121 Comparison of Corn Fermented Protein (CFP) to Traditional Yeast and Distillers Grain fed to Healthy Adult Cats. Logan Kilburn1, Charles G. Aldrich1, 1Kansas State University

Abstract: Co-products from the ethanol industry may be able to provide high-quality sustainable protein sources for pet foods. Unlike traditional co-products, corn fermented protein (CFP) contains a yeast component which may provide additional benefits. The objective of this study was to determine, by exchange, the effects of the yeast in corn fermented protein on diet utilization. The four experimental diets included a control with no yeast (CON) and diets containing either 3.5% brewer’s dried yeast (BDY), 17.5% distiller’s dried grains with solubles plus 2.5% brewer’s dried yeast (BDY+DDGS), or 17.5% CFP (CFP). It was assumed that CFP contained 20% yeast and all treatments except CON were formulated to contain 3.5% yeast. Experimental diets were fed to adult cats (n = 11) in a replicated 4 x 4 Latin Square design. Cats were adapted to diet for 9 days followed by a 5-d total fecal collection. Titanium dioxide (0.4%) was added to all diets as a marker to estimate digestibility. Data were analyzed using a mixed model in SAS (version 9.4, SAS Institute, Inc., Cary, NC) with treatment as a fixed effect and cat and period as random effects. Dry fecal output of cats was greatest for BDY+DDGS at 20.2 g/d compared with the other treatments at an average of 16.3 g/d (P < 0.05). Defecations per day were also greatest for cats consuming BDY+DDGS (P < 0.05). When comparing CFP with BDY+DDGS, the digestibility of dry matter, organic matter, and gross energy was about 3% greater (P < 0.05) for CFP. Short or branched chain fatty acids in fecal samples were not altered by dietary treatment. The increase in fecal output and decrease in digestibility with BDY+DDGS indicates a greater fiber effect in the DDGS compared with the CFP. Therefore, the yeast component in CFP may be providing a greater nutrient utilization when fed to cats.

Keywords: corn fermented protein, feline, nutrient digestibility

125 Evaluation of Antioxidant-Containing Kibble on Serum Antioxidant Biomarkers in Adult Beagles. Matthew Panasevich1, Leighann Daristotle1, Ching-Yen Lin1, Nolan Frantz1, 1Blue Buffalo Company

Abstract: The objective of this study was to evaluate oxidative health biomarkers in healthy male and female adult Beagles (n=30, 13 male and 17 female; avg age and BW ± SD 4.46 ± 1.41 years; 9.83 ± 2.37 kg) fed a commercial adult maintenance diet (Blue Buffalo Life Protection Formula Adult Chicken and Brown Rice) without (control diet) and supplemented with an antioxidant-containing kibble (test diet; a proprietary blend containing blueberries, cranberries, and other antioxidant-containing ingredients). Both diet offerings analyzed as 25.6% crude protein, 14.4% crude fat, 2.6% crude fiber, 8.6% moisture, 42.6% carbohydrate as-is. We hypothesized that test diet feeding would reduce serum pro-oxidative biomarkers, compared with control diet feeding. The study protocol was first approved by the Institutional Animal Care and Use Committee. All dogs were fed a base kennel maintenance diet (no added antioxidants beyond maintenance requirements) for 14d before treatment phase. Animals were then randomized to control or test for a 28-d treatment period in a randomized cross-over design. Base kennel maintenance diet was provided for a 14d washout, followed by another treatment period. Serum was collected on days 0, 14, and 28 of each treatment period for biomarker analysis. Data were analyzed as a mixed models 2-way ANCOVA (SAS v9.4). Significant differences between treatments were set at P<0.05 and a trend at P<0.10. Average daily food intake and body weight were similar between treatments for the entire study. Serum advanced glycation end-products and malondialdehyde tended (P<0.10) to be reduced when animals were fed test diet compared with control diet. No differences were observed in other antioxidant biomarkers. These data suggest that addition of an antioxidant-containing kibble extruded to preserve antioxidant activity to a maintenance diet results in some favorable modulation of serum antioxidant markers in dogs. The observed trends suggest additional research to elucidate the effects.

Keywords: antioxidant, biomarkers, dogs