May 2005

Animal Industry News Update

from the LCES Animal Science Specialists

Animal Health (Dr. Steve Nicholson)

So far it is drier than 2004

As of May 3, rainfall this year was below normal for most locations. Cattle on pasture often seem to do well in years when rainfall is a bit below normal. Perhaps grazing pressure keeps grass short, immature and higher in nutrients. And, short grass and drier conditions do not favor survival of immature stomach and intestinal worm larvae.

Stomach and intestinal worms of cattle

Treat cattle by mid summer to reduce the number of inhibited Ostertagia larvae. These brown stomach worm larvae become embedded in the lining of the fourth stomach (abomasum) of cattle in late spring. Cattle under three years of age and some older animals are especially vulnerable. In early fall the larvae burst out of the stomach lining and complete the life cycle. The damage produced in the abomasum can cause decreased acid production, loss of appetite, diarrhea, weight loss and even death. Most modern dewormer drugs are effective in removing these embedded (inhibited) larvae.

Calf diseases

Blackleg has appeared on some farms and ranches recently. This acute, fatal disease often kills calves from three months of age and up. Calves are found dead or acutely ill, with death occurring in just hours. Vaccination can provide good protection, probably within 14 days.

Pneumonia in suckling calves will be a problem for some producers. The pneumonia may be acute with septicemia and be rapidly fatal or less acute, with chronic cases developing. Necropsy by veterinarians of fresh cases is recommended to establish the diagnosis. Effective antibiotics are available but, to see good results, treatment must begin early in the disease and be maintained.

Copper levels were low

This spring one or more 300-pound calves in several cow-calf herds grazing ryegrass were found dead. Necropsy revealed a perforation or hole in the fourth stomach, the abomasum. Stomach contents had leaked into the abdominal cavity, causing peritonitis. Analysis of liver for copper level found copper to be low to very low in each case. Forage analyses for trace minerals identified copper at 1.6-5.9 parts per million (ppm), well below the recommended dietary level of 10 ppm. The association between low to deficient liver copper and perforated abomasum in calves has been noted often in Louisiana and elsewhere.

Copper treatment in baby calves

Using copper injections or copper oxide boluses in calves can result in copper poisoning if calves already have adequate liver copper. Caution is advised. Products generally recommend a minimum age or weight to treat. Follow label recommendations and precautions.

Poultry (Dr. Theresia Lavergne)

PETA's Campaign against the Poultry Industry

Because of the size of the poultry industry, as well as the impact of the industry on our food supply, the poultry industry is targeted by PETA (People for the Ethical Treatment of Animals). This organization launched its campaign against KFC in January of 2003. This "Kentucky Fried Cruelty" campaign continues. In this campaign, PETA asks KFC to: "1. adopt the 'animal care standards' program, 2. replace electrical stunning and throat-slitting with controlled-atmosphere killing, 3. switch to less cruel mechanized chicken gathering, 4. breed for health rather than forcing rapid growth, and stop feeding drugs to chickens, and 5. make all welfare standards transparent and verifiable." (KentuckyFriedCruelty.com)

KFC is not the only fast-food company targeted by these groups. McDonald's, Burger King and Wendy's all have been targeted. In response to animal welfare groups; these companies have developed animal welfare guidelines for their suppliers to follow.

Poultry welfare/well-being is a controversial topic in the poultry industry. The poultry industry is a target of animal rights and activists groups, and it must face this issue daily. The industry always has been concerned with poultry husbandry since it is directly related to production performance. Each company has a set of production standards and guidelines for growers to follow. These guidelines include: housing requirements, temperature guidelines, ventilation guidelines, brooding recommendations, etc.

Dairy (Dr. Charlie Hutchison)

Secretary of Agriculture Mike Johanns has released the first official blueprint for a mandatory animal identification program in the United States. The USDA plan outlines a proposed timetable to use to implement the proposed National Animal Identification System (NAIS) as a mandatory program in the early part of 2009, less than four years from now. This document is not final or even being offered as a proposed rule making, however. Public comments are sought through June 6. The release of the blueprint on the timetable and NAIS program comes after a series of 19 listening sessions hosted by USDA throughout the nation in recent months.

According to USDA, participant feedback from those meetings indicated that a clear majority (a ratio of 3:1) prefer a mandatory program, or one that becomes mandatory, to a purely voluntary program. The blueprint paper should elicit much discussion in the coming months. To view the blueprint paper online, go to: www.usda.gov/nais .

On April 12 the newly formed Johne's Disease Advisory Committee met to discuss implementation of the Voluntary Johne's Disease Control program for beef and dairy cattle producers in the state. The program will be coordinated through the Louisiana Department of Agriculture and Forestry. The state will receive some federal funding, which will help offset some of the costs of the program. You will see and hear more about the program in the coming months.

Milk prices this year are still holding strong after record high milk prices last year. The class III price in the first quarter of 2005 averaged $3.54 per hundred-weight (cwt) above the five-year average (2000 – 04), according to Dr. Ken Bailey. Most industry marketing analysts are projecting milk prices to remain strong for the rest of the year. As of April 27, the futures market at the CME was projecting an average Class III price of $13.81/cwt for April through December 2005. If these projections hold true, the class III price for all of 2005 would average $1.92/cwt above the five-year average price level; however there are several indications that the milk price may become more volatile during the remainder of 2005.

The most recent milk report from USDA indicates that the Daily Average Milk Production (DAMP) in March was 2.8% ahead of a year ago at this time. Also, the latest livestock slaughter report indicated that the number of head slaughtered in February was 185,000, well below the 206,000 killed in February 2004 and the 230,000 slaughtered in February 2003. Other recent data suggest that the number of dairy cattle slaughtered during the first quarter of the year is down 6.1% compared to the first quarter of 2004. Milk production is forecast to grow more than the five- year average of 1.3% for the remainder of the year. Dr. Bailey predicts that milk production in 2005 will be 174.4 billion pounds, an increase of 2.4% on a daily average basis. This is due to growth of the number of cows and milk per cow.

Commercial disappearance of milk products such as butter and American cheese are down 1.1% and 2.0%, respectively, for the first quarter of the year with inventory of American cheese in March being up 1.8% over the same month a year ago. The bright spot is mozzarella cheese, which is up 2.2% in commercial disappearance during the first quarter of the year. If milk cow numbers continue their trend upward and milk per cow increases as forecast, coupled with stagnant consumer demand for milk products, the price of milk at the farm level may be somewhat volatile for the rest of the year, resulting in an average price that is lower than current predictions.

Horses (Dr. Clint Depew)

Water Needs of the Horse

Water is one of the most basic nutritional needs of the horse. A deficiency, particularly in summer, can cause dehydration and compromise health and performance. The amount of water needed depends on several factors, including: the state of dehydration, type of feed, the temperature, humidity and the activity of the horse.

The typical 1,100-pound horse, at rest, requires 3 to 5 gallons of water a day. Research indicates that when water is readily available, increased consumption occurs as a result of increased frequency of drinking, not an increase in the duration of drinking or the number of swallows. When the environmental temperature rises above 85 degrees F, the horse typically drinks more frequently. In one study with temperatures above 85 F, lactating mares drank every 1.8 hours, whereas when the temperature was 40 to 50 F, they drank once every 3 hours. This emphasizes the need to have water readily available to horses in hot weather.

More research indicates that 72 hours of water deprivation at a temperature of 70 F resulted in a 10% loss of body fluids. Tradition indicates that you should not allow a hot horse to drink as much water as it desires; however, research indicates otherwise. As a horse sweats, it loses water and electrolytes. The loss of electrolytes negatively affects the thirst stimulants, causing reluctance to drink sufficient water after strenuous exercise. Researchers at Michigan State found that offering horses small drinks immediately after exercise did not substantially blunt the thirst response when water was provided later. They also found that providing water with electrolytes after strenuous exercise causes a horse to drink more during its recovery period. Additionally, they showed that offering water at or near the ambient temperature encouraged more drinking.

Ultimately, a horse owner needs to provide water on a continuous basis to horses in hot weather, particularly during periods of heavy exercise. Water should be offered at least every couple of hours, and providing electrolytes and water at the ambient temperature will increase hydration. With adequate water and electrolytes, most horses will avoid the problems associated with dehydration.

Predicting Performance in Horses

Recent research indicates that predicting performance in horses can be improved by looking at the physiological capabilities of the horse, such as size, weight, biomechanics, heart size and heart rate.

In a study with race horses, size and weight were important predictors of subsequent racing ability. Biomechanics, or quality of the horse's movement, also was an important predictor. Among those horses that had the size, weight and movement to be quality horses, heart rate and heart size were very significant in predicting superior race horses.

Training also has a tremendous impact on the horse's ability. A horse's maximum oxygen intake can increase by 35 times from rest to intensive exercise. As horses train, they experience an increase in maximum oxygen uptake. Additionally, heart size can be increased approximately one-third with proper training. The maximum heart rate at intense exercise can be increased; research indicates that high class horses will obtain heart rates approaching 250 beats per minute. Horses with limited ability generally have a heart rate maximum of approximately 200 beats per minute. To access a horse's potential, it is important to look at conformation and movement. Then, estimate the horse's heart rate, size and capacity. These measurements will greatly improve the ability to select top class horses.

Mental ability and trainability are important in many performance events. The horse's pedigree can be a good indicator of mental capacity and may be an extremely important tool in selecting show horses, where trainability is as important as physical ability. The chances for success are greatly enhanced by using all the tools available from physiological, biomechanical and genetic analyses.

Swine (Dr. Tim Page)

Pork Production Trends and Topics

More than 100 million metric tons of pork were produced worldwide in 2004 for the first time in history. Total meat production was about 258 million metric tons, with pork making up approximately 37% of the total. Several sources predict that world meat production and consumption will exceed 300 million metric tons annually within the next 30 years. One trend predicted is increasing competition in the global meat market from lower-cost countries, especially Brazil, where pork is concerned.

In terms of American pork production, Smithfield Foods stays at the top of the list by controlling more than 800,000 sows. Premium Standard Farms and Seaboard Farms have 220,000 sows each. The next size tier includes Iowa Select, Christensen and Prestage Farms, each with about 140,000 sows. A recent deal has added another major player in the United States market. The family-owned pork business of The Maschhoffs Inc.from Illinois has grown to over 110,000 sows with the purchase of the swine assets of Land O'Lakes. That deal included 60,000 sows plus their progeny, as well as production facilities in four different states.

Outbreaks of the poultry disease H5N1 highly pathogenic avian influenza have been reported in the Asian countries of Cambodia, Thailand, Vietnam and Indonesia. There are unconfirmed reports of the disease in North Korea as well. But increased attention has turned to Indonesia after reports that the causal virus may have passed from poultry to pigs. Some researchers are worried about the possibility that the avian influenza virus could eventually trigger a global outbreak by finding a way to transmit itself from human to human. To date, the humans affected (some mortality) have had close contact with infected poultry. Virologists fear that the constant mutations typical of influenza viruses might produce another way of infecting people, with one possibility being a chain of events involving the pig.

We have long thought that all domestic pigs descended from a common ancestor among the wild swine of several thousand years ago, but a recent trial looking at the ancestry of modern pigs by comparing their DNA with the genetic data from wild boar and feral animals suggests that pigs were domesticated in many different places around the world at different times. The genetic study's purpose was to establish where our own early ancestors first made the enormous change of lifestyle from hunter-gatherer to herder and cultivator. The study's conclusion: the action most associated with new herders was to domesticate the wild pigs in their neighborhood.

Beef (Dr. Jason Rowntree)

Last May I included a USDA announcement on the National Animal Identification System (NAIS). The following excerpt was taken from last May's beef update:

The NAIS system is designed for national use in three phases. **Phase I** entails evaluation of currently funded animal identification systems and subsequent determination of which system should be used in NAIS. Moreover, discussion with stakeholders will occur. Staffing considerations and regulatory/legislative proposals needed for system implementation will take place. **Phase II** includes implementation of the selected animal identification system on a "regional" basis on one or more selected livestock species. Discussion with stakeholders and legislators will continue. Last, in **Phase III**, the NAIS system will be implemented on a national level. Development of a national premise database will occur in this phase. (USDA News Release, No. 0170.04).

How far we have come in one year is up for debate, but we have an idea of where our National ID system is headed. Over the last few weeks, the USDA has announced the following important information relative to **Phases II** and **III** of NAIS:

Although the initial ID transition period will be voluntary, the mandatory date for premise ID and individual animal ID will be mandatory **JANUARY 1, 2008.** The actual reporting of cattle movement will be **JANUARY 1, 2009.** The procrastinator in all of us says, “Hey, I got a few more years before this stuff is relevant,” but I would encourage all to register for a premise ID as soon as possible. The Louisiana premise ID Web site, http://www.ldaf.state.la.us/ , will have a topic to access titled premise ID information. Access this topic, and you can easily register for your premise ID. Although we have been provided with this initial information, other details are sketchy: specifically, how the system will be paid for, who will be responsible for placing the ear tag in the animal, what happens if a tag is lost, etc. has not been decided. With this said, the USDA is seeking input from stakeholders in regard to NAIS implementation. The LSU AgCenter has been contacted for comments on potential implementation. If you have any input into this endeavor, please contact me by e-mail.