



CEDAR GROVE VETERINARY SERVICE NEWSLETTER



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PROBIOTICS AND PREBIOTICS: WHAT GOOD CAN THEY DO FOR YOU?

As many producers may have realized, the use of antibiotics in food producing animals is changing. The new Veterinary Feed Directive (VFD) laws that went into effect at the start of 2017 seemed to take many by surprise. What most farmers don't realize is that the VFD laws are most likely only the tip of the iceberg.

In fact, California became the first state to effectively ban the indiscriminate use of antibiotics in animals and this law will go into effect on Jan. 1, 2018. This means that antibiotics (injectable, water based, and feed based) can only be used under the authority of a veterinarian. They will be limited to the necessary treatment of a disease or infection; controlling the spread of disease or infection; in relation to surgery or a medical procedure; or for prophylaxis to address an elevated risk of contraction of a particular disease or infection. California is not the

only state considering elevated action. At least six other states are considering similar laws further restricting antibiotic use.

So, what does this have to do with probiotics and prebiotics? As the regulations surrounding antibiotic use continue to change, new products are emerging. Many of these products have similar health benefits to previously used antimicrobials without the detriments of causing drug-resistant organisms.

Probiotics are live microorganisms (including bacteria, yeast, fungi) that create a positive impact on the host animal. Prebiotics are substances that can act as a food source to microflora already found in the gut of an animal. When prebiotics and probiotics are used together they are called "synbiotics." The usage of both products can effectively be used to counter the negative impact of stress factors or pathogens in food animals.

DO YOU KNOW YOUR ANTIBIOTICS?

Polyflex

Use:

- Urinary Tract Infections
- Gastrointestinal Infections
- Skin Infections
- Soft tissue infections
- Post-surgical infections
- Respiratory tract infections due to *Aerobacter sp.*, *Kelbsiella sp.*, *Staph sp.*, *Strep sp.*, *Pasteurella multocida*, and *E. coli*

Dose: 2-5 mg/lb of body weight once daily by intramuscular injection. Do not treat for more than 7 days

Polyflex can be reconstituted with different amounts of sterile water to achieve the final concentration. Most often, 80mls of water is added for a concentration of 250 mg/ml and a final dose of **2ml/100lbs of BW**

Special Notes:

- 48-hour milk withhold
- 6-day meat withhold

The benefits of these products in food animals have been shown to be numerous. Probiotics can work to compete with intestinal pathogens such as *E. coli* and *Salmonella sp.* to adhere to the GI tract and thereby reduce or prevent infection. There is also data to support that probiotics can also reduce the absorption and deleterious effects of mycotoxins.

Probiotic organisms can also do some other remarkable things. They can produce antibacterial substances that can inhibit bacterial growth. This can keep the levels of harmful bacteria to such a low level that they can't even cause disease. Additionally, the good bacteria can also use nutrients that harmful bacteria need to grow and successfully starve them out.

Finally, probiotics and prebiotics are important for the development of an immune system in young animals. Use of a probiotic in the first week of life can reduce mortality in

those animals. This is accomplished by increasing certain cells of the immune system that find and destroy pathogens.

Practically, dairy cattle can greatly benefit from the addition of a prebiotic and/or probiotic in their management system. Cattle transported great distances have demonstrated reduced stress and health impacts when supplemented with a probiotic. It has also been documented that probiotics can have a positive influence on the performance and health of dairy cattle after calving. Specifically, it has been shown to reduce the impact of metritis. Milk production and growth can also be improved using prebiotic/probiotic products.

Most benefits have been seen in calves which is no surprise considering all the good that these products can do for the GI tract. Diarrhea is a common problem in young calves. This is an area where antibiotics are not useful due

to resistance issues. It has been reported that providing probiotics to young calves can simultaneously reduce the percentage of calves that require treatment and amount of drug needed.

Antibiotic usage will likely become more restricted in the coming years. Therefore, it is important to start implementing new management strategies to improve animal health now. Prebiotics and probiotics are products that farmers should consider as their first step in this new management system if there are not being used already.



FDA Approves First Medication for Pain-Control in Food Producing Animals

The US FDA recently announced the approval of a product called Banamine Transdermal that is approved for the use of pain associated with foot rot and for the control of fever associated with respiratory disease in cattle. This new formulation that can be applied to the skin along the back in a narrow strip once. Currently, this new product can be used in steers, beef heifers, beef cows, beef bulls and replacement dairy heifers under 20 months of age. It is not to be used for beef bulls intended for breeding, dairy bulls, female dairy cattle 20 months of age or older, suckling beef calves, suckling dairy calves, or veal calves. It will be sold as a prescription medication and will require a veterinarian's involvement to use.