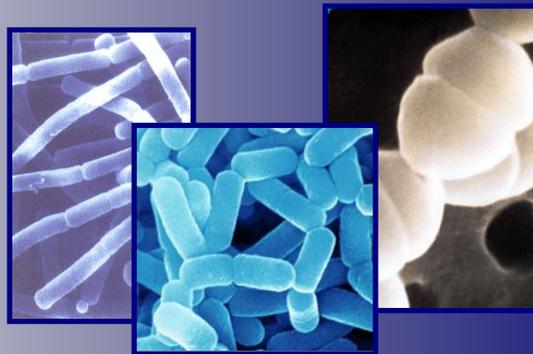




# Information Sheet

## Probiotics



### Probiotics Explained.

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The July 2009 issue of EQUUS magazine has an article on probiotics entitled, "Probiotics Explained, the Benefits of Friendly Bacteria" in which Ranch-Way's own Kelcey Swyers was interviewed for research she has previously done on feeding probiotics to horses (published in the Journal of Animal Science). In light of that article, we thought we would share a few questions and answers that may be useful for helping answer customer questions in your retail feed business. If you have any further questions regarding probiotics, do not hesitate to call! 1.800.333.7929

#### Q. Why should I feed probiotics to my horse?

A. The main goal of administering probiotics is to manipulate the normal flora (the microorganisms that naturally inhabit the digestive tract) in such a way that is beneficial to the health of the horse. With that said, research indicates that probiotics may stimulate the digestion of feedstuffs, improve absorption of vitamins and trace minerals (copper, zinc, and iron), control pH of the hind-gut, reduce the incidence of diarrhea and digestive upsets that could lead to colic or diarrhea, act as a natural alternative to administering antibiotics (antagonistic activity against pathogenic bacteria such as *Salmonella* or *E. coli*), and enhance milk production in mares.

#### Q. What is the difference between Probiotics, Prebiotics, Direct-fed Microbials (DFM) and Yeast Culture?

A. The terms *probiotic* and *direct-fed microbials* (DFMs) are synonymous with each other and are used as umbrella terms to refer to any type of single-cell microbial (fungal or bacterial-based) feed additive. Probiotics can be offered to animals as either live (viable) microorganisms that are intended to colonize and populate the digestive tract or as fermentation products, which are not considered to be 'live' but rather serve as a food source for the natural bacteria that already inhabit the animals' digestive tract (commonly referred to as the natural flora). Often times, the term *prebiotic* is used to describe this kind of probiotic. Most prebiotics are carbohydrate-based (oligosaccharides) and/or other nutritive constituents that serve as a food source (or substrate) for the natural flora. Typically, products containing live (viable) cultures will have the colony forming units (CFU) listed on the label whereas CFU will not typically be listed for prebiotics. The bacterial DFMs used in Ranch-Way products are dried fermentation products from *Streptococcus (Enterococcus) faecium*, *Lactobacillus acidophilus*, and *Bacillus subtilis*.

*Yeast culture* is a fungus-based DFM that can also be fed either as 'live' active yeast or as fermentation products where the media and the yeast are dried and preserved. Yeast culture can include enzymes, and both microbial and fermentation metabolites (such as B-vitamins and amino acids). The yeast cultures used in Ranch-Way feed products are typically considered to act as prebiotics and are dried fermentation products from baker's yeast *Saccharomyces cerevisia*, *Aspergillus oryzae*, and/or *Aspergillus niger*.

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### Supplemental Information:

Probiotics have been defined as, 'microorganisms that beneficially affect the host animal by providing intestinal microbial balance' (Fuller, 1989). The U.S. Office of Regulatory Affairs of the Food and Drug Administration and the Association of American Feed Control Officials (AAFCO) have narrowed the definition of probiotics to be "a source of live, naturally occurring microorganisms" (Yoon and Stern, 1995) and require feed manufacturers to use the term "direct-fed microorganisms" (DFM).

The AAFCO lists DFM that have been reviewed by the Food and Drug Administration, Center for Veterinary Medicine to be generally regarded as safe (GRAS).

Ranch-Way proudly uses DFM technology from these notable suppliers:



#### References:

1. Fuller, R. 1989. A review: Probiotics in man and animals. J. Appl. Bacteriol. 66:365-378.
2. Yoon, I. K., and M. D. Stern. 1995. Influence of direct-fed microbials on ruminal fermentation and performance of ruminants: a review. Australian J. Anim. Sci. 8:533-555.
3. Pictures from:  
[http://elementy.ru/images/news/lactobacillus\\_acidophilus\\_300.jpg](http://elementy.ru/images/news/lactobacillus_acidophilus_300.jpg),  
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