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SCHERING-PLOUGH ANIMAL HEALTH
technical service bulletin

Coccivac®-B: Effect on Broiler Pigmentation

Coccivac-B vaccine is a successful alternative to the standard in-feed anticoccidial therapy used by most of the broiler industry. While it has been used extensively in a wide range of bird sizes and in many places there has been little experience with use of a live coccidiosis vaccine in a yellow bird program.

It is known that for Coccivac-B to be successful there must be an adequate cycling of the oocysts. During this time period there is some disruption of the intestinal lining resulting in loss of performance as compared to standard anticoccidial therapy (Mathis '99). Following this transient period there is healing of the intestinal wall with full recovery. Because of the transient disruption, there has been questions to whether Coccivac-B vaccine could be used in a yellow bird program.

Key Points

- **Both Coccivac-B vaccine and salinomycin performed as expected in protecting birds from coccidia challenge as exhibited by OPG counts.**
- **There was no significant difference between the Coccivac-B vaccine and salinomycin groups on pigmentation scores.**
- **No reduction in pigmentation was observed by the use of Coccivac-B vaccine.**

Dr. Greg Mathis conducted a floor pen study, at the Southern Poultry Research facilities to determine if Coccivac-B vaccine could be used successfully in a yellow bird program.

Experimental Design

A total of 700 Ross X Cobb, day-old: chicks were divided into two treatment groups consisting of Coccivac-B dayold Spraycox® vaccinated and non-vaccinated chicks. Chicks were sexed and divided equally into 14 pens with 7 reps per treatment. Diets were formulated to match those used by an integrator producing yellow birds. Starter feed was fed from day 0 to 18 days as a crumble, grower was fed from 19 to 35 days and finisher was fed from 36 to 44 days as pellets. To increase xanthophyll levels, all grower (12 mg/ton) and finisher (15 mg/ton) feed was supplementedwith HI-Gold. One set of diets contained salinomycin at 66 PPM in starter and grower feed while the other contained no coccidiostat (Coccivac-B birds).

To verify normal cycling of Coccivac-B vaccine and adequate protection afforded by salinomycin, oocyst shedding was examined. On day 20 fecal samples from each pen were collected and the oocysts per gram of fecal material (OPG) were determined by pen.

Pigmentation scores of shank and skin were taken on days 40, 42 and 44 from 5 male and 5 female birds randomly selected from each pen by Dr. Greg Mathis using the Roche Color Fan.

Results

On day 20, the average OPG count for the Coccivac birds was 25,600, while the average count for the salinomycin birds was 3,100. This demonstrated that there was cycling of the Coccivac-B vaccine and that salinomycin was controlling infection.

Representative male and female birds from each pen were pigmentation scored on days 40, 42 and 44. The Roche Color Fan was used to determine pigmentation score, which is based on a standard cotorimetric system providing an objective color rating. Birds were not fully pigmented by day 40 having received only 4 days of the higher pigmented (15mg/ton) finisher feed. Better pigmentation was observed on day 44 with no significant difference between treatment groups, although there was a numerical advantage to the Coccivac-B group.

Pigentation Score Results

	Coccivac B			Salinomycin		
Score Date	**Male**	**Female**	**Ave.**	**Male**	**Female**	**Ave.**
Day 40	2.5	2.1	2.3	2.3	2.1	2.2
Day 42	3.1	2.8	3.0	3.0	2.8	2.9
Day 44	3.9	3.3	3.6	3.8	3.3	3.6

Examples from the pigment-fed Coccivac-B and salinomycin groups to a non-pigmented salinomycin control group (this group was fed the same ration, minus the 15mg/t of HI-Gold).