

Micro-Cell GOLD Specification Sheet

MICRO-CELL GOLD is a blend of patented *Lactobacillus buchneri* 40788 and two elite strains of *Lactobacillus acidophilus*. This specific combination of direct-fed microbials was developed to help producers maximize the nutrient content of ethanol byproducts like dried distillers grain solubles (DDGS) to optimize feed efficiency and health. *Lactobacillus buchneri* 40788 is exclusively licensed to Lallemand Animal Nutrition and has a clearly defined and documented mode of action within the rumen. *Lactobacillus acidophilus* BT1386 exhibits significant probiotic properties in the lower gut of beef cattle fed all types of rations. Exclusively licensed to Lallemand Animal Nutrition, *Lactobacillus acidophilus* BT1386 was first isolated in the 1980's by North Carolina State University researchers as a probiotic due to its inhibitory effects on a number of detrimental organisms including *E. coli*, *S. aureus*, *Salmonella*, *S. typhimurium* and *Pseudomonas*. Recent independent cattle feeding studies have shown *Lactobacillus acidophilus* BT1386 reduced shedding of *E. coli* O157:H7 and reduces reinfection of *Salmonella*.

MICRO-CELL GOLD is a lyophilized (freeze-dried) bacteria for feeding to finishing cattle on high concentrate finishing rations.

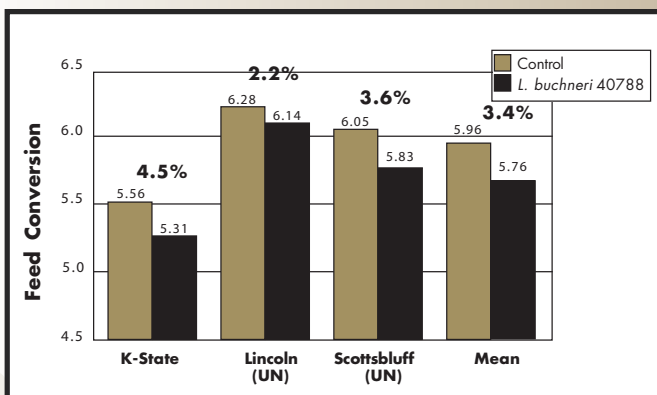
WHY WERE THESE STRAINS SELECTED?

Lactobacillus buchneri 40788 produces lactic and acetic acids from the fermentation of fiber and starch. The strain also produces other fermentation products that provide fuel for rumen bacterial acid production. The resulting acids are absorbed from the rumen and converted into a

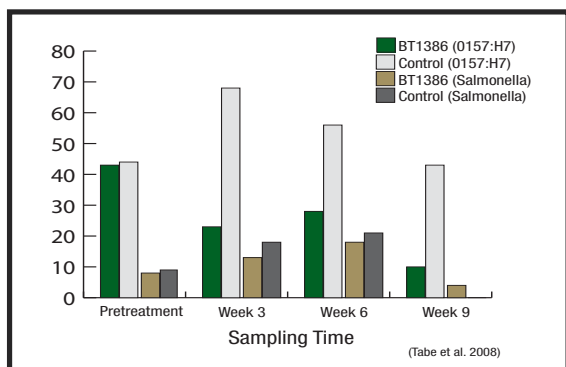
form of energy that is available for maintenance or live weight gain. Research shows that this leads to improved animal performance.

Feeding *Lactobacillus acidophilus* BT1386 promotes and maintains a normal intestinal environment which inhibits the ability of pathogens to develop infection, thus indirectly contributes to animal performance and feed efficiency. These performance characteristics have been demonstrated over many years in feedyards and in trials.

Lactobacillus acidophilus BT1386 has seen increased focus with the growing pressure of current safety concerns in regards to *E.coli* O157:H7. *Lactobacillus acidophilus* BT1386 thrives in the intestinal environment, and will colonize the hind gut. In the gut environment it grows vigorously and prolifically and therefore, has an advantage over other bacteria in the competition for gut attachment sites. When fed at the rate of 500 million Colony Forming Units (CFU) per day, *Lactobacillus acidophilus* BT1386 excludes "bad"



Prevalence of *E. coli* O157:H7 and *Salmonella*



pathogenic bacteria such as: *E. coli*, *Listeria*, *Salmonella*, etc. and will help prevent them from colonizing in the lower gut. In addition, the *Lactobacillus acidophilus* BT1386 strain stimulates the animal's immune system and helps produce beneficial digestive enzymes. These characteristics have led to proven economical benefits for the beef producer.



MICRO-CELL®

The unique combination of bacteria in MICRO-CELL GOLD utilizes fiber in ethanol byproducts like distillers grains with solubles and wet corn gluten feed.

Lactobacillus buchneri 40788 has been proven to improve the digestibility of xylans which are the predominant type of fiber in corn grain. These xylans are concentrated in ethanol byproducts and make up a significant portion of modern cattle rations. Increased fiber digestibility means the cattle digest and absorb more of the available carbohydrates therefore providing the animal with a greater supply of nutrients without increasing dry matter consumption.

FUNCTIONALITY

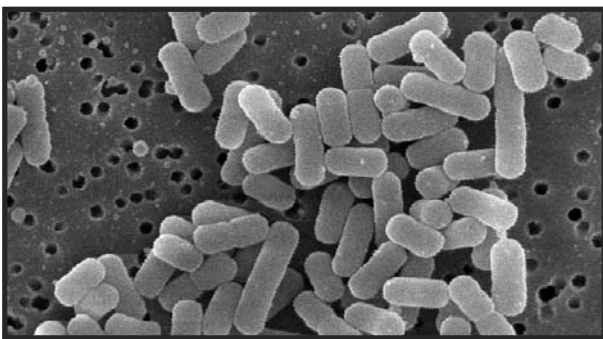
MICRO-CELL GOLD is a lyophilized (freeze-dried) bacteria for feeding to finishing cattle on high concentrate finishing rations. Contains a source of live, naturally occurring, stabilized micro organisms.

MICRO-CELL GOLD contains *Lactobacillus buchneri* 40788, and *Lactobacillus acidophilus* strain BT1386 resulting from a comprehensive research and development program.

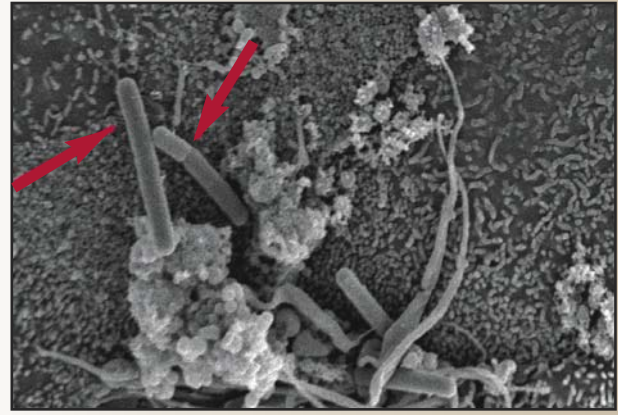
GUARANTEED ANALYSIS

Lactic acid bacteria not less than 20 billion Colony Forming Units (CFU) per gram from *Lactobacillus buchneri* 40788 and *Lactobacillus acidophilus* BT1386.

MICRO-CELL GOLD supplies 1 billion CFU *Lactobacillus buchneri* and *Lactobacillus acidophilus* per head per day.



Lactobacillus buchneri 40788 is protected under international patent #6,326,037.



Scanning electron micrograph of *L. acidophilus* adhering to epithelial cells in culture. Arrows point to *L. acidophilus* attached to cell surface.

INGREDIENTS

Sucrose, dried *Lactobacillus buchneri* fermentation product, dried *Lactobacillus acidophilus* fermentation product, sodium aluminosilicate and silicon dioxide.

STORAGE AND HANDLING

Store below 4°C (40°F) preferably in a freezer. Keep all application equipment clean and well maintained.

EXPIRATION DATE

Use within 12 months of date shown on package.

FEEDING RATES

- Apply only with approved equipment or as part of the Micro-Cell DIRECT Program.
- Prevent condensation by removing package from freezer 5 - 10 minutes prior to use.
- Apply to feed at the rate of 0.05 gram per head per day.

PACKAGING

PACKAGE
500 g foil pouch

SHIPPING UNIT
1 x 500 g

