

# **COW/CALF CORNER**

## **The Newsletter**

**From the Oklahoma Cooperative Extension Service**

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Dr. Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

## **Coccidiosis Prevention Pays**

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### **Coccidiosis control programs should start before weaning**

Coccidiosis stalks young beef calves from birth through adolescence. The first big threat hits at weaning time when stress from location changes, different feed, and intermingling threatens to challenge the calf's immune system. As an organism of opportunity, coccidiosis infections thrive in wet conditions provided by weather or confinement production systems. Not only is coccidiosis a threat to the calves health but it opens the door to other diseases, including respiratory (pneumonia) pathogens.

While the clinical signs of acute coccidiosis – bright red bloody diarrhea, dehydration and depression – are easily recognized, subclinical coccidiosis remains the unseen threat responsible for loss of gain. Subclinical coccidiosis can be a huge problem in beef calves. If we see signs of acute coccidiosis in a pen

of calves, we estimate that half of the pen has subclinical coccidiosis, which is not apparent; but, still causing production loss and lack of weight gain.

### **Back to basics**

Coccidiosis ranks as one of the top five most economically important diseases in the cattle industry, according to the Oklahoma Extension Service. Little data has been generated in recent years to weigh its economic impact, but a 2002 article in *Veterinary Parasitology* cited a 1994 U.S. report estimating that cattle ranchers lose an estimated \$400 million dollars a year. That's well over \$560 million a year in 2005 dollars.

Bovine coccidiosis is caused primarily by two highly prolific strains of microscopic protozoa parasites, *Eimeria bovis* and *Eimeria zuernii*. For every single oocyst(egg) ingested by a calf, these two parasites are capable of producing 15 to 28 million oocysts (eggs) during a single 3 to 4 week life cycle. Coccidiosis-causing oocysts are found everywhere cattle are found. Most all healthy cattle will have a few coccidia oocysts in their intestinal tract. Shed in feces, oocysts are able to survive in moist, shaded areas for a long time. Animals become infected by ingesting fecal material in soil, feed, water, or by licking themselves or other animals in the herd.

Unfortunately, a significant portion of the intestinal damage contributed to coccidiosis occurs before clinical signs present themselves. And once clinical signs are present, the disease is more than half way through its life cycle. If the calf's gut lining is damaged by coccidiosis it may never recapture its full absorptive potential.

### **Setting up for success**

Management strategies target prevention of coccidiosis by reducing calf stress. The organism is always present in the environment and in normal healthy carrier animals – just waiting for the right conditions to strike. Cow/calf producers may experience coccidiosis outbreaks when the animals are confined during the weaning process. Wet, warm weather during late spring and early summer are ideal conditions for coccidia survival in the pasture environment; and , this is when highest numbers of young spring born calves are exposed to the coccidian organism.

## **Improving backgrounder performance**

There is plenty of research showing that it's much more cost effective to prevent coccidiosis than to try and treat an outbreak. Yet, many calves aren't fed an anticoccidial until after weaning when they reach the backgrounder. Today, progressive beef producers start calves on a feeding program that includes an ionophore mineral supplement or a pelleted anticoccidial before weaning. These producers recognize the value in preventing not only coccidiosis but reducing the respiratory diseases that strike a calf with a weakened immune system.

The physiological stress of weaning, transportation, intermingling, new diets and often cold, wet weather, sets up calves for an outbreak of coccidiosis when they reach the backgrounding yards. Backgrounders recognize the value of feeding a coccidiostat in the receiving rations. These animals need the anticoccidial to enhance feed conversion during the acclimation process when they're under stress and fighting off respiratory infections.

Dr. Denny Hausmann, a technical service veterinarian at Alpharma Inc. Animal Health, who works closely with the disease, agrees that prevention is the best strategy: "Weather, shipping and new diets are stressors that beef producers have little control over," notes Hausmann, "but using an anticoccidial in these situations helps prevent outbreaks making cattle less susceptible to other diseases."

## **Management Strategies to Reduce Coccidiosis Outbreaks**

Mother Nature deals her own set of cards to cow/calf producers in the weather department, but progressive beef producers can counter with these "ace-in-the-hole" management strategies.

- Avoid mud and manure contamination of drinking water. Fencing cattle out of small shallow ponds and provide water to calves in an above ground tank.
- Place gravel around stock tanks to reduce wet areas around tanks where cattle congregate.
- Move feeding sites to clean areas frequently when feeding on the ground. Don't feed round bales in the same spot in the pasture
- Keep feed bunks and water tanks clean and free of manure.

- Start calves on an anticoccidial before weaning. Either in the free choice mineral supplement or creep feed
- Reduce physiological stress due to castration, weaning and intermingling
- Always use an anticoccidial or an anticoccidial-antibiotic combination in the receiving ration. A new FDA approval permits using the anticoccidial Bovatec® (lasalocid sodium) and the antibiotic Aureomycin® (chlortetracycline) in the same cattle feed to optimize weight gain and feed efficiency while controlling coccidiosis and the leading causes of bacterial enteritis (diarrhea) and pneumonia. Other anticoccidial medications commonly added to receiving rations are Decocox® (decoquinate), Rumensin, and Amprolium.

## Sorting Cows for More Efficient Winter Supplemental Feeding

Dr. Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

First calf heifers have historically been the toughest females on the ranch to get rebred. They are being asked to continue to grow, produce milk, repair the reproductive tract, and have enough stored body energy (fat) to return to heat cycles in a short time frame. Two-year old cows must fill all of these energy demands at a time when their mouth is going through the transition from baby teeth to adult teeth.

If these young cows are pastured with the larger, older cows in the herd, they very likely will be pushed aside when the supplements are being fed in the bunk or on the ground. The result of these adverse conditions for young cows very often is a lack of feed intake and lowered body condition. Of course, lowered body condition in turn results in delayed return to heat cycles and a later calf crop or smaller calf crop the following year.

North Dakota State University data of commercial cow herds recorded over a 21 year period illustrated the differences in size and body condition of very young cows and the very mature (10 year old+) cows. The North Dakota data clearly show that the average 2 year old is about 20% smaller than her full grown herd mates. There is little wonder that the younger cows get pushed away from feed bunks, hay racks, or supplements fed on the ground. The results of the size differences and the need to continue to grow are manifest in the lower body condition scores noted in the very young cows. The very old cows are experiencing decline in dental soundness that make it difficult for them to maintain feed intake and therefore body condition. Over the 21 year data set from North Dakota, the 2-year old cows and the 11 year-old and older were significantly lower (0.3 or more units) in body condition score than middle-age cows.

Consequently, it makes sense to sort very young cows with the very old cows and provide them with a better opportunity to compete for the feed supplies. By doing so, the rancher can improve the re-

breeding percentages in the young cows and keep the very old cows from becoming too thin before culling time.

From this data they formulated three logical groups of cows to be pastured together for feeding efficiency.

Group 1: The two-year old first calf heifers. They have higher nutrient needs than other cows that are not growing. They are too small to compete with larger, older, boss cows for the supplement.

Group 2: The old cows (10 years and older) and the 2nd calf heifers. In addition, this group should include any of the middle aged cows that were thin and needed extra supplement. Cows that were Body Condition Score 4 or less would be considered.

Group 3: The remaining cow herd. This is the group that is mature in size and in adequate condition to enter the winter feeding period as at least Body Condition Score 5.

If only two groups are possible, putting groups 1 and 2 together would be the logical other combination. Ranchers, then want to be certain that the feeding program is adequate to have cows in each group calve as BCS 5 or 6 next spring.

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