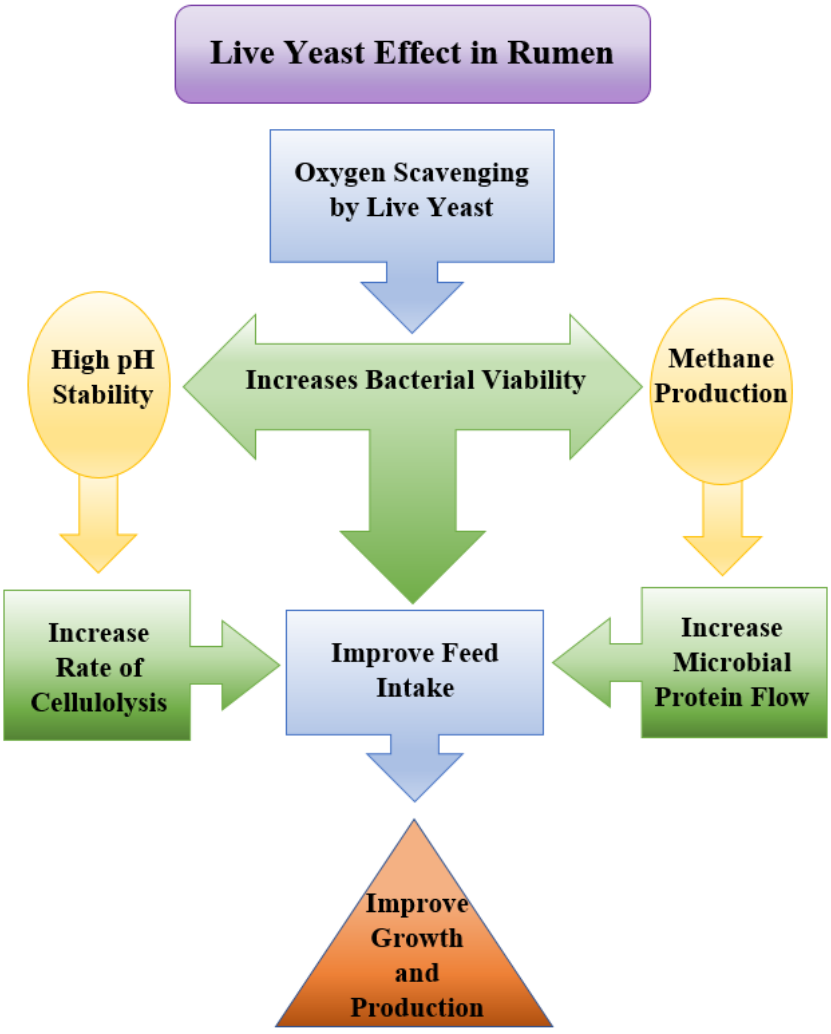
Midwestern BioAg

Bailey's Bit About Nutrition

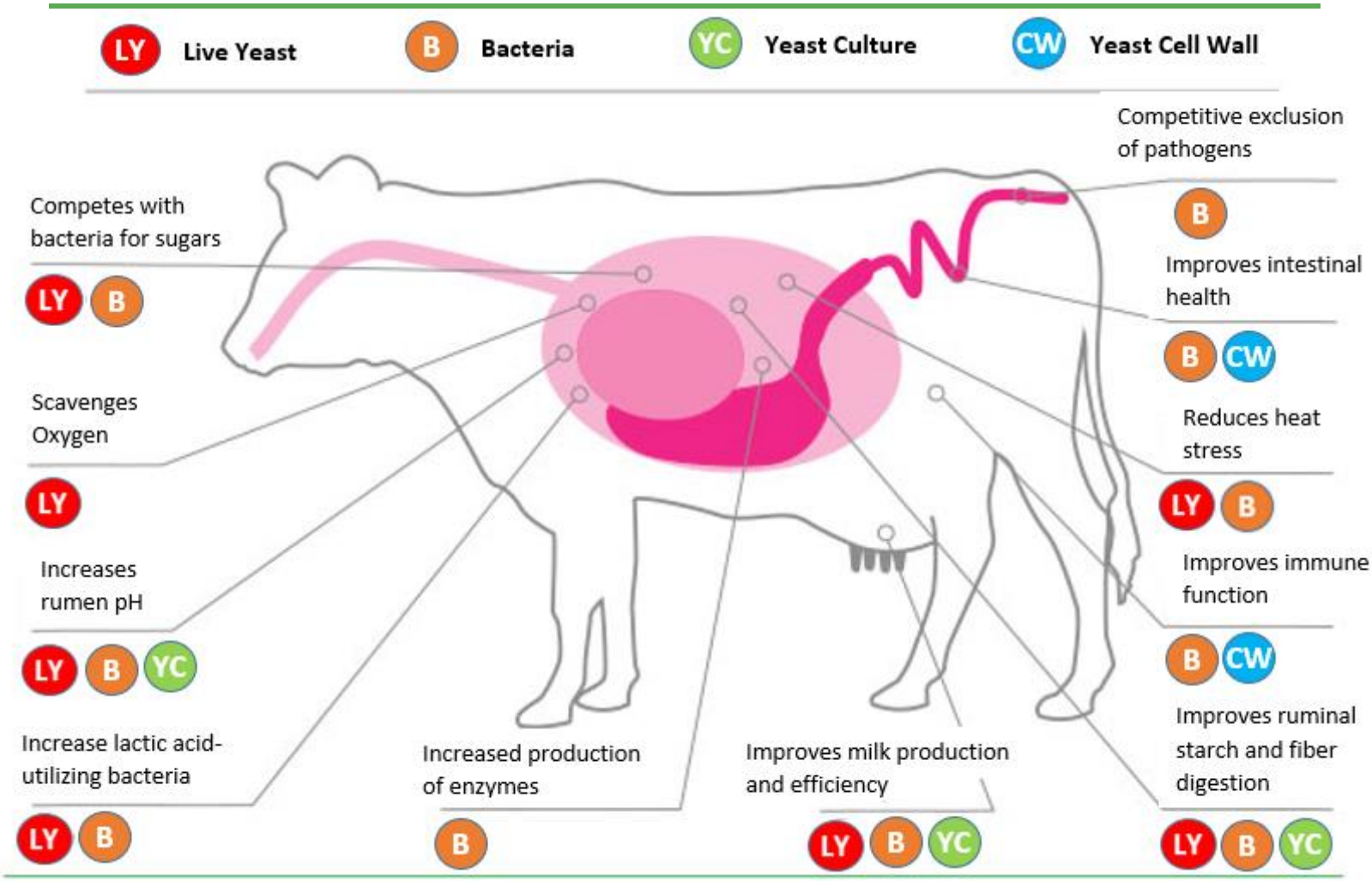
Probiotics for Dairy Cattle

A probiotic is defined as "live-organisms which, when consumed in adequate amounts, confer a health effect on the host." There are two general classes of probiotics: fungi and bacteria. Fungal probiotics are primarily live yeast. Probiotic yeasts work within the rumen to improve fermentation, scavenge oxygen, stabilize rumen pH, improve fiber digestion, and increase microbial growth. Probiotic yeasts remove oxygen (scavenge oxygen) from the rumen and provide a better anaerobic environment for bacterial growth. The anerobic environment helps in the protection of rumen bacteria from damage by oxygen and stimulation of growth of cellulose- degrading bacteria. Bacterial probiotics have three primary modes of action. The first is through competitive attachment, which prevents pathogens from binding to the gut wall. The second mode of action is an antibacterial-like effect in which they can help reduce pathogens in the intestine. The final mode of action is the modulation of an immune response, improving the host's response to disease. The gastrointestinal tract provides many roles in the animal's life. It is where the feed is digested, and nutrients are absorbed. It is also approximately 75 percent of the immune system. Epithelial junctions between cells, a mucous layer, immunoglobins and antimicrobial peptides all make up the intestinal defense system. When the barrier is disrupted, pathogens can damage the lining of the intestine and induce inflammation. Probiotics can impact this defense system by regulating and modulating different inflammatory processes. These probiotic bacteria use several different methods to support barrier formation and prevent competitive attachment of pathogens. Probiotics can regulate genes responsible for the tight junctions between epithelial cells within the gastrointestinal tract. Probiotics also increase the amount of mucous secretion in the gastrointestinal tract. Some probiotics are known to alter the composition of mucus, preventing pathogen binding. Many benefits come from using probiotics in animal feedings. Using probiotics seems to improve gut microbiota composition, immune response, nutrient digestibility and absorption animal growth, milk production, and meat quality.



Date: November 10th 2021

Bailey's Bit About Nutrition



Product of the Week

"O" PYK and PYK

Our "O" PYK and PYK blend is a probiotic, yeast and kelp combination specifically designed to maximize digestive tract health and efficiency in all livestock. "O" PYK is allowed for use of organic farms – check with your local organic certifying agency for acceptance before using this or any feed supplement.

Product characteristics

- Contains live, beneficial bacteria (including Lactobacillus acidophilus) and live yeast cells.
- Provides digestive enzymes.
- Contains Icelandic kelp as a source of over 60 trace minerals and vitamins.
- Helps improve fiber digestion, reproduction, immune system function and hoof health.