Effects of Phylox™ on performance, fecal oocyst shedding and intestinal lesion score of Eimeria-infected broilers: A meta-analysis of 4 experimental coccidiosis trials

Hongyu Xue, San Ching, Sara Johnston. Amlan International

Phylox™ is a natural anticoccidial feed additive, consisting of a select blend of bioactive phytochemicals. Recent research suggests the product has potential as an alternative to ionophores to help prevent coccidiosis while maintaining gut health and bird productivity. Four in vivo trials were conducted to evaluate the effect of Phylox supplementation. The birds in these four trials were challenged with a coccidial inoculum containing single or multiple common Eimeria field isolate strains and fed various feed additives, including Phylox at 70 g/MT, for 20 to 28 days. Data from all four studies were combined in a meta-analysis to focus on the effect of Phylox versus the non-supplemented control. Data from all studies were tested for homogeneity, pooled, and analyzed by the random-effects model of Comprehensive Meta-Analysis Version 2.0 software with study as a random effect. Parameters for analysis included: weight gain during post-challenge phase (Days 14-20), feed conversion ratio (FCR) post challenge (Days 14-20), cumulative fecal oocyst count (Days 19-22) and coccidial lesion score (Day 20). The meta-analysis revealed that broilers supplemented with Phylox at 70 g/MT had significantly greater weight gain (187 vs 161 g; P = 0.0003) and better FCR (2.275 vs 2.872; P = 0.0009) than the control birds during the post challenge phase. Phylox treatment also decreased cumulative fecal oocyst count (4.585 vs 4.779 log10; P = 0.00005) and reduced coccidial lesion score (1.982 vs 2.426; P = 0.0004). In summary, Phylox significantly improved broiler performance post Eimeria spp. challenge, reduced fecal oocyst output and improved coccidial lesion score.

Key Words: coccidiosis, coccidiostat, antibiotic alternative, ionophore, broilers