

# Animal Industry News Update

from the LCES Animal Science Specialists

## Horses (Dr. Clint Depew) Developing Horse Facilities

When considering horse facilities the number of horses, the type of operation, amount of human traffic, sales, zoning, climate, traffic flow and the need for security and biosecurity need to be evaluated.

The number of horses and type of operation will determine the amount of land and number of barns, stalls, etc. that are needed. Pasture is an important consideration since it is a large part of the horse's nutrition. Horses on pasture need about two acres per horse for year around grazing, but during the summer months, one acre per horse is adequate. In high traffic areas, common Bermuda grass withstands the traffic and is recommended. A variety of grasses, such as rye grass, will have a longer grazing period. The amount of hay that will be produced also influences the amount of land needed in the typical operation.

The type of operation determines the need for parking space and the layout of the facility. If sales are part of the business, then "show" type facilities are necessary.

Zoning is always a consideration in developing a facility. All horsemen should ensure that their property is zoned for farm, or animal use, and the neighbors are compatible with livestock operations. Manure disposal, as well as drainage can become problems with residential neighbors.

The work flow is a key consideration in all designs. Lanes should be built to facilitate the flow of horses from pastures toward working pens or barns. This is for horse and owner safety. Normally good working facilities are centered around a barn with easy accessibility to all pastures, paddocks and lanes.

Facility type is influenced by climate too. Facilities should be situated so that prevailing wind flows through the barn for cooling and air turnover. Heat and/or cold also are influencing factors. When heat is a primary problem, high ceilings, insulation and open sides are recommended to facilitate air flow. In cold weather, outside walls, drop down screens, tarps or curtains are needed. Rain is also an important consideration. Thus, drainage must be designed to take water away from the primary working areas, barns, and other facilities.

Biosecurity and/or health considerations are an important concern in any horse facility. In facilities where horses are transported in and out, an isolation unit needs to be maintained to isolate sick horses and/or horses potentially exposed to sickness.

By adhering to few basic fundamentals, a workable facility can be developed.

## Animal Health (Dr. Christine Navarre) Avoiding Feed-related Problems in Horses

A properly balanced diet is essential to maximize a horse's health and performance. Conversely, feeding mistakes can cause serious health problems and even death. With corn prices on the rise, many horse owners are re-evaluating their grain supplementation practices. The following are some general recommendations to follow when developing a feeding program for horses. Remember, each animal and

each farm is different, so it is always best to consult an equine nutritionist or veterinarian for specific recommendations.

- **A balanced diet does not always have to include a grain supplement.** A horse's digestive system is made to have forage (grass or hay) as the main ingredient in the diet. If good-quality forage is available, most horses do not need corn or other grain supplements. Horses that are exercised frequently, are growing, are lactating or are underweight may need some supplementation. But too much energy in the diet due to overuse of grain supplements can cause over conditioning and even obesity, both of which lead to other health problems. Even some high-quality hay, such as alfalfa, or pasture may need to be limited to avoid too much weight gain. Always have hay tested for nutritional content to determine how much to feed and if grain supplementation is necessary.
- **Feed to avoid heat and cold stress.** Hay, especially grass hay, produces heat when it is digested. In times of cold stress, provide more hay. In times of heat stress, feed the highest-quality hay available, so fewer pounds are needed, thus reducing the amount of heat produced during digestion. Again, have hay tested and talk to a nutritionist or professional before making changes to the diet.
- **Keep feeding consistent.** The most common cause of digestive upsets in horses is a change in the diet. Any change in feed amount or type needs to be made slowly over a few weeks. And unlike cattle, which have a large first stomach, horses have a small stomach, so they need to eat small amounts frequently. In general, hay should be fed free choice. If needed, grain should be limited to ½ pound of grain per 100 pounds of body weight per feeding.
- **Minerals are essential.** Different mineral supplements are needed for different soil types and different parts of the country. Matching a mineral supplement to the specific local area is important for horses grazing pasture. But a different supplement may be needed if hay was harvested in a different area or state. When having hay tested, make sure an analysis of mineral content is included.
- **Avoid toxicities.** Horses are very sensitive to molds and their toxins. Although many grain supplements are labeled for more than one species of livestock, some grain supplements suitable for other livestock should not be fed to horses. Feeds such as "screenings" or "fines" have a higher mold content than whole grains. These may be harmless to cattle but should not be fed to horses. Cattle, sheep and goat feed also may have some chemicals added, such as monensin, that can be toxic to horses. In general, only feed horses supplements that are actually labeled for horses. Other ways to avoid mold problems are: 1) store only a few weeks' supply of grain at one time and clean storage bins between loads, especially in humid summer months; 2) store hay inside or at least covered, especially if round bales are fed; 3) feed only the

amount of hay horses will actually eat to avoid having old hay build up on the ground.

For more detailed information on proper nutrition, including nutritional requirements and potential feed related diseases and toxicities, see other articles at [www.lsuagcenter.com](http://www.lsuagcenter.com). See also "Basics of Feeding Horses: Reading the Feed Tag," University of Nebraska-Lincoln Extension Publications (<http://www.ianrpubs.unl.edu/epublic/pages/index.jsp>).

## **Swine (Dr. Tim Page)** **2007 Pork Market**

Even with the high cost of corn, commercial pork producers' profit potential appears to be strong for 2007. The latest U.S. Department of Agriculture's Hogs and Pigs report was close to pre-report expectations and the large increase in corn acres projected by the annual prospective plantings report bodes well for pork producers.

This was good news not only for the pork sector, but the entire livestock industry. The stage is set for continued profits this spring, and pork producers should see steady prices and profits continue at least through the third quarter of this year.

According to the latest Hogs and Pigs Report, the U.S. inventory of all hogs and pigs on March 1, 2007, was 61.1 million head. This was up 1% from March 1, 2006, but down 2% from December 1, 2006. The breeding inventory, at 6.08 million head, was up 1% from last year, but down slightly from the previous quarter.

The pork industry shows no signs of substantial production cutbacks in the near future, based on data from the Hogs and Pigs Report:

- Market hog inventory, at 55.0 million head, was up 1% from last year, but down 2% from last quarter
- The December 2006-February 2007 pig crop, at 26.1 million head, was up 2% from 2006 and up 3% from 2005
- The average pigs saved per litter was 9.08 for the December 2006-February 2007 period, compared to 9.03 last year. The current total is a record for the winter quarter.
- U.S. hog producers intend to have 2.91 million sows farrow during the March-May 2007 quarter, down slightly from the actual farrowings, but up 1% from 2005. Intended farrowings for June-August 2007, at 2.92 million sows, are virtually unchanged from both 2006 and 2005.

In addition, federally-inspected hog slaughter numbers for March 1-28, 2007, rose 3.7% from a year ago. This verifies the steady pork demand from both domestic and international markets.

### **Pork Quality Assurance Plus**

The National Pork Board and the Pork Checkoff Pork Safety Committee has changed the Pork Quality Assurance Program. This program was created in 1989 as an educational program that was originally designed to increase residue avoidance awareness but has since become a resource for information to improving food safety at the farm level. Currently, most major USDA inspected plants require producers to be certified in the PQA program as part of the plants' Hazard Analysis and Critical Control Point system. Additionally, the Pork Checkoff Swine Welfare Committee has spent the last year and a half revising the content and delivery of the Swine Welfare Assurance

Program. This program will be combined as a good production practice in the PQA program. The final product is designed to be a program that is credible, workable, and affordable for all aspects of the food supply chain. The new program will be called PQA Plus and will be launched in June 2007.

Dr. Chip Lemieux and I attended PQA Plus Trainer certification at the National Pork Board in order for us to certify Louisiana pork producers in the new program. I will be sending out more information on the new program in the future.

## **Dairy (Dr. Charlie Hutchison)** **Dairy Update**

The class I price for May, 2007 at the Atlanta zone of Federal Order #7 is \$19.02/cwt which is an increase of \$0.92/cwt from April, and an increase of \$4.95 from May, 2006. This is the highest class I price since January, 2005 and the second highest Class I price ever for May milk. The highest was \$22.75 in May, 2004. Looking at the futures market and spot cheese market there is optimism that prices will remain high for the foreseeable future.

The dairy industry and dairy futures markets are in a very bullish mode.<sup>1</sup> Select component values of Class III and Class IV milk have made record highs and continue to be supported as buyers of these products attempt to meet the demand. Demand for dry whey and nonfat dry milk is not only domestic, but worldwide. Cheese and butter prices are not very high with most of the large increase in Class III coming from dry whey and most of the price increase in Class IV coming from nonfat dry milk. It is unprecedented that the average Class III price for this year is \$16.70, which is \$1.31 per cwt. above the record high average price in 2004. The current average for Class IV is \$17.26 per cwt. while the previous record was \$13.73 set in 2001. Class IV prices did not perform as well in 2004 and did not keep pace with Class III.

Class III futures are showing quite a bit of optimism for 2008 as prices are averaging \$15.80 per cwt. This indicates that dry whey price is expected to remain high and milk production will tighten the availability of cheese and thereby dry whey. European and Oceania markets may be able to add more to the supply of powders, but this is not yet a reality. Demand for milk protein is strong and two things will need to take place before this will be rectified. Buyers may resist the higher prices and look for alternatives for dry whey, or demand will slow and production of dry whey increase to cushion the supply resulting in available product. The market will rectify itself as high prices will slow demand. Currently, the U.S. average whey powder price is around \$0.80 per pound and the world average price is \$0.80 per pound. The past couple of weeks have shown a steadiness in the regional dry whey prices across the country. This does not mean that price will crash, but may stabilize for the time being. This indicates that we may have reached the ceiling for whey prices.

Nonfat dry milk continues to remain tight with both cash and futures prices increasing significantly over the past weeks. The high price for nonfat powder is causing some difficulty in fortifying cheese vats for production of Mozzarella and other cheeses. High price is one issue with the other being the difficulty in obtaining powder for use in cheese production.

Despite the tightness we see in whey and nonfat supplies along with recent increases in cheese and butter prices, milk production and product inventories continue to increase. When a comparison is made between the current expected milk production and production in the previous high priced year of 2004, we see milk production expected to show an increase of 13.8 billion pounds. Total cheese in storage is currently 113.4 million pounds higher than 2004 with American cheese 56.5 million pounds higher. Current butter stocks are 35.0 million pounds higher. So, despite good demand, inventories have grown, but record component prices are fueling record milk prices.

The milk-feed price ratio improved further in April. According to the USDA's announcement of feed-price ratios on Monday, the April ratio increased to 2.54 which is a gain of 0.14 points compared to March and up slightly (0.06 points) compared to a year ago. The gain was caused by a jump in milk prices and a decline in feed prices. The All-Milk price for April is estimated at \$16.40, which is up 80¢ from March. Meanwhile, average corn prices dropped 23¢/bu. to \$3.20 and soybean dropped 14¢/bu. to \$6.81, while the alfalfa hay price increased by \$8.00/ton to \$128.00 per ton. (<sup>1</sup>Adapted from an article by Robin Schmahl, commodity broker and owner of AgDairy LLC, in AgWeb.com Dairy Today - May 1, 2007)

### **Poultry (Dr. Theresia Lavergne)** **Energy Usage and Sources**

Propane Usage: The University of Arkansas' Applied Broiler Research Farm completed a total renovation in 2006. The 16-year old curtain-sided houses were renovated to solid sidewall houses. The first article in a series of "before and after" reports is on propane usage. The researchers report that less propane was used in April, June, and August after the renovations compared to the same months before the renovations. They attribute the decrease in propane usage to improved efficiency from the renovations. The researchers will continue to monitor propane usage. (Avian Advice; Spring 2007, vol. 9 no. 1)

Broiler Litter Combustion: Researchers in the Biological and Agricultural Engineering Department at the University of Arkansas are evaluating a litter burning furnace to determine the feasibility of on-farm burning. Litter is burned in a furnace and the heat is used in the broiler houses. The furnace being used can burn almost one ton of litter per day, however the system needs to be improved to make it economically feasible. The researchers indicated that improvements can be made to the furnace that will make it more feasible and, thus, reduce the cost for gas. The ash that is produced by the burning process needs a market, especially in areas where land application of phosphorus is limited. Additionally, the effect of burning on air quality needs to be evaluated. (Avian Advice; Spring 2007, vol. 9 no. 1)

Solar Energy: There is a solar-powered poultry house in Delaware. The house is being used to determine the effectiveness of solar power for poultry houses. There are two solar arrays in the 42-kilowatt system. The system costs about \$500,000 but includes features not needed to run the house (i.e., it includes features needed to collect the research data). State, federal, university and private sector representatives are all partners on this project. (The Mid-Atlantic Poultry Farmer; April 10, 2007)

### **Beef (Dr. Jason Rowntree)** **Keys for Efficiencies of Production**

Several management practices can be implemented to improve efficiencies in cowherds. With relation to beef cattle, two different forms of efficiencies exist. First, beef production efficiency is defined as the ratio of pounds of calf weaned per unit forage consumed. However this is a difficult ratio to assess and animal scientists typically refer to beef production efficiency as pounds of calf weaned per cow exposed to a bull. The second way in which efficiencies are assessed is by economic efficiency. Specifically, the simplest form is net income, or the total amount of income generated by the cattle minus production costs.

In the cow calf and feedlot sectors of beef production, producers are often driven by outputs. For instance, weaning weights, yearling weights, milk outputs, quality grades and yield grades are all factors that producers aim for. However, the more profitable and efficient measurements are pounds of weaned calf per cow exposed, or selecting for cows that have a lower maintenance energy requirement but still are acceptable in terms of production.

Let's look at some production practices that can be implemented to improve beef production efficiency. One practice is to initiate a defined breeding and calving season. Producers who calve their cows in 60 days versus 90 days certainly can improve efficiency. For instance, a calf generally gains two pounds a day from birth to weaning. Along with this, producers normally wean calves once, and maybe in the case of fall and spring calving, twice a year. A calf born on the first day of the calving season may outweigh a calf born at the end of a 90 day calving season by 180 pounds. Granted, the lighter calf may bring more per pound, but it will not bring more money per head. Thus, the earlier cows calve in the calving season, the greater the entire weaning weight will be. Also more cows who are in the same production phase can be managed the same with less overall labor versus cowherds that calve all through the year.

Another practice that should be implemented at all ranches is to test soil annually. Currently, fertilizer costs have skyrocketed to, in some cases, a reported \$500.00/ton for urea. Often the soil pH is overlooked. We know that low pH soils, ~ 4.5, have a very low nitrogen utilization rate. In fact one report stated that only 30% of nitrogen is available at a pH of 4.5. The availability improves to 77% when the pH is 5.5. Thus, strategic liming is crucial to ensure that the fertilizer is in fact being used. Soil tests are inexpensive and can be conducted in the Agronomy Department at LSU.

There are several other ways in which producers can work to improve their efficiencies and they will be covered in later newsletters.

### **Cattle-Fax Cow-Calf Survey**

The Cattle Fax Cow-Calf Survey was just released. A few results I found interesting:

- 94% of respondents vaccinate calves prior to sale
- 86% vaccinate calves while on the cow prior to weaning
- 67% pre-conditioned their calves and the average cost was \$30/head to do so, which is \$10/head more than a year ago

- 73% said they use the internet; of those 35% have a DSL connection, 34% dialup, 19% satellite, 11% cable, 10% wireless, and 1% other (last year's survey nearly 50% used dialup)
- The results for which supplementation program best meets cattle and management needs were somewhat mixed, but the highest percentage of producers, at 41%, said alfalfa or high quality hay is used; 38% use loose/granulated vitamin/mineral mixes, 33% cubes/cakes/pellets, 19% other, 18% cooked (low-moisture) molasses blocks/tubs, 17% liquid supplements, 13% distillers grains by-products, 9% small pressed blocks, 6% salt-limited protein meal, 6% poured/chemically hardened big blocks, and 2% no supplementation