



PAYBACK

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Payback News

Nitrates in Feeds and Their Effect on Cattle

Across the territory as we deal with the drought this year, we have seen a lot of small grain hays and drought stressed corn and other plants that will be harvested and put up as feed for the herd this year. One of the biggest concerns with many of these feedstuffs is the possibility that drought stress has caused the plant to accumulate nitrate in its tissues. Nitrates can be extremely deadly to cattle. If eaten in large enough doses they can cause asphyxiation and death. Most labs test for nitrates and it usually doesn't cost all that much, about \$8 a sample, to find out what you may be dealing with. That is pretty cheap insurance for keeping cows alive. Nitrates can also cause the cow to abort and so not all the economic costs are associated with death loss of the cow. Some of the feeds to look out for include oat, wheat, barley hay, forage sorghum and sorghum sudan grass hybrids and corn. Alfalfa and other legumes don't tend to accumulate nitrates in toxic amounts. Once the plant is harvested, the only way to reduce the level of nitrate in the product is to ensile it. Ensiling tends to reduce the nitrate level in a feed from 33 to 50%. If you plan to ensile the feed, it is a good practice to wait about 21 days before you take a nitrate sample so the fermentation process has had a chance to use up as much as possible. You can then have the ensiled feed tested right before you start feeding it, so you will know where you are at to blend it off. Hay bales must be carefully sampled. Different parts of the field can have different levels of nitrate and you could have a hot bale in there. Consult with your nutrition consultant to find out what the best strategy will be for dealing with the levels you find. ~ Lance Kennington, PhD.



Starting Calves on Feed using Headstart from CHS

Weaning and starting cattle on feed can be the most stressful time of the year, not only for the calves but for the producers as well. When starting cattle on feed it is critical to provide a good transition for the young calf.

A calf that becomes sick at weaning will have a hard time making any money. We need to work hard to reduce stress caused by separation from mother, prolonged vocalization, lack of feed and water recognition, and adverse weather conditions. Provide the calf with a pen that is clean, comfortable, and dry, but not dusty, with enough pen space (150 square feet minimum) and bunk space (18-24"). Also, make sure the cattle have access to a good, clean water supply. When feeding at weaning time, the object is to get the intake increased as rapidly, but as safely, as possible.

Starting feeds should have an increased nutrient concentration to make up for lower feed intake. We want to get as many nutrients in the calves as we can with each bite they take at the bunk. In a trial at Montana State, researchers found that animals who spend more time at the bunk were less likely to be sick. So getting cattle to go to the bunk is critical. Starting calves with Headstart will help get calves on feed and reduce stress. Headstart has a consistent formulation, highly digestible fiber sources, is highly palatable, and has shown to have excellent performance in university trials. Research at Oregon State University showed that cattle fed Headstart gained 84 lbs more over a 21 day starting period than those who were left on the cows and fed hay. This resulted in a 4.7 lb average daily gain for the calves on Headstart, with a 4.17 feed conversion. In on farm trials conducted in Montana, Wyoming, and the Dakotas involving 1164 head, Headstart has shown an average daily gain of 3.27 lbs and a feed:gain of 5.46.

Using Headstart from CHS is a profitable opportunity for anyone trying to keep newly weaned calves healthy and put weight on them at the same time.

~ Lance Kennington, PhD



Using ProTernative, a probiotic yeast, in Headstart Programs helps improve health in newly weaned calves

Next Level Preconditioning Programs

Most cattle must go through the stress associated with weaning. For beef producers, preconditioning can help prepare animals for health challenges that go along with weaning-and earn premiums at the same time.

“We know stressful situations like weaning can make calves more vulnerable to disease. Preconditioning is all about building the health of the calf prior to sale time, “ says Angel Aguilar, Ph.D., Technical Services Manager, Lallemand Animal Nutrition. “Preconditioning pays because buyers get healthy calves that are ready to gain on arrival. Today, many producers want to add on to their preconditioning premiums by participating in natural programs or by lessening the costs associated with treatment of disease.”

Basic preconditioning programs should include: vaccinations, deworming, balanced nutrition and management to help prevent disease and prepare cattle for eating from feed bunks. Dr. Aguilar recommends producers review Beef Quality Assurance (BQA) guidelines each year as a refresher on tried-and-true cattle handling techniques that help reduce stress and management tips that retain quality.

With this foundation in place, it may be time to think about new ways to help cattle prepare for the stress of weaning. For these producers, Dr. Aguilar suggests adding a proven probiotic to help naturally activate the immune system of cattle during times of stress. The right probiotic can help initiate an active process of stimulating microflora, which enhances lower gut health and interacts with the immune system.

Not all probiotics have this effect, he warns. On specific strain, *Saccharomyces cerevisiae boulardii*, (trade name **ProTernative**), is proven to activate the immune system of cattle during times of stress. It is a naturally occurring active dry yeast (ADY) probiotic with research to support its use in weaned calves.

In one study, newly weaned heifers fed **ProTernative** demonstrated improved meal patterns, which allowed for a more uniform level of feed intake. The heifers showed a 0.42 lb per day greater average daily gain (ADG) compared to controls during the first 28 days.

In addition to benefits in ADG, probiotics like ProTernative are compatible with any management program, from natural to conventional. Probiotics also can be used any time a stressful situation occurs, even long after weaning.

“Using proven probiotics is a win-win,” Dr. Aguilar says. “Producers get health benefits while retaining premiums and decreasing the need for treatment. Reducing the negative effects of stress during critical times like weaning can benefit everyone.”

~ Erin Carter, PAS, Lallemand Animal Health

Using ProTernative, a probiotic yeast, in Headstart programs helps improve health in newly weaned calves (continued)

Proof before Purchase

Making even a small change to tried-and-true protocols can be a financial risk for producers, and it's even more challenging during tough market conditions, notes H. Nielsen, DVM, Technical Services, Lallemand Animal Nutrition.

“There's not a cattleman I know who wants to waste money. It's even more important when the margin between profit and loss is close,” Dr. Nielsen says. “New technologies and products must be proven to work first.”

Before adopting, producers should look for products that have been tested in independent research trials. Next, new technologies can be tried on the farm with just a few head of cattle. Then, producers can gauge the benefits to productivity and profitability on their own operation.

For example, probiotics are becoming more widely adopted as producers see proven benefits in average daily gain (ADG) and improved herd health, as seen in a trial conducted at Texas Tech University. Many operations started using probiotics in their sick pen. After seeing benefits in their most challenging cattle, producers are now adding probiotics in all on-arrival rations. Some probiotics help support the immune system of cattle against everyday challenges by stimulating a natural immune response.

“We've seen the benefits for some time now, but researchers are just beginning to understand more about the dynamic and robust bacterial communities in the lower digestive tract of cattle,” Dr. Nielsen says. “With the right probiotic, these communities can promote a positive, systemic immune response from within the cattle.”

A live, probiotic organism can help positively influence the environment, but not every probiotic has the power to do this. In fact, there are thousands of probiotic microbial strains, and producers should look for a product that is proven to produce results in cattle, Dr. Nielsen recommends.

For example, *Saccharomyces cerevisiae boulardii*, (**ProTernative**), was even shown to result in a two-fold reduction in temperature compared to controls. Fever is one of the first signs that animals are spending metabolic energy to fight off disease, Dr. Nielsen notes.

He recommends producers also look for probiotics from a trusted manufacturer. The efficacy of live, active microbes is directly linked to good manufacturing processes and careful handling.

“Selecting products with a history of proven performance will help producers capture profitable results,” Dr. Nielsen says. “No one has time or money to waste on additions that don't provide a return.”

~ Erin Carter, PAS, Lallemand Animal Health



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