

Animal Industry News Update

from the LCES Animal Science Specialists



Dairy (Dr. Charlie Hutchison) Dairy Update

According to a report released September 26th from USDA's National Agricultural

Statistics Service (NASS), the U.S. dairy herd structure continues to shift from west to east, farm numbers continue to decline, and milk production from larger herds accounts for more of the national milk production. The number of dairy herds in the United States declined 21% between 1997 (123,700 herds) and 2001 (97,560 herds). During the same time frame, the number of milk cows nationwide went from 9.25 million to 9.12 million. However, milk production increased by 6 percent. Other trends noted in the report are:

- Dairy farms with more than 500 cows accounted for 39% of all milk produced in 2001 compared to 29% in 1997.
- The number of dairy farms with more than 500 cows has grown by 20% with 2,336 herds in 1997 and 2795 herds in 2001
- Meanwhile the number of dairy farms with less than 500 head has declined by 22% over the same time frame.
- Milk production per cow on farms with 500+ head increased slightly from 20,328 pounds in 1997 to 20,446 pounds in 2001.
- Milk production per cow on farms with less than 500 head increased 7% going from 15,755 pounds in 1997 to 16,919 pounds in 2001.

The western states of California, Idaho and New Mexico had the largest increases in both milk production and cow numbers since 1997. Meanwhile, the states of Texas, Missouri and Minnesota had the largest declines in milk production. The states that lost the most cows between 1997 and 2001 were Wisconsin, Minnesota, Texas and Missouri.

(Submitted by Dr. Gary Hay)

Seeding Rate and Variety Effects on Annual Ryegrass Production

B.C. Venuto, D.D. Redfearn, W.D. Pitman, and M.W. Alison

Seeding Rate Study

Annual ryegrass seeding rates are normally based on pounds of seed per acre. Recommended seeding rates vary throughout the southeastern US from 20 to 35 lbs per acre. In some cases producers plant as much as 40 to 50 lbs of seed per acre to ensure adequate stands. Recent research has demonstrated that seed size may vary considerably among ryegrass varieties. Past recommendations for seeding rates need to be updated.

A study was initiated in the fall of 1999 at four LSU AgCenter research stations to investigate the effects of seeding rate on subsequent forage yield, seedlings per square foot, and seasonal yield distribution. Three ryegrass varieties; **Abundant**, **Jackson**, and **Rustmaster** were established at four seeding rates at each of the four locations. Seeding rate was based upon the number pure live seed (PLS); not pounds of seed per acre. The study was conducted over two growing seasons at the **Macon Ridge Research Station** in Winnsboro, the **Idlewild Research Station** in Clinton, the **Rosepine Research Station** in Rosepine, and the **Southeast Research Station** in Franklinton. Seeding rates were 37, 74, 111 and 148 PLS per square foot.

Actual pounds of seed per acre at these PLS rates for all three varieties and two years evaluated are presented in Table 1. The differences observed in lbs/acre to attain a given PLS, were due to yearly fluctuations in seed size and germination rates.

Table 1. Relationship between pure live seed per acre and pounds of seed per acre for three annual ryegrass varieties across two years.

		Pure live seed per square foot			
Variety	Year	37	74	111	148
lbs/acre seed					
Abundant	2000	16	32	48	64
	2001	15	30	45	60
Rustmaster	2000	12	24	36	48
	2001	9	18	27	36
Jackson	2000	10	20	30	40
	2001	10	20	30	40

Total forage produced at each PLS rate for 2001 and 2002 is presented in Table 2. With the exception of the lowest seeding rate (37 PLS/sq foot) there were no significant differences in total yield.

Table 2. Total seasonal forage production at four PLS seeding rates for 2001 and 2002 across four locations.

PLS /ft ²	Year	
	2000	2001
lbs dry forage per acre		
37	7700	6500
74	8300	7100
111	8500	7200
148	8000	7200

Seeding rates greater than 74 seed/sq foot did not result in greater total yield. **Jackson** required an average of 20 lbs of seed per acre to achieve 74 PLS per square foot; while **Rustmaster** required 21 lbs of seed per acre and **Abundant** required 31 lbs of seed per acre to achieve the same result. Depending on the price, planting cost should be less for **Jackson** and **Rustmaster** than for **Abundant**.

Long-term Annual Ryegrass Variety Evaluation

The LSU AgCenter also conducted annual ryegrass variety performance evaluations in Louisiana at multiple locations for many years. Data from five testing locations; **Clinton, Franklinton, Jeanerette, Rosepine** and **Winnsboro** were compiled for analysis across 12 years of testing. Only varieties that had data for three consecutive years were included in the analysis. The objectives were to look at total forage production, seasonal yield distribution and variety stability.

Total forage production did not increase across all 12 years. Newer varieties did not significantly out produce older varieties for total forage production across the entire growing season. For example, the data indicated that **Marshall** was not significantly superior to **Gulf** for total forage production. However, there were seasonal distribution differences among varieties. For example, Gulf had slightly higher production during the early part of the annual ryegrass growing season (through February); while **Marshall** produced significantly more late season (after March 1) forage.

In addition to differences among varieties, there also were differences across years and locations. As a matter of fact, the environment had a larger impact on total seasonal forage production than variety. This indicated the need for continued variety testing in numerous regions over several years. **When selecting a ryegrass variety it is important to look at results that are from an area similar to the intended growing site and match the growth characteristics to the needs of the farm.**

Veterinary Update (Dr. Steve Nicholson) **Bovine Spongiform Encephalopathy (BSE)**

- British authorities say the number of cows affected with "mad cow" was probably 1.9 million and that most (1.6 million) were slaughtered before clinical signs developed.

- Expected number of human vCJD cases will probably be lower than previously thought.

- Currently no cattle over 30 months of age are entering the food chain in UK.

West Nile Virus (WNV) and Eastern Equine Encephalomyelitis (EEE) Infections

More than 330 horses confirmed positive for WNV in Louisiana. The vaccine is effective in prevention. A few cases were diagnosed in animals that had only received the first of the two required doses of the vaccine. EEE cases through 9/27 totaled 18 in 7 parishes.

West Nile Virus Reported in other species.

WNV has been reported in various birds, bats, chipmunks, grey squirrels, striped skunks, a rabbit and 3 cats. In New York following the 1999 outbreak, surveys revealed that 8-10 % of dogs were

positive. This year, veterinarians reported dogs exhibiting signs of meningitis in Louisiana. Four dogs were confirmed. The CDC is conducting a survey in the Covington area to determine the infection rate in dogs, the results will be reported in late spring. Elsewhere WNV was determined to be the cause of infection and illness of a wolf pup, sheep, a mountain goat, and an alpaca. Whitetail deer and black bears were found positive but not ill. Vaccination of animals other than horses and perhaps birds is not recommended.

Wet Winter Coming Up?

Return to wet winter conditions means an increase in baby calf intestinal infections and increased mortality during the first week of life. Frequent cold rain, wind and muddy pastures probably create more cold stress for cattle and baby calves than a blizzard will create.

E. coli bacteria, and corona and rota virus problems increase when calves are born into muddy, manure laden ground. Newborn calves may have difficulty walking and may be stepped on or run over. Colostrum intake may be delayed or incomplete. Cows need to have an adequate volume of good quality colostrum for newborn calves. Cows in thin condition at calving (< BCS 4), with inadequate protein and energy intake, often do not have sufficient colostrum.

Moldy Corn for Horses

Reports from Texas suggest that fumonisins, fusarium mold toxins in corn, are a problem in some locally grown corn. Horses are especially at risk of fumonisin poisoning. The disease produced is equine leucoencephalomalacia (ELEM) or 'moldy corn poisoning.' Note that this is not the same as aflatoxin. Fumonisin should not exceed 1 ppm in the diet of horses (or rabbits). Feed levels of 5 ppm and greater, fed for days or weeks, results in damage to the brain of some horses. Affected animals suddenly become ill, often acting in a bizarre manner, go down and die within hours. Corn can be tested for fumonisin content.

Beef (Dr. Ron DelVecchio)

Consumers Don't Appear Ready For Transgenic Beef

While many Americans don't mind munching on chips made from genetically modified corn, they do not appear to be ready for beef harvested from transgenic cattle. The general indication from industry officials and consumer groups is that at this point in time, consumers in America and around the world would probably not accept these animals in the food supply. In transgenics, researchers mix genes from different species to develop animals that can produce medicines or treatments for human diseases. For example, human genes have been incorporated into cows to produce disease-fighting proteins for treating

infections. This differs from cloning which is a method of copying an animal's genetic makeup to create a new and nearly identical animal. The National Academy of Sciences recently reported that food from cloned animals is probably safe whereas the same can not be said for the products from transgenic animals. There is no evidence to the contrary; it is simply a situation where more research is needed. However, the general public opinion is that cloned animals are more acceptable than transgenic animals. The FDA is expected to write guidelines for biotech animals next year. Industry groups are concerned that these regulations should be based on scientific data rather than public sentiment. Polls have shown that it is difficult for people to set aside ethics, morals, and religious beliefs in support of biotechnology; however, people should take the opportunity to learn more about the pro's and con's of biotechnology in an unbiased climate so that well informed, rational decisions can be made. (Source: FASS Track, October 9, 2002)

A New Study on the Relationship between Breast Cancer and Beef Consumption

In response to the ongoing safety concerns over the use of growth promotants in the beef industry, researchers at the Ohio State University Comprehensive Cancer Center, and the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute are interested in examining whether a relationship exists between residual zeranol and enhanced estrogenic activity in the breast. Zeranol is commonly used in the cattle, veal and lamb industries in the United States. Although zeranol is a non-steroidal agent, it acts like estrogen in the body and can stimulate estrogen-modulated genes that can affect the growth of human breast cancer cells. However, the livestock industry uses zeranol in very small amounts which have been determined safe by the FDA. This study aims to determine if long-term, low-level exposure to zeranol adds to the risk of breast cancer. Further, the researchers point out that this study is not designed to challenge the legality of current regulations on the use of zeranol but to offer information that could be helpful to regulatory agencies in decisions about the use of growth promoters in the livestock industry. Briefly, researchers plan to examine normal and cancerous breast tissue taken from patients who undergo biopsy or surgical breast reduction. Blood and urine samples will be collected and examined as well. Volunteers will be asked to complete a questionnaire on beef consumption, and then they will be classified into groups according to their level of intake. Tests will be conducted to look at zeranol residue and tissue response to a zeranol treatment. In addition, random samples of supermarket-bought beef will be collected from across the country to

gauge the presence and amount of zeranol residue in commercially available products. It is noted that at the present time there is no evidence which suggests that eating beef in any amount is dangerous. Currently, the data indicate zeranol, like almost all other products, appears safe when used in the appropriate amounts, but when used in excess may be harmful. (Source: FASS Track, October 10, 2002)

Swine (Dr. Tim Page)

APP Theft Alerts Livestock Producers to Review Biosecurity Measures

All livestock producers and especially swine producers should review their biosecurity procedures following the theft of an infectious agent from a Michigan State University laboratory. MSU officials said a suspect has been identified and that evidence suggests the bacterial cultures have been destroyed. Officials reported the theft of the bacterium *Actinobacillus pleuropneumoniae* (APP) on September 13th. It was taken from a campus research facility. The stolen materials were part of a university project to develop swine vaccines.

The material did not pose a threat to human health. However, the agent can cause acute pneumonia in swine. APP can cause serious respiratory disease in pigs. It has been found internationally in swine herds including the United States since the mid to late 1970s. The organism was formerly called *Haemophilus pleuropneumoniae* or HPP. To minimize the impact of APP, it is important to rapidly diagnose the disease and institute appropriate treatment. Veterinary diagnostic laboratories have a variety of diagnostic tools to make a rapid, definitive diagnosis. Typically, the disease can be treated with injectable antibiotics.

There is an excellent biosecurity resource available at www.porkboard.org called The Biosecurity Guide and Security Guide. Producers without internet access can call 800-456-PORK for copies.

Producers also should report any suspicious activity or people around their farms or community to local law enforcement officials. They also should contact their veterinarian about any unusual health situation in pigs such as cough, fever, reduced appetite, acute pneumonia, encephalitis or sudden death. In some cases, frothy and bloodstained nasal discharge can be seen. Officials have said that no disease has been linked to the theft at this time.

Gestation Crate Ban in Florida

Florida voters will consider whether to 'limit cruel and inhumane confinement of pigs during pregnancy' when they consider Amendment 10 on November 5th. The so-called Florida Anti-Cruelty Amendment was placed on the ballot after petitioners collected more than 689,000 signatures to qualify the measure for the 2002 general election ballot. The

official title is 'Animal Cruelty Amendment: Limiting Cruel and Inhumane Confinement of Pigs During Pregnancy'. The initiative summary says the measure would ensure that no person shall confine a pig during pregnancy in a cage, crate or other enclosure, or tether a pregnant pig, on a farm so that the pig is prevented from turning around freely, except for veterinary purposes and during the prebirthing period. The American Association of Swine Veterinarians submitted a resolution in July that was passed by the American Veterinarian Medical Association House of Delegates. It stated that gestation crates are appropriate for sow housing when managed properly.

Poultry (Dr. Theresia Lavergne) **Cool Weather and Rodents**

As the weather gets cooler, mice and rats tend to move indoors. And, poultry houses are a popular place for rodents to move into. These mice and rats can cause a reduction in feed conversion, they can jeopardize bird health, and they can damage facilities. A single rat will eat as much as 20 to 40 pounds of feed each year, and rats in a poultry house can have a negative impact on feed conversion. Mice and rats are linked to poultry diseases (such as: salmonellosis, colibacillosis, coryza, pasteuriosis, mycoplasmosis) and they spread these diseases by contaminating feed and bird living areas with urine and feces. Furthermore, rodents chew constantly and can damage insulation, wood, curtains, electrical wiring, and metal objects. Thus, a good rodent control program is essential for all poultry producers.

To help keep rodents away from poultry houses, producers should maintain a minimum 3-foot space around the outside of each house that is free of brush, trash, and weeds; clean up spilled feed near feed bins or feed pans; keep medication rooms clean and clutter free; and keep dead bird disposal areas clean and dispose of dead birds daily. Also, producers should prevent rodent access to buildings by plugging holes and sealing doors.

Additionally, bait stations are important for rodent control in poultry houses. Bait stations need to be kept stocked with fresh bait and adequate numbers of bait stations need to be present to supply the whole rodent population. Producers need to follow the recommendations provided by rodenticide companies.

Rodents can have detrimental effects on poultry operations, but with monitoring and prevention rodent problems can be controlled. (Source: Poultry Times, September 2, 2002).

Horses (Dr. Clint Depew)

Preparing the Mare for the Breeding Season

Now is the time to start preparing the mare for foaling and rebreeding. Mares should be pregnancy checked to insure that they are still carrying a foal. Those who have aborted or reabsorbed foals should be thoroughly checked to determine the cause of the foal loss. Additionally, these mares need to be assessed for their potential to carry a foal. The economic value of a potential foal should be the key deciding factor in the decision to keep or cull a mare that is capable of producing. Poor producers and poor quality mares should be culled.

Foaling dates need to be estimated for pregnant mares and calendars need to be marked with the expected dates. Prepare your facilities, labor, and supplies for the expected foaling date. Mares need to be vaccinated about 2 months before foaling to insure maximum immunity for the foal from the colostrum. Additionally mares have higher nutritional requirements during the last 3 months of pregnancy, so increases in feed should be planned. Research has shown that mares in good condition (condition score of 5 or better) produce stronger foals and rebreed quicker.

By scheduling a visit with your vet, increasing feed, vaccinating, deworming, and preparing facilities, horsemen can increase their chances for success in the foaling and breeding season.

Tying Up

Tying up is a problem with some high performance horses. Research has shown that high fat diets (up to 30% fat) can effectively stop tying up in susceptible horses. Horses that tie up are prone to tying up again, so horsemen should put these horses on a high fat ration.

Weather related Colics

When the cool weather comes, horses typically reduce their water consumption and may colic due to low water content in their digestive system. To reduce the risk of colic, cut the horse's feed in half for a couple of days until the horse adjusts to cooler temperatures.