

Large Animal Newsletter

Inside this Newsletter

- 1. Fecal Analysis Shows the Need for Strategic Deworming in Grazing Cattle**
- 2. Trade Show and Client Appreciation Meeting August 12th**
- 3. Twin Forks Clinic now offers Vet Quality Assurance**
- 4. Don't Forget the Most Important Nutrient!!**



Fecal Analysis Shows the Need for Strategic Deworming in Grazing Cattle

Cattle that have a low parasite burden produce significantly more than cattle with a moderate or high parasite burden. Strategically dewormed cattle have been shown to produce more milk, have improved feed efficiency, increased dry matter intake, improved reproductive efficiency, produce higher carcass quality, obtain higher condition scores and have a stronger immune system to fight off other diseases.

Gastro-intestinal parasites both directly and indirectly affect cattle in many ways. Cattle are harmed by adult parasites living within the cattle

themselves, but also through the ingestion of infective larvae that begin attacking the animals immune system as soon as the infestation process begins. The key to strategic parasite control involves preventing parasite buildup in the cattle and their environment through strategically timed deworming programs.

A recent study was completed on 1106 crossbred heifers, eight pens were treated with Safe-Guard oral dewormer plus Ivomec pour-on and eight pens were treated only with the Ivomec pour-on. The heifers receiving the Safe-Guard plus Ivomec had 73% fewer worm eggs per sample 98 days after treatment and 68% fewer worm eggs per sample at harvest (135 days). As a result, the heifers that were treated with Safe-Guard plus Ivomec pour-on gained .12 pounds/hd/day more weight, consumed .43 lbs./hd./day more feed, were 17 pounds/hd. heavier at harvest, and had 12 pounds/hd more carcass weight than the heifers that were treated with Ivomec pour-on alone.

In another series of trials over 22 trials in 10 states, strategically using Safe-Guard gave cow/calf producers and average increased calf weaning weight of 28.9 lbs./hd. at weaning time. It's hard to say whether to attribute the increase in calf weaning weight to increased milk production in the cow due to lower parasite burdens, or the actual lower parasite burdens in the calves or a combination of the two.

Earlier last month, the staff at Twin Forks Clinic in Wray hosted a Deworming meeting that was sponsored by Schering-Plough. Producers were asked to collect 17-20 fecal samples from the same set of cattle to be analyzed for worm eggs prior to the meeting.

Ten different producers collected a total of 177 fecal samples. The majority of these fecal samples were taken from mature cows on grass with a few of the samples coming

from feeder calves both on grass and drylot. These samples were sent to an independent lab in Lincoln, Nebraska for analysis. The lab uses the same process that we do at Twin Forks Clinic. This process is called the Modified Wisconsin Sugar Flotation Method. Five different types of worm eggs were identified including stomach worms, Nematodirus, Cooperia, Threadworms, and Tapeworms. In addition, the protozoal parasite coccidia was found.

Cattle become infested with parasites by inadvertently ingesting worm larvae while grazing. Once in the cattle's system, the parasites mature and start laying more eggs. These eggs are passed through the manure of the animal, hatch into larvae and find their way onto blades of grass and other feedstuffs where they are consumed again and the cycle continues. So basically the more worm eggs that are found in a fecal sample, the higher the parasite burden is on the cattle that were sampled.

Of the samples that were sent from mature cows, 24% of all individual cows had moderate to high levels of parasite eggs. Stomach worms, Cooperia, nodular worms, Coccidia, and a few Nematodirus were found amongst the samples that were submitted. Group averages ranged from .15 eggs/sample to 15.6 eggs/sample with individual sample ranges from 0-87 eggs/sample. Most of the cows received some type of ivermectrin pour on at preg check time. One of the cleanest herds amongst the mature cows was a group that received an oral dewormer earlier in the year.

The samples from the feeder cattle looked similar to those of the cows. Of the samples that were sent from feeder cattle, 24% of the individual samples had moderate to high levels of parasite eggs. Stomach worms, Cooperia, nodular worms, Coccidia, and a few Nematodirus were found amongst the samples that were

submitted. Group averages ranged from 3.24 eggs/sample to 25.9 eggs/sample with individual sample ranges of 0-74 eggs/sample. There was not enough information submitted from the producers to get a good picture of differences in parasite burden between calves on drylot vs. calves in a grazing situation.

Overall, the average egg counts were lower than samples that were taken for our Deworming meeting in Benkelman at the same time last year. However, those individual animals with moderate to high fecal egg counts in their samples are the ones that are contaminating the pastures, and in turn infecting the other cattle on the pasture. Therefore treatment in most cases would prove to be beneficial.

The goal of any strategic deworming program is to deworm with the right product at the right time, to kill the most parasites and keep re-infestation at a minimum. A good strategic deworming plan for spring calving cows would be to deworm in the fall at preg check time with a good pour-on to control lice and some internal parasites. The cows can then be dewormed again 6-8 weeks after turnout. This can be achieved by feeding fenbendazole (Safeguard) through the mineral.

A good deworming plan for stocker cattle and replacement heifers might be to deworm at turnout, then again 3-4 weeks after turnout, then again when they come off grass.

Springtime can sometimes provide an excellent environment for worm eggs to hatch and the larvae to contaminate pasture. Therefore, one of the best times to deworm is after turnout on grass. Probably the best way to achieve this is by using a non-handling form of fenbendazole (Safeguard). Non-handling simply means that the cattle consume the dewormer without having to be handled through a facility.

Probably the best non-handling formulation of Safeguard for this area is the 1.96% scoop dewormer in the flaked meal form. You can mix this right into your existing mineral mix to provide the dewormer needed.

One 25 pound bucket of Safeguard treats 98,000 pounds of beef or roughly 75 head of mature cows. There is a scoop in the bucket, each scoop will treat 1350 pounds making measuring a little easier. The Safeguard needs to be thoroughly mixed with the amount of mineral that the cattle will consume in a 4-6 day period. Therefore, you need to have a fairly good idea of what the cattle are actually consuming, not what they *should* be consuming according to the directions on the mineral tag.

Depending on your operation, deworming at these times may not always be necessary. You can bring in fresh fecal samples and we can check them in-house for worm eggs, or we can send them off to the lab in Lincoln for a more detailed analysis if you would like. Stop in anytime and we can help you devise a deworming plan of attack.

Kevin L. Cawthra, Animal Scientist, Twin Forks Clinic INC.

Trade Show and Client Appreciation Meeting August 12th

Mark your calendars now for Friday August 12th. Twin Forks Clinic will be holding a Fall Trade Show and Client Appreciation meeting at the Legion hall in Haigler, Nebraska.

Starting at 1:00 in the afternoon Twin Forks will host a Fall Trade Show. The purpose of the Trade Show is to give producers the opportunity to learn about new and existing products for the approaching weaning and preg check seasons. Drug company representatives will be available to discuss their products and services. Twin Forks clinic staff and veterinarians will be available to help you plan for the upcoming

seasons. There will also be a booking program available through Twin Forks that will allow you to book your product at a discount.

Starting at 2:00, Dr. Tom Noffsinger will give a presentation on low stress cattle handling, followed by Dr. Darrel Rezac from Kansas State with a presentation on animal welfare.

Starting at 5:00 is happy hour with supper starting at 6:00. We hope you make plans to attend. We have some excellent speakers and sponsors lined up and it should be a very educational and entertaining afternoon!

Twin Forks Clinic Now Offers Vet Quality Assurance

At Twin Forks Clinic, we know you the producer are proud of the work you do and strive to do things correctly. We believe our clients produce some of the highest quality beef in the country. Wouldn't it be great if you could get paid for the extra work that many of you already do? We are currently working with Vet Quality Assurance to help you do just that!!

Vet Quality Assurance is a third party verified program through Samson, LLC that documents value-added practices that include a basic vaccination protocol, BQA cattle handling practices and age verification. Further verification can be performed for Non-Hormone Treated Cattle and Never Ever 3 certification. This program is administered by Veterinarians in conjunction with Samson to guarantee the integrity of the program.

As with any PVP, there are several criteria that must be met for your cattle to reap the benefits of Vet Quality Assurance. These include..

- The producer must be BQA trained and certified.

- A two-page profile and evaluation must be completed (takes about 15 minutes) by either the Clinic or Samson representative.
- A copy of the producer's birth record (calving book, calendar or pocket notebook) which shows the birth date of the oldest calf is submitted to the Samson office.
- Process the calves no earlier than 60 days prior to weaning and no later than 15 days prior to shipping with a minimum of a
 - Modified live IBR, PI3, BRSV & BVD
 - 7 way clostridial
 - Pasteurella
 - Dewormer
- Apply the Program Compliant Tag (PCT) at processing and record ranch tag if available, sex, and birth date if individual birth dates are desired.
- Submit all documentation to the Samson office

Some PVPs out there are very specific on what type vaccines are to be used and when they are used. Vet Quality Assurance is flexible when it comes to the products that our veterinarians select for your vaccination programs, and they give you a 45-day window around weaning in which you can precondition your calves. We see this as a major advantage over other PVPs. Other benefits include...

- A veterinarian issued Program Tag that recognizes excellent cattle husbandry practices (BQA).
 - A standardized tag that guarantees a vaccination protocol has been followed and is backed by a veterinarian (VQA).
- Enhancement of the Vet-Client relationship through veterinarian oversight of the purchasing and administering of the

vaccines and dewormers.

- Calves will be eligible for value-added markets (AV, NHTC, NE3, Preconditioning).
- Industry and non-industry acceptance because of humane handling / BQA status.
- Improved networking and learning opportunities
- And most important, building a stronger relationship between the client, veterinarian and buyer.

The cost to enroll your cattle in VQA is \$3.50 per head for Program tags and administrative services. Our veterinarians are trainers for Nebraska Beef Quality Assurance and they can train and certify you for BQA. Marketing opportunities for VQA are readily available, so if you are ready to get paid for everything you are already doing correctly, visit with Dr. Rod or Kevin at Twin Forks. There will also be a representative from VQA at our Trade Show and Client Appreciation meeting coming up August 12th!

Don't Forget the Most Important Nutrient!

During this time of year it becomes increasingly important to provide a clean and adequate supply of water for all livestock. Water constitutes about 98% of all molecules in the body. Water is needed for regulation of body temperature as well as growth, reproduction, lactation, digestion, metabolism, excretion, lubrication of joints, along with many other bodily functions. Individual water requirements by animals are influenced by several factors including rate of gain, pregnancy, lactation, physical activity, salt and dry matter intake, type of diet, and environmental temperature. These factors affect the speed in which bodily moisture is lost. The ways bodily moisture are lost include: urine, feces, sweat, or evaporation from the lungs or skin.

Not all water that is consumed by the animal is consumed by drinking. Feeds like silages, green chop, and grass are usually high in moisture while grains and hays are low in moisture. Grasses tend to decrease in moisture as they mature, thus making it more important to keep tanks full.

A publication from the University of Georgia suggests that if the daily temperature is above 90°F, lactating and growing cattle have a requirement of 2 gallons/hundred pounds of body weight. Non-lactating cows and bulls have a requirement of 1 gallon/hundred pounds.

As mentioned earlier in this discussion, water requirements are affected by many different factors so these numbers are recommended for use as a guide only.

There are several ways heat stress caused by lack of water can be avoided.

Have ample water available.

There should be enough water storage available to provide the animals adequate water for 3 to 7 days if you are using a windmill or solar pump and 2 to 3 days if you are using a "hard wired" electric pump.

Calculating this figure is pretty easy, just take the number of head in the pasture times the number of gallons they drink per day times the number of days of storage necessary.

From this we can figure how big of a tank we need. The formula for calculating the storage capacity of a tank is: $23.5 \times (\text{radius}^2) \times \text{depth}$ of the tank. But where most tanks are 2 foot in depth, here is a little cheat sheet for you to go by.

Tank diameter (feet)	Capacity (gallons)
8	752
9	952
10	1,175
12	1,692
15	2,644
20	4,700
30	10,575

Keep waterers and water tanks clean. Keep all storage tanks free of moss, dirt and anything that may have blown into to the tank. All animals perform better when they have access to clean water. There have been studies in Montana and Alberta, Canada that show a 5-30 percent weight advantage in calves and yearlings that had access to higher quality, clean water in tanks.

One way of controlling moss in tanks is by using copper sulfate. One pound of copper sulfate will treat 1,000 to 2,000 gallons of water. It is important to make sure that the

copper sulfate dissolves completely, especially in metal-bottomed tanks as it will cause them to rust quicker. One way to help this process along is by stirring the copper sulfate in a 5-gallon bucket of water about a day or so before you add it to the tank. One final note, do not use copper sulfate in water that may be consumed by sheep. Copper is toxic to sheep.

Avoid working cattle if possible. If you must work cattle during these hot days, work them early in the morning while it is still cool. This will keep the cattle from getting too hot, and give them a little time to recuperate before the weather heats up. Working cattle early is also easier on the crew working them.

Make sure water delivery is sufficient and that the cattle are drinking the water. Make sure that the equipment that you use to provide water is in good enough shape to provide adequate water to the animals at all times. Also make sure that the animals know where the water is located and are drinking from it. For instance, if you use automatic waterers, and you receive a group of calves that have never seen a waterer in their life, those cattle aren't going to know what those waterers are for, let alone drink from them. It may be a good idea to provide a tank with water in it until the cattle figure the waterers out.

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