suitable feed ingredient for horses, particularly those requiring reduced starch diets. Results will contribute to filling a critical knowledge gap and inform future application of HSM in equine nutrition. Importantly, these studies may provide the foundational data needed to support future approval of HSM as an accepted feed ingredient for horses.

Summary

Hemp seed meal shows promise as a novel feed ingredient for horses due to its protein quality, fatty acid profile, and low non-structural carbohydrate content. The Cornell studies will provide much-needed data on nutrient utilization and safety, helping to inform decisions regarding the potential role of HSM in equine diets.

References

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