

Defend against coccidiosis in poultry management systems.

AVIATOR™

Research-proven AVIATOR™ is a multi-component, all-natural feed supplement containing Refined Functional Carbohydrates™ (RFC™) that has GRAS status as a feed ingredient for coccidiosis management.

The RFCs contained in AVIATOR act in synergy against several gastrointestinal challenges to consistently help improve broiler performance. *In vitro* studies show that AVIATOR reduced the attachment of *Cryptosporidium parvum* (same class of protozoa as *Eimeria*) to epithelial cells [Fig. 1]. In a similar manner, AVIATOR reduces the ability of *Eimeria* sporozoites to attach to intestinal epithelial cells so that more oocysts will be shed and recycled to promote immune development.

FIG. 1. EFFECT OF AVIATOR ON *C. PARVUM* ATTACHMENT TO EPITHELIAL CELLS¹

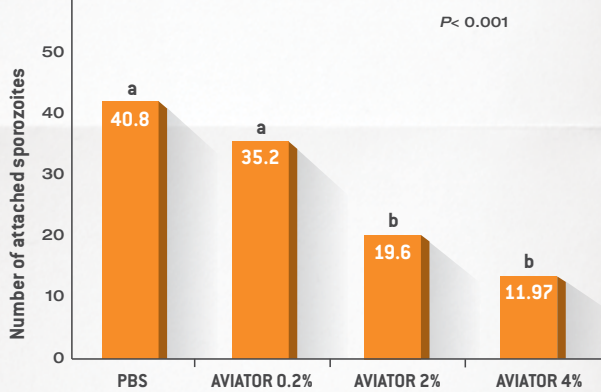


FIG. 2. EFFECT OF TREATMENTS ON *E. TENELLA* LESION SCORE AT 21 DAYS OF AGE²

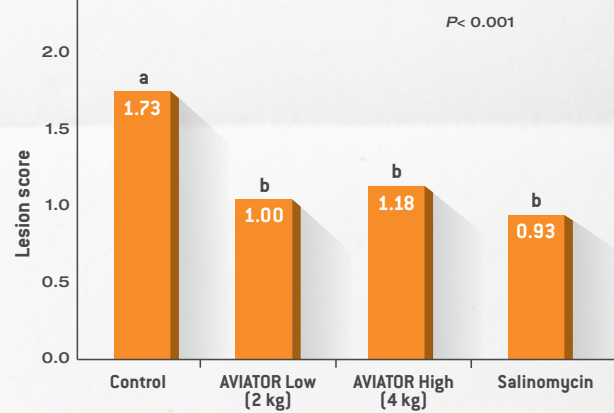
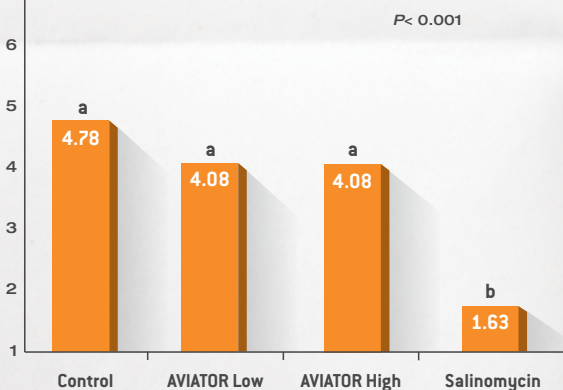


FIG. 3. EFFECT OF TREATMENTS ON *E. MAXIMA* AND *E. ACERVULINA* LESION SCORE AT 21 DAYS OF AGE²



AVIATOR™ supplementation was compared to coccidiostat supplementation from 1 – 21 days of age in broilers given a moderate coccidiosis challenge with *E. maxima*, *E. acervulina*, and *E. tenella* at 15 days of age. AVIATOR was very effective in reducing *E. tenella* lesion score (Fig. 2) and moderately effective against *E. maxima* and *E. acervulina* (Fig. 3) in this short experiment, but just a decrease in attachment did not seem to be adequate to control coccidiosis.

But the modulation of attachment can lead to more oocysts recycling and faster immune development against coccidiosis. Since the birds were challenged on day 15 and the trial was terminated on day 21, it was assumed that adequate time was not allowed for the *E. maxima* and *E. acervulina* oocysts to recycle and stimulate immunity in this experiment (Fig. 2 and 3). This hypothesis was tested in the next experiment. Under standard commercial coccidiosis control programs using vaccination or coccidiostat supplementation, including AVIATOR SCP (Soluble Concentrated Powder) in broiler diets improved BW and FCR at 42 days of age (Fig. 4 and 5). This effect of AVIATOR in coccidiosis management allows coccidiostat withdrawal after 16 days of age from the broiler diets without sacrificing BW gain or FCR (Fig. 6) when AVIATOR was supplemented in all diet phases.

The synergy of different RFC™s allows AVIATOR to consistently help improve performance in both normal and challenged conditions. Typically, a one point reduction in FCR translates to feed cost savings of \$6296 per million broilers based on 2016 feed costs.

AVIATOR is available in three formulations, providing flexibility to apply in feed or watering systems.

FIG. 4. EFFECT OF AVIATOR SCP ON BW OF BROILERS AT 42 DAYS OF AGE³

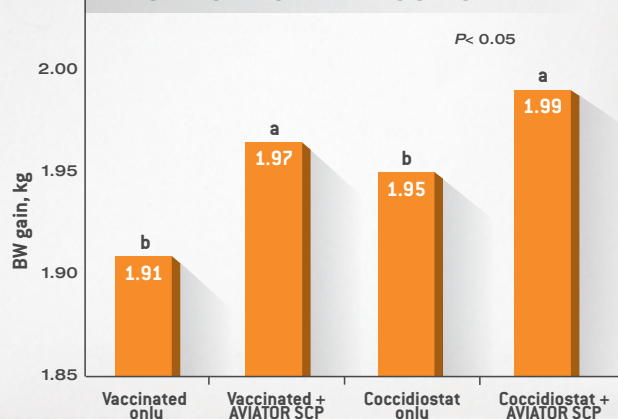


FIG. 5. EFFECT OF AVIATOR SCP ON 42 DAYS FCR³

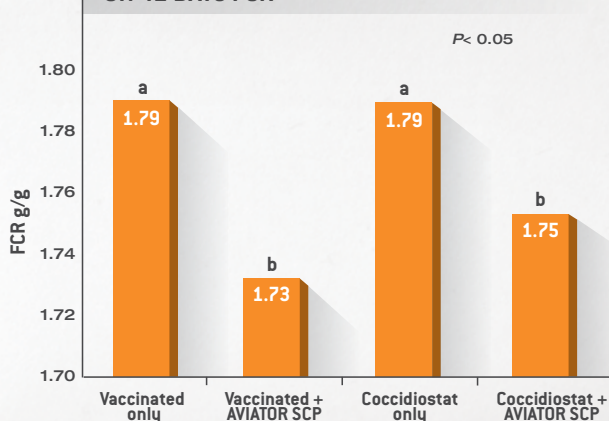
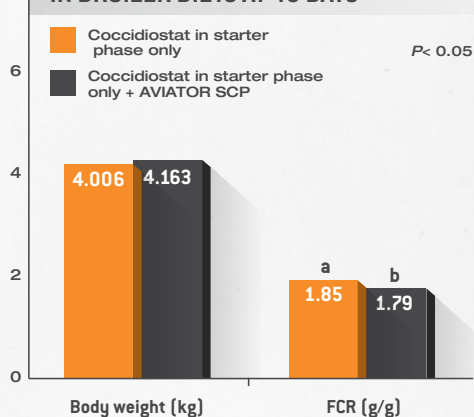


FIG. 6. EFFECT OF AVIATOR SCP IN BROILER DIETS AT 49 DAYS⁴



Reference:

1. Jalukar S, Nocek J. Evaluation of enzymatically hydrolyzed yeast *in vitro* and *in vivo* for control of *Cryptosporidium parvum* infections in dairy calves. 2009; *J Anim Sci* Vol. 87, E-Suppl. 2/*J Dairy Sci* Vol. 92, E-Suppl. 1. RB I-38.
2. Jalukar S, Oppy J, Davis S. Effect of enzymatically hydrolyzed yeast supplementation on performance and in protecting broilers against a mild coccidiosis challenge. Joint ASAS/ADSA meeting, 2008; RB P-42.
3. Mathis G, Lumpkins B, Jalukar S. Effect of AVIATOR SCP feed supplementation on performance of broilers either fed an anticoccidial drug or vaccinated. Presented at IPSF in Atlanta, GA, USA, 2011; RB P-76.
4. Brake J, et al. Coccidiostat withdrawal from broiler diets containing Refined Functional Carbohydrates (RFC) from enzymatically hydrolyzed yeast. Abstract M3, presented at 2015 IPSF, Atlanta, GA, USA. RB P-88.



To learn more about AVIATOR contact your nutritionist, veterinarian or Arm & Hammer Animal Nutrition representative or visit AHAnimalNutrition.com.



**ANIMALS FIRST.
PRODUCTIVITY ALWAYS.**