



9/2/16

It has been brought to our attention that a DFM competitor has been comparing and contrasting the levels of colony forming units per gram (cfu/g) in our product versus theirs.

Firstly, we appreciate their recognition of Microlife probiotics as being worthy of comparison. In less than 18 months, Microlife has brought 3 products to market, conducted 4 successful research and field trials, and established a growing list of customers.

Secondly, we would like to categorically state that in the world of Direct Fed Microbials, **more is not always better, and in fact can be detrimental to the host organism.**

When I asked Osprey Biotechnics' Gary Douglas, PhD, Microbiology, about this subject, he first stated that "Unlike chemical drugs that are measured by equivalent active ingredients, living organisms cfu/g should not be compared to each other this way."

*"The uniqueness of a microorganism is at the strain level, not the species or genus level." Each strain has its own unique activities within the diverse microbiome of the animal. Gary Douglas, PhD.*

Strains have different suggested cfu/g recommendations based on the research that determined optimal effectiveness to invoke a desired outcome. The table below displays this variety.

DFM Product Name	Application rate to ton of feed	Final feed contains:
Gallipro® Tect 1.0	1.0 lb.	1,600,000 cfu/g
Sporulin®	.5kg (1.10 lb.)	1,000,000 cfu/g
Microlife® L	¼ lb.	300,000 cfu/g
Calsporin®	1 lb.	300,000 cfu/g
Enviva Pro® 201 GT	.5kg (1.10 lb.)	150,000 cfu/g

Product information displayed in the above table was compiled from the Microbial Compendium as listed on the website <http://www.microbialcompendium.com/> or company product literature.

Providing too much of a particular organism may, in fact, be counterproductive. For example, in a battery trial, Microlife L was added to feed at both the 300,000 and 1,000,000 cfu/g to determine safety levels. As the attached table shows, the lower concentration reported 66% lower difference in NE lesion scores over the higher inclusion rate. Optimal performance measures can only be achieved through identification and characterization at the strain level and subsequent cfu/g application rates determined by research findings specific to that strain.

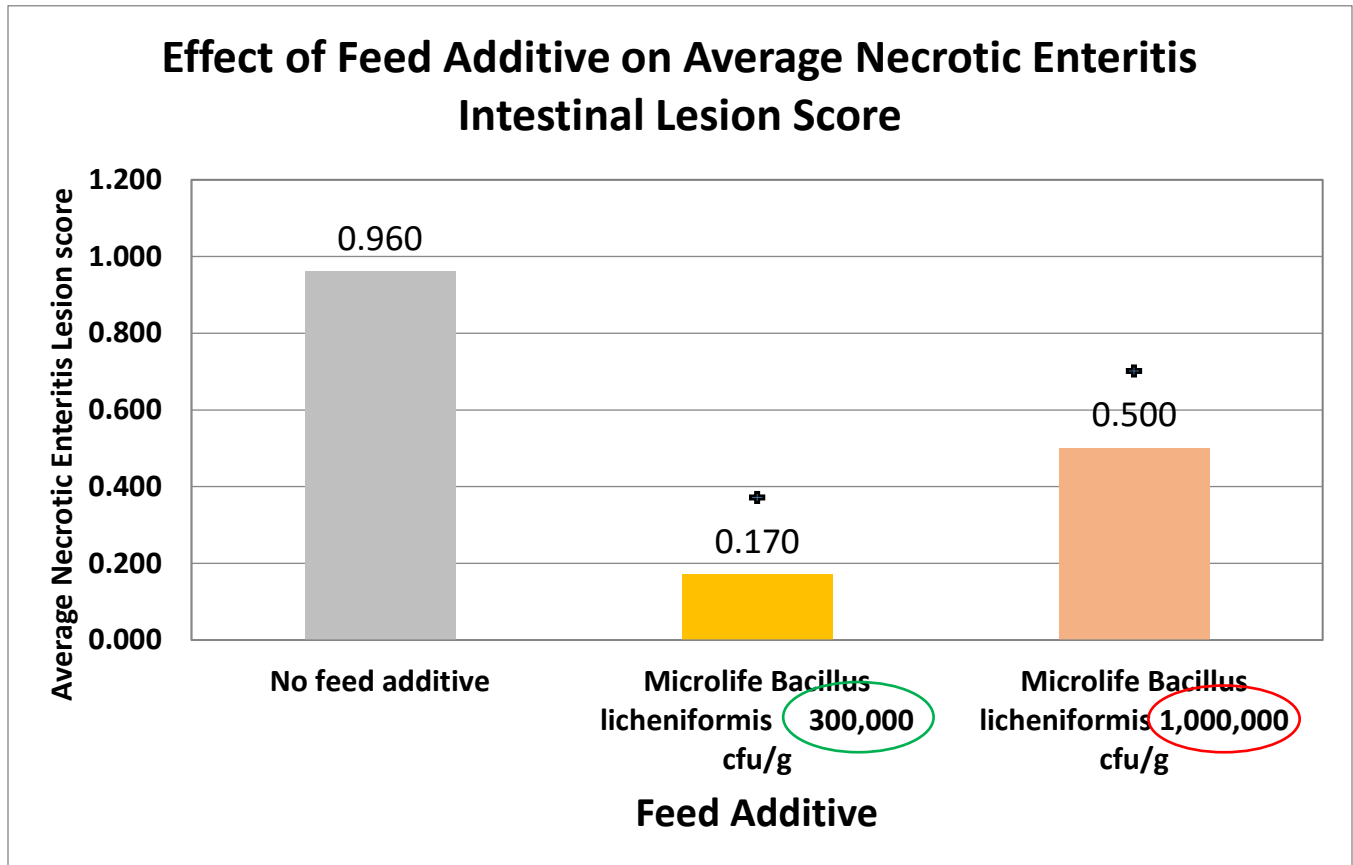
Microlife probiotics are freeze dried which uniquely insures delivery of 100% viable spores. Since 1990, Osprey Biotechnics has been producing cultures utilizing food grade quality standards that are used in a wide variety of applications. Please visit [www.microlifepoultry.com](http://www.microlifepoultry.com) to view our research and learn more about Microlife DFM's.

We welcome further discussion and look forward to meeting your growing needs for consistent and productive DFM products at fair, minimum pricing.

Sean Griffin  
Director of Marketing

Southern Poultry Research Battery Trial Q4 2014

Comparative Efficacy of DFMs for the Control of Necrotic Enteritis caused by *C. perfringens* in Broiler Chickens



Fourteen days after hatch, chickens were challenged with *Eimeria maxima* oocysts. On DOT 19, all birds were given a broth culture of *C. perfringens* 108 cfu/ml fresh broth culture once daily for 3 days (on DOTs 19, 20, and 21). On day 21, necrotic lesion severity was assessed by examining intestines from three chickens per cage and eight cages per treatment. Lesion severity was graded 0 to 3, with 0 being normal and 3 severe. + - Statistically significant reduction compared to the no feed additive treatment at  $P < 0.05$ .