PSIII-A-6 Boreox, a Proprietary Blend of Polyphenols Alters Positively Broiler Meat Quality During Storage. Bertrand MEDINA[1], Dana Kumprechtova[2], Ivan,D. Girard[1], Radka Hulankov[3], *[1]Probiotech International Inc., [2]Institute of Animal Science Prague, Department of Animal Nutrition, [3]University of Veterinary Science of Brno*

Abstract: Feed supplementation with vitamin E increases antioxidant capacity, essential to cope with cellular oxidative process that may happen during meat length of storage. This last decades, polyphenol rich botanicals content were widely investigated as new antioxidant chain links able to spare and/or strengthen Vitamin E inclusion. Therefore, this study designed on broiler meat model aims to determine any preservative and positive effects of a novel proprietary blend of polyphenols extracts [BoreOX® (BX500), Probiotech International Inc.]. A total of 840 Ross 308 male broilers were distributed on two dietary treatments: standard (SVE) with 84, 56 and 50 ppm of expected vit. E in starter (S), grower (G) and finisher (F) stages, respectively and a polyphenols-supplemented diet with the same levels of vit. E added with 25, 50 and 100 ppm of (BX500) in S, G and F phases, respectively (SVEBX). The same 3-phase diets were offered ad libitum to 6 replicated pens of 70 birds from 0 to 42 days of age with robenidine as anticoccidial agent. At slaughterhouse, meat samples (breast and thigh muscle from 1 bird/pen) were cooled down for 24 hours and stored at +3°C before completing some selected analysis (chemical, rheological and microbiological) at 2, 6 and 10 days of storage (72 samples/treatment). Treatment effect was compared an analysis of variance performed in Statistica, version 7.1 (StatSoft, Czech Republic). The monitored parameters of chicken meat changed mainly due to the length of storage - TBA, dripping and microorganism counts increased, on the other hand, antioxidant capacity, meat firmness and water activity decreased. The presence of the polyphenols leaded to higher thigh meat lightness ($p = 0.059$). In conclusion, although the effect of the tested supplement in the feed was slightly positive in terms of protection of fat against oxidative changes. Apart from meat lightness, the other parameters monitored were not significantly affected.

Keywords: meat quality, oxidation, polyphenols

PSIII-A-13 Intramuscular fat and Expression of Genes Involved in Lipid Metabolism and Gluconeogenesis in Nellore Bulls fed Snaplage. Jose Oliveira Junior[1], Edmilson Domingues[2], Thiago Bernardes[2], Mateus P. Gionbelli[3], Daniel R. Casagrande[3], Priscilla Teixeira[2], Tatyane Gionbelli[2], Joshua C. McCann[1], Marcio M. Ladeira[3], *[1]University of Illinois at Urbana-Champaign, [2]University of Lavras, [3]Universidade Federal de Lavras*

Abstract: We hypothesized that diets with snaplage would increase the expression of lipogenic genes, resulting in higher marbling fat content, compared to a diet of whole-plant silage and reconstituted corn silage. Therefore, the objective of this study was to analyze the chemical composition, as well as the expression of genes involved in lipid metabolism and liver gluconeogenesis of Nellore bulls fed snaplage. Seventy-two Nellore bulls (24 months, initial body weight 400 ±27.4 kg) were used in a completely randomized design. Animals were stratified by body weight, housed in 24 pens (3 animals per pen), and designed to one of the three treatments (8 pens per treatment). Experimental diets (around 14% of crude protein) were: control (corn silage, ground and reconstituted corn grain, protein sources), snaplage + ground corn, replacing completely corn silage (SNAP65, with 65% snaplage), and snaplage 85, replacing completely corn silage and corn grain (SNAP85, with 85% snaplage). Data were analyzed using MIXED procedure of SAS 9.4 with fixed effects of dietary treatment, and random effects of pen nested within treatment. Overall, diets did not affect ($P>0.11$) the intramuscular fat. However, animals fed SNAP85 showed higher PPARG expression ($P=0.03$). The muscle of animals fed snaplage (SNAP65 and SNAP85) also had higher expression of ACACA and SCD1 genes ($P\leq0.03$) than the control animals. The FABP4 expression tended to be higher ($P=0.10$) in the muscle of animals fed SNAP85 compared with SNAP65. In addition, animals fed control diet tended to have higher ($P=0.07$) expression of PC in the liver compared with animals fed SNAP65 and SNAP85. Also, PEPCK2 expression was lower ($P=0.05$) in in the liver of animals fed SNAP65 diet than control SNAP85. We conclude that diets with snaplage increased the expression of genes involved in the muscle lipogenesis, without increase intramuscular fat.