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The Great Plains News Feed

Great Plains Livestock Consulting, Inc.
"Turning Science into Money"

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July/August 2010

The Latest Across the Plains

Fair Season

It may seem like summer has just begun but now it is in full swing and fair season is right around the corner. We know all the kids have their projects well on the way and that when show time comes everyone will try their hardest. Keep in mind your animals will be trying their hardest too. Help them out and contact Great Plains Livestock Consulting for show stock rations or any other nutritional needs.

Welcome Zeb Prawl!

Zeb Prawl received a Bachelor's degree in Ag Business in 1996, followed by a Masters in Ruminant Nutrition from Oklahoma State University. While at Oklahoma, he focused on improving feeding efficiency and performance of finishing cattle by the limiting of feed access. Since graduating, Zeb has been involved in all aspects of the commercial livestock feed industry. He has worked as a nutritionist at two major feed companies, in specialty feed product sales and support including probiotics and nutraceutical sales, as director of nutrition for a major feed company, and as an independent nutritionist. He has spent considerable time working with starting and growing cattle operations in Kansas. Zeb brings a well-rounded base of practical experience and knowledge to the Great Plains Livestock Consulting team.

Cattlemen's College!

Are you looking to learn more about limit feeding, mineral nutrition, Bovatec, byproduct diets, vaccinations and protocols? Come join us for one of our three Cattlemen's College conferences August 16th-18th, held in Coralville, IA, Blue Springs, MO, and Grand Island, NE.

Bulk Bins for Sale

Looking to buy Bulk Bins? If you are interested visit our website http://www.gplc-inc.com/ or contact John Roorda at Stanley Bay Farms at (641) 990-3536 for more information.

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Calendar of Events

- **July 9-15** 110th Annual Cattlemen's Days Rodeo, Gunnison, CO.
- **July 12 & 13** Summer Beef Tour and Trade Show, Morris, MN.
- **July 19** Dairy Safety Workshop, Maurice, IA.
- **July 28-Aug. 1** NCBA Summer Conference, Denver, CO.
- **July 29-31** 58th Annual OCA Convention and Tradeshow, Midwest City, OK.
- **Aug. 4-8** Round Up Rodeo, Dodge City, KS.
- **Aug. 10 & 11** Nebraska Grazing Conference, Kearny, NE.
- **Aug. 16** Cattlemen's College, Coralville, IA.
- **Aug. 17** Cattlemen's College, Blue Springs, MO.
- **Aug. 18** Cattlemen's College, Grand Island, NE.
- **Aug. 27-Sept. 6** Nebraska State Fair, Grand Island, NE.

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Timely Reminders

General

- ✓ Clean water sources on a weekly basis.
- ✓ Keep an eye on commodities contract prices the next two months.
- ✓ Have us sample hay and silage (silage greater than 4 weeks after harvest).

Beef

- ✓ Start thinking about pre-weaning calf diets.
- ✓ Contact your nutritionist for creep feeding options.
- ✓ With high feed prices re-implant cattle.
- ✓ Spring calving herds should be pulling bulls soon.

Swine

- ✓ Check feed budgets.
- ✓ Evaluate optimum slaughter weights.

Equine

- ✓ Keep an eye on hay/forage quality.

Unused Feed

- ✓ "No question can ever be answered until it's asked first".

Limit Feeding

By Zeb Prawl, Ruminant Nutritionist

Limit feeding has been around for a long time in the feedyard industry. It is usually used as a way to control the rate of weight gain in cattle, but is also known for increasing feed efficiency. Limit feeding is typically achieved by restricting feed offerings to a percentage of what cattle would normally consume either by calculating a projected maximum intake or utilizing a control pen of cattle and basing the restricted percentage off of their intake. Other methods of limit feeding include using feed additives as limiters and time restrictions on feed access.

The process of limit feeding does increase feed efficiency, but will also lower average daily gain if intake is restricted enough. Feed restrictions from ad lib as much as 75% have been studied, with resulting increases in feed efficiency as much as 8-10%. While this makes cost of gain go down, it slows animal performance, meaning that cattle will have lighter carcass weights, or if fed to the same endpoints as ad lib cattle, have longer days on feed. Most generally, limit feeding has minimal negative effects on carcass quality, with some methods of limiting feed access actually slightly improving carcass parameters.

Another benefit to limit feeding is that it can be useful in the summer to reduce heat stress on animals. Feed intake and digestion in beef cattle causes heat to be produced within the animal. When feed offerings to the animal are limited, heat stress is decreased due to reduced heat of digestion. This makes limit feeding a very attractive option for summertime feeding of cattle, particularly in areas of high humidity.

For the cow/calf producer, limit feeding can also be used as a viable alternative to feeding hay or other forages when they are lacking or costly. If one has the ability to feed cows daily, a simple mixed ration of corn, a protein/balancer supplement, and a small amount of long stemmed hay can be used to replace forage. Because this ration will have a high energy content, it can be fed at a rate of somewhere around 1.5% of body weight, depending on the cow's stage of production, and do a satisfactory job of maintaining cow condition. Furthermore, corn used in this situation is actually best fed whole as it will be safer and have less chance of causing metabolic issues within the cow. By-Product feeds such as Corn Gluten Feed, DDG, Wheat Midds, and Soybean Hulls can also be used in limit-fed cow rations, as long as care is taken to make sure the diet is balanced.

Limit feeding of beef cattle is not a new concept, but one that continues to have a place and time where it is best used to achieve specific feeding goals. Because limit feeding can require extra management efforts and ration balancing, it is recommended that a producer seek out expert advice and assistance when putting a limit feeding program together. Give us a call at Great Plains Livestock Consulting and we can help set up a program for your operation.

Reproductive Problems Associated with Legume Forages

By Dr. Dan Larson, Ruminant Nutritionist

The recent wet spring weather has led to an abundance of legumes in most pastures. In most cases, this is beneficial to cows and calves. The cows are in good condition and the calves are gaining well, pointing toward heavy weaning weights and added profit. But, lurking in the shadows are a couple of potential drawbacks of those legumes: phytoestrogens and high protein levels. Phytoestrogen effects in beef cattle are poorly understood, but are known to interfere with reproduction and pregnancy. High protein levels (>13% total dietary crude protein) in cattle are possibly even less understood, but are receiving more attention with the increased inclusion of byproduct feeds, which are high in protein.

Phytoestrogens, as their name implies, are estrogenic compounds often produced by legumes such as alfalfa and clover species. Phytoestrogens mimic estrogen in the body and have many of the same effects. It is important to note that sheep are more susceptible to phytoestrogenic compounds and long-term exposure can cause sterility. However, cattle generally experience mild, short-term reproductive effects. The two most common estrogens found in plants are isoflavones and coumestans. Alfalfa typically does not contain significant levels of phytoestrogens unless challenged by disease or inadequate nutrients. Red clover is one of the more likely culprits to present a phytoestrogen challenge, especially in early spring prior to maturity. Harvesting and curing hay does not substantially reduce phytoestrogen content. It should be pointed out that whole soybeans and zearalenone produced by corn molds are much more potent sources of phytoestrogens. Symptoms of phytoestrogen overexposure can include mammary development, swelling of the vulva and discharge of mucus, irregular heat cycles (abnormally short or long), expression of estrus while pregnant, cystic ovaries, and reduced pregnancy rates. Unfortunately, there are no silver bullets to curing phytoestrogen overexposure, except time and/or alternative feedstuffs.

Excessive dietary protein is an entirely different, yet directly related problem. Provision of excess dietary protein was generally a non-issue in most beef operations, until the advent of cheap, readily available sources of dietary protein. Yet again, legumes and high protein forages can provide protein dramatically in excess of the animals needs. The ruminant animal handles excess protein through two main routes. Protein is either converted to urea and excreted in the urine or recycled to the rumen through saliva or it is converted to ammonia, then urea, and excreted. Ammonia is toxic to the body and the liver converts as much to urea as possible. However, when ammonia production exceeds the body's ability to produce urea, ammonia can exist in the blood stream. Ammonia lowers uterine pH, resulting in more early embryonic death and reduced conception. The susceptibly to high protein diets, or perhaps the animals ability to detoxify ammonia, is dependent on two factors. The first is dietary energy. Energy is required to convert ammonia into urea. So animals, such as mature cows, with insufficient energy are less able to detoxify urea. The second is protein needs. Young, growing cattle are likely able to utilize more protein for growth, and thus may be less susceptible to excessive protein than mature cows. The major symptom of excessive protein is going to be reduced conception rate. The easiest cure is to limit protein inclusion in the diet of pre-breeding or early first term cattle to less than 16%.

Keep in mind, the two problems presented here affect a small number of herds. Corn byproducts have been implicated in multiple cases of poor pregnancy rates due to excessive protein. However, when used correctly, byproducts can provide a large boost in pregnancy rate. Phytoestrogens are not typically an issue if pastures are well managed. If your pregnancy rates are not as high as you would like, evaluate the simple things first. Look at BCS score; are your cows too thin, too fat? A breeding soundness examination is worth its weight in beef. Do you have enough bull power to meet your cow's needs? Reproductive diseases destroy pregnancy rates, as does poor genetic selection. If you can answer all these questions and still have problems, consult your nutritionist.

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