

Broiler Chickens: BMD Alone or with a Microbial?

Field Trials Look at Weight Gain, Mortality Issues, and ROI.

BMD® (*Bacitracin methylene disalicylate*), is one of the most widely used growth promoting antibiotics for broiler chickens in the United States. Part of its appeal comes from its ability to weaken or eliminate harmful bacteria. But, the inherent problem is that it is indiscriminate in its actions, and can have the same effect removing beneficial bacteria. *Lactobacillus* and *Bifidobacteria* are some positive bacteria that help promote a healthy intestinal tract, and they can be affected by antibiotics like BMD.

Around the globe, producers are substituting antibiotics with natural support. CALSPORIN® (*Bacillus subtilis* C-3102) is a recognized world leading microbial that supports microflora balance in broiler chickens. But if eliminating antibiotics isn't part of your business plan, the question then becomes, is there a benefit to combining a microbial like CALSPORIN® with an antibiotic like BMD?

To test the hypothesis, three consecutive litter trials were conducted to evaluate the effects on 0-42 day live performance and intestinal microbiota. One treatment was a control group, with neither BMD or CALSPORIN® added to the chicks' basal diets. A second treatment included BMD, at 50g/ton. The third treatment used half the amount of BMD per ton (25g/ton), along with a dose of CALSPORIN® added to the diet.

Both the BMD and the combined BMD+CALSPORIN® treatment groups performed better than the control group in all three trials. *Clostridium perfringens* counts in fresh fecal samples were significantly lower in the BMD and BMD+CALSPORIN® groups. Both the BMD and combined BMD+ CALSPORIN® treatment groups had a better conversion ratio than the negative control group. In addition, the combined group had a better mortality rate than either the control group or the BMD alone group.

It's interesting to note that the cost of the BMD alone is almost identical to the combined treatment of BMD and CALSPORIN®. But, the return showed an advantage of using the CALSPORIN® and BMD combination when the BMD levels were halved and a single dose of CALSPORIN® was added to the diets. In conclusion, the study showed that the BMD+CALSPORIN® combination realized the highest benefit to cost ratio of the groups.

Complete details of the study can be found on the the QTI website at www.qtitech.com/library, go to the CALSPORIN® section and click on the BMD+CALSPORIN® study for a pdf file.



Which Came First, the Bacteria or the Egg?

New study indicates intestinal bacteria can be found within chicken eggs.

Conventional wisdom has been that chickens acquire the intestinal bacteria in their systems over time from their environment. But a recent study by the University of Georgia indicates that this thinking may be flawed, and instead the birds are actually born with this bacteria.

Previous studies, dating back to the 1960s, tried to grow bacteria in Petri dishes. Unable to grow the bacteria, scientists concluded that the bacteria didn't form in the birds' intestines until after the chicks were hatched. However, this technique didn't take into account that only one percent of bacteria can be cultured this way.

But today's technology, using newer DNA techniques, are more accurate. The study incubated more than 300 eggs and after dipping them into a light bleach solution, extracted the embryos for study. DNA analysis revealed the presence of bacteria in the intestines of the developing embryos.

Citation:

University of Georgia (2008, June 3). Healthy Intestinal Bacteria Found Within Chicken Eggs. ScienceDaily. Retrieved June 27, 2008, from <http://www.sciencedaily.com/releases/2008/06/080602103402.htm>

Black-bone Chickens (*Gallus domesticus*)



Although its outside appearance can belie its name, with silky white feathers, the Black-boned chicken is getting noticed in scientific circles for its nutritional value.

If you were to remove the feathers of this chicken, it has a black skin and indeed does have black bones. It originates from China and traditionally has been used as a remedy for diabetes, dysentary and women's gynecological conditions.

Modern research indicates that the Black-bone chickens contain eight essential amino acids and numerous vitamins needed in the human diet. The eggs are often used to treat severe headaches and are lower in cholesterol than other eggs.

In the United States, the Black-bone chicken is referred to as the Silkie Bantam.

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