

PROBIOTICS CAN PLAY A VALUABLE ROLE IN TODAY'S DAIRY

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'Foo-Foo Dust' No More...Probiotics Can Play a Valuable Role in Today's Dairy.

Producers are bombarded with new products everyday, so when products come out that take a non-traditional approach it can understandably create skepticism. There can be even more skepticism when terminology like 'microflora', 'natural', and 'symbiotic relationship' are used to describe a product. Probiotics, also known as Direct-Fed Microbials (DFM), while for many years was regarded as 'foo-foo dust', is in reality a very science-based, straight forward way to help improve production and efficiency on today's dairy herd.

One of the single biggest factors in having a healthy productive herd is to have a balanced ration not only for the cows, but for the millions of fungi, bacteria and yeast that are living inside the cow's stomach. The rumen could be thought of as a football team and the producer is the coach. Coaches are responsible for adding the right players and maintaining the right environment to allow each player to make the right plays on the field. It is no different in the rumen. Each microbe is responsible for its own specific task. There are bugs that digest starch, some that digest fiber and others break down protein.

To maintain an efficient and healthy animal each type of microbe has to be present at the proper ratio in order for itself to survive and give the animal the nutrients it needs. Any variation, such as a pH change caused by overfeeding grain or a mycotoxin from poorly stored feed, can destroy specific microbes and throw the balance off which causes problems both in the short term (production) and long term (reproduction).

Sometimes it is difficult if not impossible to maintain the correct balance of rumen microbes through diet alone. When this happens, there are many products or tools out there that help achieve the desired balance. Traditionally we have tried to achieve this balance by fighting the microbes that we don't want. Ionophores such as monensin, are used to give preferential

treatment to specific rumen microbes by suppressing growth of less desired rumen microbes. Antibiotics are used in a similar way, but they fight foreign microbes that invade the digestive tract, but they can also attack the beneficial microbes at the same time.

Direct-fed microbials, on the other hand, act to improve rumen function by adding beneficial bacteria to the rumen to out compete less desirable microbes. By doing this, it allows the rumen's own defense system to balance itself to improve efficiency.

By no means am I suggesting that producers stop using ionophores to improve production or antibiotics to cure infections. While both ways of maintaining rumen microbe balance seem like they would contradict each other, they in reality make a great combination to improve rumen function.

Going back to the football analogy as an example, the defense (antibiotic) prevents the opposing team (or microbe) from moving down the field at will. The offense (rumen microbes) are then allowed to try to move down the field, but that doesn't necessarily mean it will succeed. Direct-fed microbials are like adding an extra couple of players on the field to make it easier for the offense to out-compete the opponent.

As with every other management practice or product that can be used on the dairy, the producer must decide whether or not it is feasible to use on their herd. Direct-fed microbials must be living organisms in order to be effective and sometimes special handling is required for certain products. Some types of direct-fed microbials are highly unstable products and need to be frozen in order for them to be effective for any length of time. So, if there is no way of storing it or the feed is mixed in large batches that won't be fed immediately the microbes may die before they reach the rumen. Other products are dry applied products, but again if they are stored in a poor container where moisture and humidity can get to the product, it may reduce the shelf life and make it ineffective before it is even used.

Producers must also remember that direct-fed microbials are not a magic bullet. If the ration is poorly balanced or mycotoxins are beyond acceptable levels, the rumen will still not function properly no matter what is given to the cow. With proper management though, direct-fed microbials are a safe and effective way to help improve rumen efficiency and health by giving the beneficial microbes an advantage over those that are not wanted.



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NATURAL

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EFFECTIVE

- Can lead to higher production in cows and a better growth in calves.
- Allows for better feed efficiency.
- Reduces the risk of pathogenic microbes becoming established in the digestive system to improve overall animal health.
- Stable digestive tracts are better equipped to absorb required nutrients needed for crucial biological functions such as reproduction.

ECONOMICAL

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The Tri-Mic Advantage

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Patented technologies guarantee stability of the product.
- **Research backed**
- **Guaranteed viable microbe count**
Product is consistently tested to ensure microbe count exceeds the label guarantee.
- **Proven track record of success**
Tri-Mic family of products have been used in the field for over 16 years.
- **In-vitro studies have shown** Tri-Mic exceeds performance in improved microbial protein synthesis, volatile fatty acid production and oxygen scavenging potential.

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