

Animal Industry News Update

from the LCES Animal Science Specialists



Horses (Dr. Clint Depew) Maintaining a Healthy Digestive System in your Horse

The most important aspect of feeding your horse is providing good fibrous forage, whether it is pasture or hay.

When a horse eats, rapid digestion of sugar and starches occurs in the stomach and small intestines. Feed moves through the upper intestines within thirty minutes to an hour, and the fiber portion of the ration (ie. hay or pasture) moves into the hind gut. Within the hind gut there are microbes whose primary purpose is to digest fiber. In the hind gut, there is a slow and steady rate of fermentation that provides fatty acids for the horse to utilize. In contrast grain feedings provide large amounts of sugars, starch, proteins, and fats that are digested by enzymes in the small intestine and stomach. Anything that escapes the small intestine's digestion is fermented in the hind gut producing multiple fatty acids. When grain is fed it move rapidly through the stomach and small intestine where enzymatic digestion occurs, and then moves into the hind gut and is fermented. When carbohydrates are fermented in the hind gut they produce gas and lactic acid, as well as lower the pH in the hind gut which inhibits or kills the fiber digesting microbes. In order to maintain a good functioning hind gut it is important to feed small grain meals and a continuous source of fiber. Ideally grain should be limited to 4 or 5 pounds per feeding in order to avoid overwhelming the hind gut.

Probiotics are readily available and are designed to improve hind gut function. However, there are no current studies indicating the positive effects of probiotics in any situation in horses. Studies on probiotics indicate that the levels of the active ingredients are variable and are not within the recommended levels in many cases. Their effectiveness has not been proven scientifically. Scientists question whether probiotics will even get through the digestive system without being broken-down. In other words, they may not be able to get to the large intestine in a usable form. Therefore the primary method of maintaining a healthy gut in the horse is to provide forage on a regular basis, limit grain feeding to a maximum of 4 to 5 pounds per meal, and provide adequate water at all times.

The effect of poor hind gut motility tends to be colic. Recent studies have indicated that colic usually is the result of management changes, such as restriction of exercise and/or stall confinement. It has been reported that recent stall confinement is associated with 50 to 60 % of all colic cases. These cases may be related to changes in lifestyle as well as inconsistency in feeding intervals. Some studies have indicated that changing a horse from an outside environment to stall confinement will increase ulcers in a majority of the horses and colic in a limited number. Therefore, when changing a horse's lifestyle it is important to provide adequate exercise and plenty of fiber in the diet.

Changing the diet of your horse can greatly increase the risk of colic. You should always introduce feed changes gradually over a two to three week period to allow for microbial adjustment. Ideally the horse's diet should consist of 75% fiber rich forages and 25% concentrates.

By providing your horse access to plenty of forages on a continuous basis and minimizing the grain feeding, a healthy digestive system can be maintained. Changes in feed and exercise routine should be introduced slowly to allow the horse to adapt. Good management and high quality fibrous forage are the keys to maintaining a healthy gut in your horse.

Animal Health (Dr. Christine Navarre) Hunter Alert: Feral Pigs can be Infected with Brucellosis

Although Louisiana's domestic swine are free of brucellosis, the feral swine population is not. Feral pigs can be infected with *Brucella suis*, which is contagious to people and other animals. Blood and reproductive organs from infected pigs can be contaminated, and lead to brucellosis infection in hunters exposed during field dressing of infected pigs. Infected pigs may not show any signs of infection, but they can still spread the disease. Brucellosis in people can cause serious flu like symptoms (high fever, joint pain, etc.) that last for months to years if not treated properly. Brucellosis also can cause abortions in other livestock species and illness in other animals. Hunting dogs should not be allowed to eat parts of feral swine carcasses. Carcasses should be properly disposed of to prevent this infection from spreading.

Hunters and meat processors should take precautions when field dressing or slaughtering feral pigs. At a minimum, disposable gloves should be worn. Disposable masks and safety glasses offer further protection. The meat of pigs infected with brucellosis is safe to eat once it is cooked. However, raw meat should be handled with disposable gloves.

Poultry (Dr. Theresia Lavergne) In-house Air Quality

Broiler house emissions are a major focus of research today. However, it is important that we do not forget about the air quality within the houses. Two of the major concerns within houses are ammonia and dust. Poor in-house air quality can result in reduced growth rate, poor overall performance, and poor health.

In-house dust comes from feed, down feathers, and bird wastes. Bird activity, density, and moisture conditions in the house affect the level of dust. It is important to control the dust level since dust contains microorganisms that can affect bird health, as well as human health. There are several measures that can be utilized to reduce dust (some are under the control of the grower and some are not). Some of these measures are: adding fat to the feed, fogging with water or an oil-based spray, vacuum cleaning, filtration, ventilation, and optimizing air inlet position. Additional methods are being researched, such as cleaning with wet scrubbers and electrostatic space charging systems.

Ammonia comes from the litter; and the amount of ammonia in a house depends on the type of litter, management practices used, humidity, pH, and temperature. Dust particles will absorb ammonia when there are high moisture levels in houses. Then, the result is inhalation of these particles by the birds and, thus, damage

to their respiratory systems. Proper ventilation is the key to reducing ammonia concentration in the air – all year.

Therefore, it is important to use proper management practices to minimize the negative effects of dust and ammonia on broiler growth and health. (Source: 2006 J. Appl. Poult. Res. 15:333)

Dairy (Dr. Charlie Hutchison)

Milk and Feed Prices

The Class I price for November in the Atlanta zone of Federal Milk Market #7 will be \$24.55 according to the latest USDA announcement of advanced prices and pricing factors. The November price is 14 cents less than October, but still \$9.05 higher than a year ago.

The milk prices for October are: Class I at \$24.69/cwt, Class II at \$21.90/cwt, Class III at \$18.70/cwt and Class IV at \$21.31. This should result in a uniform blend price of $\$23.40 \pm \$0.15/\text{cwt}$. for producers in Louisiana.

The month of October came to an end with cheese and butter markets remaining relatively firm. Blocks ended the month at over \$2.00 per pound and barrels were \$1.92 per pound. This 8¢ spread is higher than the traditional spread of about 3 to 4¢. According to the USDA's *Dairy Market News* the recent gains in the spot cheese market can be attributed to "the need to cover short-term needs with inventories kept at low levels".

Class III futures for 2008 gained another 3¢ to close at an average of \$16.11, matching its high for the year. Butter futures were mostly higher across the board.

The Milk-Feed Ratio for October is 3.05, down 12 points from the revised September figure, according to USDA's "Ag Prices" report. The All-Milk price for October is estimated at \$21.20, down from the September price. Meanwhile, feed costs increased slightly: corn averaged \$3.29/bu., unchanged from September, but soybeans averaged \$8.58/bu., up 40¢, and alfalfa hay averaged \$137/ton, up \$2. Expect whole cottonseed prices to be high this fall and next year with reports that the price is already hovering around the \$200.00 per ton range during the middle of ginning season when prices are usually the lowest. The reasons for these high prices are reduced acres of cotton planted and drought conditions during the growing season in some parts of the Southeastern United States.

For the second straight month, fat tests on incoming milk lagged year-ago levels. In September and October, the average fat test was 3.68%, vs. 3.72% in the same months last year, according to the "Ag Prices" report.

Dairy-cow slaughter pulls back

According to USDA's latest "Livestock Slaughter" report, dairy cattle culling activity trails year-ago and month-ago levels. In September, 200,000 dairy cows were slaughtered. That is down nearly 3 percent, or 6,000 head, versus a year ago. It also is 12,000 head less than August. However, the year-to-date slaughter through September is still up about 7% versus a year ago. Some of the culling activity earlier in the year was probably influenced by the latest round of the CWT herd retirement program.

Ethanol's future uncertain

The incentive has never been greater to find alternative forms of energy, Neil Harl, emeritus professor of economics at Iowa State University, told a National Agricultural Bankers Conference workshop recently.

"Ethanol will play a role, but I don't think it will be the dominant role that many hoped for," he said. In addition, he cited these developments:

- Four ethanol plants have closed in the last three weeks.
- According to the International Monetary Fund Report on World Economic Outlook (2007), it costs 23 to 29 cents per liter to produce Brazilian sugar cane ethanol, 34 cents per liter to produce gasoline (assuming \$60-per-barrel oil), and 40 cents per liter to produce corn-based ethanol.
- Ethanol has dropped to the \$1.50-per-gallon range after selling for almost \$2.50 a gallon a couple of years ago, Harl writes in the November issue of *Ag Lender*. Clearly, supply has gotten ahead of demand.

Beef (Dr. Jason Rowntree)

Steers backgrounded on pasture rather than in dry lot generated \$103/head more net return, according to a study by New Mexico State University and Colorado State University researchers. Published in the *Journal of Animal Science*, the study compares low-input pasture backgrounding (PAST) to a high-input drylot (DLOT) system. It encompasses 133 steers and 117 heifers over three years. DLOT calves were fed a pelleted ration based on corn and wheat midds, fed at a maximum of 3% body weight (BW), plus alfalfa hay (0.68 to 1.13 kg/d). PAST calves were supplemented with a 32% crude-protein (CP) range cube (0.57 kg/d; 3 days/wk). Only steers were finished at a commercial feedlot, managed as a single group. As you'd suspect -- and like the Kansas State University study mentioned in the last issue of *BEEF Stocker Trends* -- the DLOT calves gained more weight through backgrounding. Total costs, including feed, were four times more than that of the PAST calves, however. Net income was \$45/head more for the PAST calves. During the subsequent finishing phase, initial body weight and value were similar among DLOT and PAST steers. The DLOT steers posted lower average daily gain (ADG) through interim weight (74 -- 94 days on feed) than PAST steers, but subsequent ADG was similar. There was no difference in interim BW, days on feed, total ADG, carcass characteristics, or proportion of steers treated for sickness. However, DLOT steers had greater death loss and lower feed cost (\$221 vs. \$238/steer). Although the average price received for carcasses sold wasn't different between the two groups, PAST steers garnered \$111 more gross income during finish than DLOT steers and had a net return advantage of \$103/head. For the complete study, see *Journal of Animal Science* – page 167 in Volume 85, Supplement 2; ASAS (American Society of Animal Science) Western Meeting 2007.