



Evaluation of the effect of a vegan protein supplement on broiler growth performance and processing yield

Kyle A. Smith^{*1}, Bob Hill², Kip Karges², and Jason T. Lee¹,

¹Texas A&M AgriLife Research, College Station, TX, ²H.J. Baker & Bro. LLC, Shelton, CT.

The objective of the current study was to evaluate the influence of a vegan protein supplement (made with a proprietary blend of all vegetable proteins) in replacement of animal protein sources such as meat and bone meal on performance and breast yield in commercial broilers. The experimental design consisted of 3 dietary treatments including a corn:soybean meal control with no added protein supplements, a meat and bone meal (MBM –60% protein) with a consistent inclusion rate of 5%, and a vegan protein supplement (VPS - 55% protein) also included at 5%. Each treatment included 14 replicates with 36 Cobb 500 males placed per replicate (1,512 total chicks placed). Diets were formulated on an iso-nitrogenous and iso-caloric basis. The dietary program consisted of 3 phases including the starter through d 14, grower through d 28, and finisher through d 42. Broilers were weighed and feed consumption determined on d 14, 28 and 42. On d 43, 5 birds were removed per replicate pen for processing to determine carcass, breast, tender, wing, drumstick and thigh yield. The inclusion of VPS significantly ($P < 0.05$) increased body weight compared with the control and MBM treatments on d 14, 28, and 42. Inclusion of MBM increased ($P < 0.05$) early body weight (d 14 and 28) compared with the control diet, however, no differences were observed at d 42. Feed conversion ratio was improved ($P < 0.05$) during the starter phase in the VPS diet as compared with the control and MBM diets. Feed consumption was increased ($P < 0.05$) with inclusion of VPS compared with the control and MBM treatments thru d 28. Processing weights were increased ($P < 0.05$) with VPS inclusion for breast, wing, thigh, and drum stick compared with the control. Carcass yield was increased ($P < 0.05$) with the addition of both VPS and MBM compared with the control. Thigh yield was increased ($P < 0.05$) with MBM inclusion compared with the control. These data support the idea that an all-vegetable protein source can provide similar benefits to animal protein sources with elevated growth performance compared with corn:soybean meal diets.

Poult. Sci. 95(E-Suppl. 1) Page 151

<http://www.poultryscience.org/psa16/abstracts/145.pdf>

