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The Great Plains News Feed

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July/August 2008

The Latest across the Plains

Fair Time!

No doubt that everyone's kids have every 4-H project completed, every calf leads with no problems, and the hogs never pick fights… yeah right. There never seems to be enough time to get things ready for fair. Gardens will be picked, livestock loaded, and hopefully there are some flops from baking projects. As far as livestock is concerned remember we work with livestock in their working clothes and show clothes too.

Thank You

Great Plains Livestock Consulting would like to thank Mr. Kenny Prinz and the rest of the staff at Commodity Solutions, Inc. for their excellent work. The devastating floods in the Midwest have caused problems for many people and cost farmers and ranchers. Commodity Solutions, Inc. stepped up and supplied producers with the feed by-products they needed despite several ethanol plants being shut down for more than three weeks. The Commodity Solutions staff worked long nights and early mornings to keep our clients going. Mr. Prinz stockpiled feedlots with feed by-products, worked with multiple ethanol plants to keep livestock producers in feed, and kept our staff informed of those product changes, so we could make the necessary diet adjustments for our clients. Their hard work and dedication is greatly appreciated. For questions regarding products or services give Kenny a call at 1-800-306-1803.

Keep Up-to-Date

We hope many of you are taking advantage of our improved website. We are offering FREE classified advertising to our clients and business advertising on our website. If you are interested please visit us at www.GPLC-Inc.com to submit an advertisement form to our office or contact Brent Nelms in our office. Keep an eye out for the new "Breakeven Calculator" webpage coming out really soon. We will continue to make additions and improvements to our website to better serve you.

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Calendar of Events

- **July 15-19** NCBA Summer Conference, Denver, CO
- **July 17** Iowa Cattle Risk Management Workshops, Maquoketa, IA
- **July 18-20** Four State Farm Show, Pittsburg, KS
- **Aug. 1** BQA Buyers Summit, Kearney, NE
- **Aug. 7** Kansas Cattlemen's Association Summer Conference, Dodge City, KS
- **Aug. 7-17** Iowa State Fair, Des Moines
- **Aug. 7-17** Missouri State Fair, Sedalia
- **Aug. 20** Manure Management Training, Humboldt County Extension Office, IA
- **Aug. 22-Sept. 1** Nebraska State Fair, Lincoln, NE
- **Sept. 4** Tri-State Dairy Expo, Calmar, IA
- **Sept. 5-14** Kansas State Fair, Hutchinson, KS
- **Sept. 9-11** Husker Harvest Days, 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.
- ✓ With high feed prices re-implant cattle.

Swine

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

Equine

- ✓ Keep an eye on hay/forage quality.

Unused Feed

- ✓ Don't drink downstream from the herd.

The Effects of Diet Particle Size on Animal Performance

by Dr. Jason Schneider, Monogastric Nutritionist

Cereal grains such as corn, sorghum, and barley are typically the primary energy source in swine diets. Therefore, producers must be concerned about the composition of grain sources in their diets as well as how the diets are processed so that the animal may fully utilize the nutrients. This is especially important since feed cost represents 65 to 75 percent of the overall production costs in a swine operation. Thus, improving the efficiency of feed utilization will have a tremendous impact on the cost of production per pound of pork.

Particle size reduction increases feed utilization by increasing the surface area of the grain which allows for greater interaction with digestive enzymes in the gut. Some producers also claim an improved handling and mixing characteristics of the finished feed. However, if too fine of grinding occurs then the energy costs of feed processing may increase and may result in dust problems, feed bridging, and increase the incidence of gastric ulcers in swine. Therefore, the increased cost of particle size reduction must be offset by improved feed conversion.

In the past, there has been some confusion regarding the optimum particle size in swine diets due to the use of different mill grinders (hammer vs. roller mill), grain type, and age of the pig. In general, it appears that the young pig does a better job of chewing its feed then a larger growing/finishing pig. Though the greatest potential for particle size reduction to improve feed efficiency will be for finishing pigs since the majority of feed that is eaten over a market hog's lifetime occurs at this point in production. However, reducing particle size will improve feed efficiency regardless of the pig's age. Recently, Kansas State University has demonstrated that producers should target a particle size of 700 microns with an acceptable range of 650 to 750 microns. Furthermore, the University of Nebraska has shown an increase in feed efficiency of approximately 1.2% for every 100 micron reduction which represents a potential savings of about $0.60 per pig, depending on overall feed costs. Some producers are experimenting with even lower particle size of 700 microns for their cereal grains due to the greater use of ingredients with high fiber content such as DDGS in swine diets. This has allowed them to increase feed efficiency without increasing in the incidence of ulcers due to the physical attribute of the fiber in DDGS in the gut. However, all producers will need to realize that growing environments and genetics are different from farm to farm and any reduction in particle size below 700 microns should be done with careful consideration of feed mill output, increased processing charges, and any production or death loss due to ulcers in growing and finishing pigs.

Heat Stress

by Dr. Ki Fanning, Ruminant Nutritionist

Heat stress is very important to control in the summer. An animal's thermoneutral zone is the range of temperature that an animal does not experience any heat or cold stress. Hahn, 1999 reported this range for cattle to be 23 to 77° F for cattle. Humidity will lower the temperature which incurs heat stress.

There are many management practices that can reduce heat stress. The first one, and most critical, is **water supply**. Animals use water and urination to dissipate heat from the body; therefore, be sure that your waterers are cleaned weekly and that the recharge rate is adequate. In the summer the water space should be at least 2 inches per head. The diet preferably should contain salt. Free-choice salt is also a good idea to encourage water intake. If you are adding onto a lot, or building a new lot, be sure to size the waterers according to the 2 inch rule instead of the waterer manufacture recommendation, which is usually only ½ inch.

Shades can be added to a lot for $10 to $20 per head. The shaded area should be 10 to 20 ft^2 per animal. A framed structure tall enough to drive a loader underneath, with 80% shade cloth, seems to work the best, especially if it is running the length of the mound. Shades should be placed north and south so that the shaded ground is not in the same place all day preventing the cattle from making a mud hole.

Mounds 4 to 6 feet high in the lot provide good drainage, windbreaks in the winter, and elevation into better air flow in the summer. Mounds should be run perpendicular to the prevailing wind and ideally run down the middle of the pen starting at the feed bunk and heading towards the back of the pen. In the summer, cattle with windbreak or shelter resulted in a 0.26 lb ADG decrease in gains (Mader et al. 1997).

Sprinklers can also be added to the pens. They should put out drops that are large enough to wet the cattle to the hide. If it only coats the hair, it will act as an insulator and actually conserve body heat. The cattle cool by evaporative cooling so as the animal dries the water pulls heat from the body. Sprinklers should be started around 85° F and can run 15 minutes on and 5 minutes off or constantly.

Evening feedings can be done as 100% of the daily allowance at 4:00 to 6:00 p.m., or 30% in the morning and 70% in the evening, or somewhere in between. This will move the heat of fermentation created by the digestion of feed to the night resulting in cattle staying on feed longer when a heat wave occurs. Cattle do not eat much feed in the afternoon so the feed ends up just setting in the bunk, going out of condition. The cattle eat their biggest meal prior to the sun coming up in the summer, so if the bunks are slicked late at night then they do not have feed in front of them when they want to eat the biggest meal.

When erecting a building keep these suggestions in mind; especially, the air flow. The biggest mistake is 4 to 6 foot walls are put around three sides of the building. This keeps the bedding from drying and the cattle hotter in the summer. A better alternative is a sucker rod fence in a 1 foot wall, with curtains that drop only when needed.

This year has been a challenge and there is no reason to believe the summer will be any different, so in order to maintain good performance through the summer months one or two steps should be taken. If you have questions or would like to discuss them further please give us a call.

Trace Minerals in Cattle Health

by Dr. Jeremy Martin, Ruminant Nutritionist

Cattle producers are under pressure in 2008 to keep costs in check in the face of higher-priced fuel and grain. Undoubtedly, most of you have noticed the price of your minerals and supplements has increased dramatically as well. Most of the increase in range mineral price has been driven by Phosphorus and Vitamins A and E. Increasing vitamin prices have also made a noticeable difference in the price of by-product balancers and supplements. Many ranchers have begun exploring new options to keep mineral costs under control this summer. There are a number of options for reducing mineral cost. However, we urge producers to maintain adequate trace mineral supplementation, particularly as weaning time approaches. While there is certainly a cost involved in trace mineral supplementation, the potential benefits far outweigh the cost.

Most trace minerals play a role in maintaining health or support immune function during health challenges, but Zinc and Copper are particularly important. Research has proven Zinc supplementation can increase gain in stressed cattle or cattle infected with respiratory disease. Supplementation of Zinc reduced severity of infection, aided in maintaining feed intake, and improved recovery time of cattle with IBR. Copper supplementation is also critical in stressed cattle. Copper is required for normal immune function, and Copper deficient cattle are more susceptible to disease and mortality.

Healthy cattle benefit from supplementation of Copper and Zinc. Both trace minerals have proven to improve gain or reproductive performance in some situations. Chelated forms of Copper and Zinc are available and are used often in calving and breeding minerals and receiving supplements. While chelates are more expensive than inorganic mineral forms, they are also more bioavailable and can be cost-effective supplements at key points in the production cycle. We recommend feeding a portion of the trace minerals in the chelated form during calving and breeding seasons, the first 14 to 28 days when weaning or receiving calves, or in rations containing high levels of Sulfur from feed ingredients or water.

Other trace minerals, and Vitamin E, are important for preventing disease and achieving optimum performance. Vitamin E and Selenium are antioxidants that work in conjunction to help maintain tissue health and immune function. Manganese is an often overlooked trace mineral that is important for immunity and is required for reproduction. Cobalt is required for Vitamin B12 synthesis and Cobalt deficiency can directly reduce feed intake. Therefore, not any one trace mineral alone can keep cattle healthy, but the proper balance of a number of trace minerals and vitamins can collectively help prevent disease and maintain performance. That is something to consider while determining what type of mineral program you need to maintain. There are still cost-effective mineral supplements available, and going without a mineral program may end up being the most expensive option.