



# MARKETING SUMMARY

## Areas of Opportunity for Micro-Aid<sup>®</sup> in Dairy Rations

### All Diets that Contain Urea

Urea breaks down to release ammonia in the rumen very rapidly. Even with a high energy diet, only 80% of nitrogen from the urea is utilized by the rumen bacteria. The remainder of the nitrogen is absorbed across the rumen wall into the portal blood and transported to the liver where it enters the urea cycle. The energy cost of disposing waste nitrogen represents a significant maintenance cost to the animal, reducing energy available for growth or production. Lower energy diets may provide sufficient energy for utilization of less than 50% of the urea nitrogen. Including Micro-Aid<sup>®</sup> in the diet will slow the rate of ammonia release in the rumen and increase the percentage of the urea nitrogen utilized by the bacteria and the animal for productive purposes.

### Diets with High Soluble Protein Ingredients

High soluble protein feed ingredients, such as alfalfa, haylage and certain byproducts are degraded into ammonia in the rumen very rapidly. Like ammonia produced from urea, much of this nitrogen is released too rapidly for the rumen bacteria to utilize. This waste nitrogen is converted into urea in the liver. Approximately 25 to 35% of this urea returns to the rumen via the blood and saliva. Including Micro-Aid<sup>®</sup> in the diet will slow the conversion of this recycled urea into ammonia, thus improving nitrogen utilization and reducing the energy cost of waste nitrogen excretion.

### High Fiber Diets (i.e., Slow Release Energy)

High fiber diets provide energy at a slower rate than diets containing high levels of grains (starch). Ammonia release into the rumen can only be utilized by rumen bacteria at the rate of energy available from the diet. Slowing the rate of ammonia formation in the rumen to more closely match the rate of energy digestion improves nutrient utilization, rate of gain and feed efficiency.

### In Dairy Transition Diets

Enhancing rumen function by stimulating growth of rumen bacteria is critical in both the pre-freshening and post-freshening cow. Micro-Aid<sup>®</sup> can be a very effective tool to minimize both digestive and health problems during this high stress period. Often, the bacterial population is reduced in the rumen during the dry period. This low bacterial population results in poor utilization of ammonia released into the rumen during this critical time. Slowing ammonia release rates by including Micro-Aid<sup>®</sup> in the diet will reduce the amount of waste nitrogen entering the blood stream, improve digestive efficiency and enhance microbial growth in the rumen.

### Micro-Aid<sup>®</sup>

Micro-Aid<sup>®</sup> is an all-natural feed additive that has been successfully used in dairy feeding programs worldwide. Research has shown Micro-Aid<sup>®</sup> to have a broad range of biological activity, including the enhancement of rumen efficiency, which leads to enhanced animal performance. Furthermore, Micro-Aid<sup>®</sup> is not absorbed from the gastrointestinal tract and, as a result, there is no concern for milk or tissue residue and no withdrawal period is required. Because of this, Micro-Aid<sup>®</sup> is classified in the safest classification for livestock feed additives, "Generally Recognized as Safe".



Micro-Aid<sup>®</sup> in all feed, all the time

