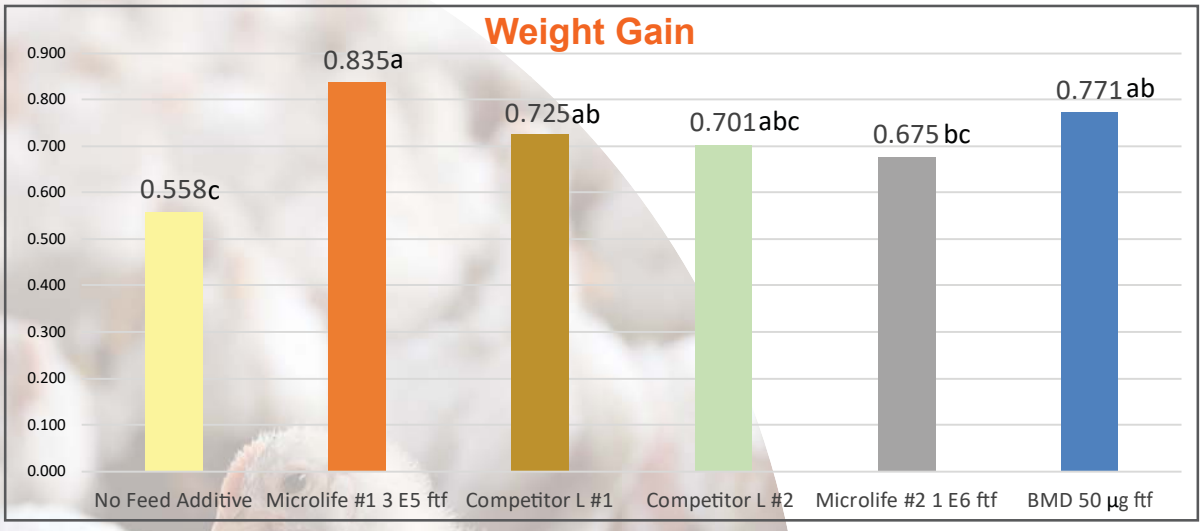
MICROLIFE® L

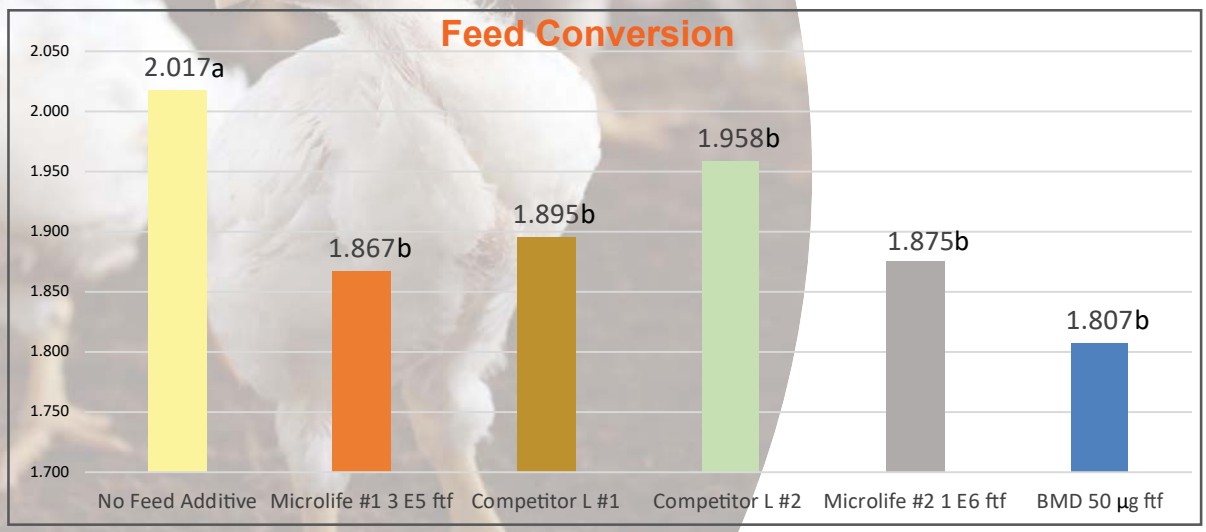
Comparative efficacy of *Bacillus* DFM's for the control of necrotic enteritis caused by *C. Perfringens* in broiler chickens

Design: Day of hatch chicks received routine vaccinations and were challenged at DOT 14 with 5,000 oocysts *E. maxima*. DOT 19, 20, 21 they were given a broth of *C. perfringens* to induce necrotic enteritis. Blocked battery design with 8 cages for each of the 6 treatments totaling 384 Cobb 500 birds.

Study Location: Southern Poultry Research, Inc., Athens, GA. Greg F. Mathis, PhD.

Conclusion: Both doses of Microlife® L *Bacillus licheniformis* probiotics resulted in a significant reduction in necrotic enteritis mortality to the same extent as the antibiotic BMD 50g/ton. The lower dose, Microlife® L #1 resulted in empirically improved results than the higher cfu/g. Microlife® L #1 showed statistically improved lesion scores to BMD 50g/ton. Subclinical necrotic enteritis, as measured by body weight and feed conversion, was also significantly improved by both of the Microlife® L probiotics which were similar to the antibiotic and the competitor probiotics.





Osprey Biotechnics, Inc. • 1845 57th Street • Sarasota, FL 34243 • 941.351.2700 • www.microlifepoultry.com
MLL5182017

OSPREY Biotechnics

Introduction: The purpose was to compare Microlife® L *Bacillus licheniformis* to the commonly used antibiotic BMD 50g/ton and two of the most commonly used *Bacillus licheniformis* DFMs available. Necrotic enteritis is a complex intestinal disease that is caused by an insult to the intestinal epithelium and presence of a toxigenic strain of *C. perfringens* and disruption of the normal bacterial flora. In this study necrotic enteritis was reproduced as evidenced by 10.9% mortality attributed to necrotic enteritis and significant gross lesions in the untreated control at 21 days of age.

Microlife® L is the culmination of decades of leading microbial research and manufacturing by Osprey Biotechnics. Microlife® L is a patented, proprietary strain selected to enhance GIT microflora and promote poultry health.

Materials and Methods: An unmedicated commercial type chicken starter compounded with feedstuffs commonly used in the United States was formulated. This ration (in mash form) was fed ad libitum from the date of chick arrival until DOT 28 of the study. Chicks were raised in Petersime battery cages placed on insulated, concrete floored metal structure. The floor space per animal was 0.63 sq.ft/bird.

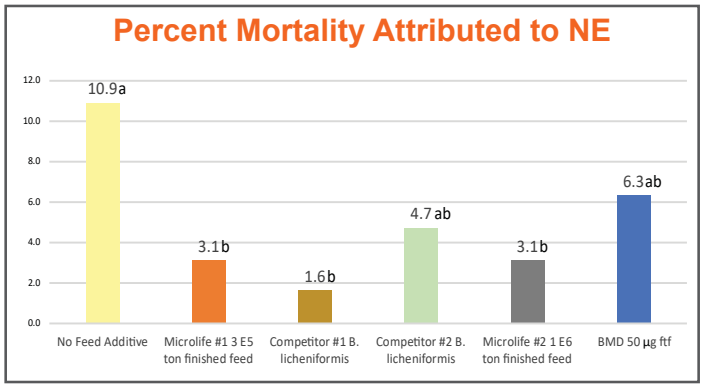
Treatments:

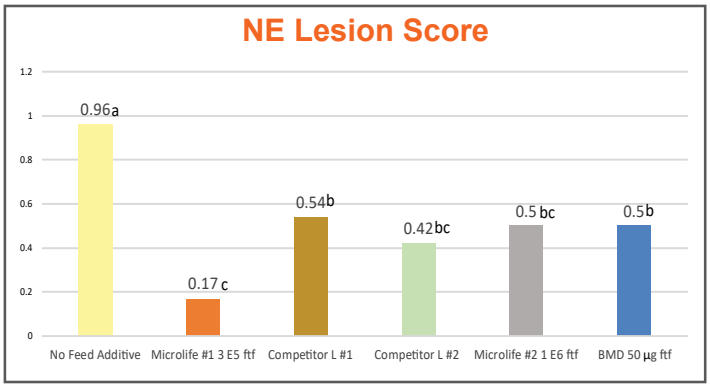
Treatment	Application per ton of complete feed	Dosing per Finished Ton of Feed	Coccidia Challenge	*Clostridium perfringens*	Number of birds
No Additive	N/A	N/A	DOT 14	DOT 19,20, 21	64
Microlife L #1 *Bacillus licheniformis*	¼ lb.	300,000 cfu/g	DOT 14	DOT 19,20, 21	64
Competitor L #1 *Bacillus licheniformis*	1.0 lb.	1,600,000 cfu/g	DOT 14	DOT 19,20, 21	64
Competitor L #2 *Bacillus licheniformis*	1.0 ln.	1,600,000 cfu/g	DOT 14	DOT 19,20, 21	64
Microlife L #2 *Bacillus licheniformis*	¼ lb.	1,000,000 cfu/g	DOT 14	DOT 19,20, 21	64
Bacitracin Methylene Disalicylate	50g	50 µg	DOT 14	DOT 19,20, 21	64

NE Challenge: On DOT 14, all birds were orally inoculated with 5,000 oocysts of *E. maxima*. Starting on DOT 19, all birds were given a broth culture of *C. perfringens* 108 cfu/ml. The birds were administered a fresh broth culture once daily for 3 days on DOTs 19, 20, and 21.

Measurements: All birds were weighed by cage on DOT 0, 14, 21 and 28. Feed was weighed in on DOT 0 and remaining feed was weighed on DOT 14, 21, and 28. The trial was terminated on DOT 28.

Necrotic Enteritis Intestinal Lesion Scoring: On DOT 21, three birds from each cage were selected, sacrificed, weighed, and examined for the degree of presence of necrotic enteritis lesions. The scoring was based on a 0 to 3 score, with 0 being normal and 3 being the most severe.





MICROLIFE® L

OMRI LISTED® For Organic Use

Reference: Sean Griffin, Osprey Biotechnics, Inc. Southern Poultry Research, Inc., Athens, GA