

News & Comments

Feeding HSC Moderately does not Adversely Affect the Physiology of Laying Hens*Sohaira Ahmad*

Cannabis sativa L., an annual herbaceous plant in the Cannabinaceae family, is commonly farmed for its seeds and fibre. Along with a variety of vitamins and minerals, whole hemp seeds also include about 25% crude protein, 33-35% oil, and 34% carbohydrates. Opportunities to incorporate hemp and hemp products into livestock feeds are made possible by their improved production and availability as well as their nutritional characteristics. Hemp is safe to use in animal feed and has advantages for both human and animal health, according to extensive research conducted around the world to assess the ingredient's safety. The goal of the current study was to assess the safety of HSC feeding and its impact on organ, tissue, and systemic health in commercial laying hens.

The study's goals were to ascertain the impact of increasing dietary HSC levels at 10, 20, and 30% on systemic, tissue and organ, gut health, and bone mineralization in commercial laying hens, as measured by blood pH, blood profile parameters such as Total Erythrocyte Count (TEC), Total Leucocyte Count (TLC), Differential Leucocyte Count (DLC), Packed Cell Volume (PCV), and Mean Corpuscular Volume (MCV).

In Lancaster County, Pennsylvania, a commercial layer farm served as the study's site. Hens were divided into treatments and a section of the commercial layer farm was set aside for the study. Four categories were used to group the study parameters: 1. Systemic health indicators, 2. Organ and tissue health, 3. Environment and gut health, and 4. Bone mineralization. A portion of the duodenum measuring 1 cm from the midpoint underwent an enteric morphometric examination. The tissues were taken out and preserved in buffered formalin at 10% for 72 hrs. The General Linear Model Procedure of SAS was used to examine systemic health indices, tissue, organ, gut mucosa, and bone mineralization utilizing a completely randomized design with a cage as the experimental unit.

Throughout the research, there was no discernible difference in blood pH between any of the treatments, including control. There were no discernible differences between the treatments. During the current investigation, there was no evidence that feeding different quantities of HSC hurt the integrity or health of gastrointestinal tissue. By analyzing the make-up and breaking strength of the tibial bone after the trial, it was possible to assess the nature of the effect of feeding HSC on mineral metabolism in laying hens. During the trial, the quality of the manure was examined to establish the overall effect of HSC on intestinal health and the environment. The composition and breaking strength of the tibia were examined in this study to establish the overall impact of HSC feeding on mineral



metabolism.

It may be deduced that HSC did not obstruct bone mineralization from the non-significant and inconsistent numerical changes that were found in the fresh weight, dry weight, moisture content, ash mass, ash percentage, and breaking strength of the tibia. The breaking strengths of raw tibias were dramatically raised with all dietary concentrations of hempseed, with no difference between the experimental hempseed diet treatments, according to studies dietary hemp seed.

The current study found that dietary HSC up to 30% in layer feed had no detrimental effects on systemic health and had adequately assessed and recorded safety elements of feeding HSC to commercial laying hens. Furthermore, tissues and organs health, gut health, environment and bonemineralization were not significantly affected by dietary HSC up to 30% in layer feed.

JOURNAL REFERENCE

Rajasekhar Kasula, Fausto Solis, Byron Shaffer, Frank Connett, Chris Barrett, Rodney Cocker and Eric Willingham, 2021. Effect of dietary hemp seed cake on systemic, tissue and organ health of commercial laying hens. *Int. J. Poult. Sci.*, 20: 1-12

KEYWORDS

Hemp seed cake, poultry diet, poultry health, laying hens, tetrahydrocannabinol

