



Poultry (Dr. Theresia Lavergne) Controlled Atmosphere Stunning (CAS) for Broilers?

Animal rights and welfare organizations are pressuring the poultry industry to implement controlled atmosphere stunning (CAS) in place of the current electrical stunning technology. In CAS, birds are exposed to gases while they are still in their crates or after they are unloaded onto a conveyor belt. The gases make them insensible. In CAS, the birds are exposed to a mixture of inert gases (nitrogen and argon) or concentrations of carbon dioxide. This exposure deprives the birds of oxygen and they lose consciousness.

While animal welfare/rights groups believe CAS is more humane than electrical stunning, the scientific community believes more research is needed before CAS is implemented commercially in this country. CAS was developed in the United Kingdom in the 1980s, but researchers are still working to unscramble issues (appropriate gas mixture, design of CAS systems, worker health and safety issues) that remain with the use of CAS.

European poultry companies use CAS. They note these advantages and disadvantages.

Advantages:

- Bird handling is more sensitive to bird welfare.
- CAS is efficient.
- Workplace conditions are improved.
- Meat yield and quality are improved or unaffected.

Disadvantages:

- CAS implementation and gas supply costs are high.
- CAS requires more plant space for stunning.
- CAS systems are more complicated (require specialized training for workers).
- Feather removal can be more difficult; there may be more wing damage.

(*Feedstuffs*, July 11, 2005)

Animal Health (Dr. Steve Nicholson)

Anthrax

Anthrax is reported in deer in southwest Texas and bison and cattle in South Dakota. Although Louisiana has a history of anthrax, no confirmed cases have been noted in almost 20 years. When cases go unrecognized by chance or design, the potential for rapid loss of animals and human exposure increases. Cattle and horses in areas where the disease is known to have occurred should be vaccinated annually. See "Anthrax in Louisiana" article online at:

http://www.lsuagcenter.com/en/crops_livestock/livestock/anthrax-in-louisiana.htm

Bovine Spongiform Encephalopathy (BSE, Mad Cow) in a Texas herd

A small herd of cattle near Waco was the source of the positive case of BSE reported recently. One suspect animal from November 2004 was positive to additional tests. Remaining animals in the herd were slaughtered and found to be negative. This may support the idea that spontaneous cases of BSE may occur similar to the one in a million figure quoted for human CJD.

Heat Stress in Livestock

No doubt, the high heat index in mid to late July seriously affects livestock. Dairy cows, large beef bulls, some beef cow operations and show lambs on feed are especially vulnerable. Availability of fresh water and adequate shade are essential, but heat stress still may be pronounced. Resistance to infectious diseases is lowered, and pneumonia is a common result. Large bulls may gain heat and be unable to cool down for days. Affected bulls slobber and breathe with open mouths. This may lead to weight loss, weakness and death in a few days. Pneumonia may complicate the problem. Grain-fed show lambs and yearlings may have increased respiratory rate, high rectal temperatures and develop muscle damage and a hump-backed stance. Shearing, cooling and vitamin E supplement may save some. Penning and working cattle can lead to rapid overheating and death.

Sicklepod and Coffeesenna

These two weeds are responsible for cattle losses in late summer and fall. Yearlings and two year olds are often poisoned when they are penned in areas where one or both of these weeds are prevalent. Older cattle and bulls new to the area and not familiar with these plants may eat a toxic "dose" when the opportunity arises. Muscles are severely damaged, and the urine may be brown because it contains muscle pigment. No effective treatment is known; most affected animals become downers and die.

Perilla Mint

Late summer and fall is the season for cattle to be poisoned by eating Perilla mint. *Perilla frutescens* is a square-stemmed weed with oval, serrated leaves that are slightly purple on the underside. A few pounds of this plant induce acute respiratory distress. Emphysema of the lungs is the major physical change. As with other poisonous plants, the animals may have co-existed in pastures with the weed without a problem for years. More information is online at: [http://www.lsuagcenter.com/Season Under Way for Cattle Emphysema, Notes LSU AgCenter Veterinarian.](http://www.lsuagcenter.com/Season%20Under%20Way%20for%20Cattle%20Emphysema,%20Notes%20LSU%20AgCenter%20Veterinarian.)

Dairy (Dr. Charlie Hutchison)

Milk Prices and Production

The announced class I price for August milk is \$17.54 per cwt at the Atlanta zone. This is a \$0.55 increase compared to the Class I price in July. For the past two months, there have been modest increases in the price of milk despite a significant rise in the production of milk in the top 23 milk-producing states. During June, milk production in the top 23 dairy states rose 5.4% above June 2004. In those states, total production was 13.7 billion pounds. Meanwhile, the USDA revised the milk production report for May. May production now stands at 14.3 billion pounds — up 4.6% instead of the 4.4% estimate reported in June. Milk output per cow in the top 23 states in June was up an average of 76 more pounds from a year ago. All but one of the top 23 states saw increases in milk per cow during June. Arizona posted a slight decrease of just 0.3% in milk per cow during the month. The only state of the top 23 dairy states to post a loss in total milk output was Missouri, with a total milk production loss of 3.2% for the month. The states posting the largest gains in total output were: Idaho with an 11.7% increase, followed by Colorado with an increase of 10.6% and Texas was up 9.6%. Milk-cow numbers in the top 23 states were reported to be 8.13 million head, 47,000 more head than this time last year. The 8.13 million head of dairy cattle is 9,000 head more than May 2005.

News and Events

On July 14, the U.S. Court of Appeals for the 9th Circuit Court overturned a lower court's ruling banning imports of Canadian cattle. After considering arguments in the case, the court determined that the preliminary injunction brought by R-CALF must be reversed. Therefore, the border is now open for immediate slaughter and feeding of cattle and bison less than 30 months of age and goats and sheep less than 12 months of age. Dairy cattle are not included in this. Judge Richard Cebull (who granted the preliminary injunction which kept the border closed until the 9th Circuit Court of Appeals lifted the order) of the U.S. District Court in Montana was supposed to hear final arguments in the initial case brought by R-Calf on July 27 to determine if the border would be permanently closed. However, the judge has postponed the hearing, saying that he needs time to review the opinion of the 9th Circuit Court of Appeals. If the border remains open, this could have an impact on beef prices along with cull dairy cow prices.

The Cooperatives Working Together (CWT) program will begin its third year of operations with participation from 73.1% of the nation's milk suppliers. The increased participation is due to the enrollment of two more cooperatives — Southeast Milk Inc. in Florida and Bongards Creameries in Minnesota. Since the CWT program began, farm-level milk prices have been consistently above historic averages, reaching record-high prices in the spring of 2004. In the past two years, CWT has removed about 1.7 billion pounds of milk through a

combination of two herd-retirement programs, periodic exports of cheese and a reduced milk production program. Participating dairy farms have five cents per hundredweight of all milk produced deducted from their monthly milk check to fund these programs.

Horses (Lais R.R. Costa, Equine Health Studies Program, LSU School of Veterinary Medicine)

10 Tips for Preventing Clinical Exacerbation of Heaves in Horses

Heaves is an asthma-like disease of horses initiated by exposure to allergens such as molds and dust, resulting in coughing, nasal discharge and difficulty breathing. In the southern United States, it occurs principally in horses housed on pasture in the summer (pasture-associated), and clinical exacerbation is often associated with high environmental temperature and humidity. In more northern areas of the United States, the disease is most often observed in horses kept in a stall (barn-associated) and is associated with poor ventilation.

1. There is no cure for heaves, but exacerbation of clinical signs can be prevented by implementing recommended management strategies.
2. If your horse has summer-pasture heaves, it should be removed from pasture before the time or the conditions associated with clinical exacerbation.
3. Exposure to triggering agents where the horse is housed should be eliminated or decreased. If your horse has summer-pasture heaves, it should be kept at pasture and the pasture grass should be kept short. If your horse has barn-associated heaves, it should be kept at pasture.
4. The barn and stall should be well ventilated, and the amount of dust must be kept to a minimum. The horse should be kept out of the stall while unloading shavings and hay, and do not store hay on a barn loft above the horse.
5. Straw and sawdust should probably be avoided. Wood shavings, shredded paper or rubber mats are better bedding alternatives.
6. The stall should be cleaned well to decrease the fumes of urea/ammonia, and the horse should be moved from the stall when cleaning.
7. Dusty or moldy hay should be avoided. If hay is fed, it should be soaked/submerged in water to remove the dust before feeding. In general, alfalfa hay is less of a problem than grass hay for most horses. Do not allow access to round bales of hay.
8. Alternative types of forage (haylage, beet pulp and hay cubes) can be fed. A complete pelleted diet (feed contains 25% to 30% fiber) works well.
9. All diet changes must be done gradually to avoid colic and diarrhea.
10. Treatment for heaves will likely fail if exposure to the triggering agents is not eliminated.

Beef (Dr. Jason Rowntree)

Several important dates are coming up. First, the MS/LA Joint Heifer Replacement and Stocker field day is August 8 in Brookhaven, Miss. Included topics are health programs for growing cattle, transition nutrition from weaning until ryegrass, marketing options, electronic ID demonstrations, identifying sick cattle injection sites, necropsy demonstrations and more. Second, the 2005-2006 Calf to Carcass nominations are available and due by August 17. The Calf to Carcass is an outstanding program where producers are exposed to preconditioning of cattle, retained ownership, carcass attributes and also given an opportunity to tour the Oklahoma beef business while en route to Hitch Feeders, Guyton, Okla. Information for both programs is available on our Web site:

www.lsuagcenter.com/beef.

MARKETS, MARKETS, MARKETS

As many of you know, on July 19 the Canadian border opened and for the most part our local feeder calf markets dropped an average of \$5/cwt. Likewise, the fed cattle markets softened to below \$80/cwt. The implications of the Canadian border opening are speculative at best, but most major cattle economics publications indicate that the opened border should have minimal influence on future markets. Other indicators suggest that beef prices are on the decline. Specifically, the USDA released the July 1 inventory report stating that total cattle numbers are up about 1 million head; included in this figure are the 200,000 head of replacement heifers kept this year vs. last. This is the first noted increase in total herd size since 1995. Although USDA suggests our feeder calf markets should remain profitable through 2006, we are definitely in an expansion mode. In fact, Randy Blach, Cattle-Fax, suggests that the beef market 10-year cycle lows should occur in 2008-2009. Extension personnel must be aware of the market turn and work with our producers to ensure their sustainability over time. Programs like Calf to Carcass are excellent for producers to learn about other marketing options and to gain awareness of their cattle's worth. Another huge factor related to the long-term health of our cattle business is our current trade situation. Just last week Dr. Condoleeza Rice, Secretary of State, met with Japan on the trade situation. Unfortunately, no resolutions were met.

Where does the closed border put our industry in light of the recent Canadian border opening? Chris Hurt, Purdue University, comments that although the consumer should be happy with lower prices and more selection at the retail counter, the producer may suffer until our exports increase. The last full year the USA accepted Canadian cattle was 2003, with an approximate total imported head of 1,700,000. Since that time, the Canadian calf crop is expected to have increased by 300,000 head; however the country also has expanded its slaughter capacity by 900,000 head. Thus, Hurt comments that we should expect 1,000,000 or so head of cattle to

come into our country. Focusing on our beef exports, the USA typically exports 10% of our domestic production which has, for the most part, been nullified by Japan's boycott of our product. So one can only assume that until our export markets open up, there could be considerably more product on supply than in recent years. Fall and winter feeder cattle futures are hovering at \$25 above fed cattle futures, and feeder cattle prices should remain strong through next year.

Horses (Dr. Clint Depew) Dealing with Summer Heat

The summer heat can cause problems for horses. Take precautions to increase the horse's comfort and to avoid serious damage or even death caused by heat and humidity. Three problem areas are associated with summer heat and horses. They are: basic management, nutrition and conditioning of the horse.

The nutritional requirements associated with heat are caused by the loss of water and salt during sweating. The horse may lose as much as 1/5 of a pound of salt per day through sweat and urine. In hot months, the salt requirement is greatly increased. Common horse feeds have relatively low levels of salt, so salt must be added to the diet. Horses should have access to loose salt to consume enough salt to meet their requirements.

Horses also lose water by sweating, and dehydration can be a problem. It is essential that horses have free access to water at all times to avoid dehydration and to sustain sweating, which is the horse's primary cooling system. Extreme loss of water or salt can result in a cessation of sweating, which quickly results in overheating, rapid breathing, weakness and possibly death.

The second area of concern is management. A horse needs adequate shade, ventilation and protection from insects to comfortably withstand the heat. Shade is important to keep the horse from being exposed to direct rays of the sun and extreme heat. Since most horses are dark, they absorb heat from sunlight and are less comfortable. Research indicates that horses that are excessively hot or uncomfortable are more difficult to keep on feed and will consume less feed, resulting in poor growth among young horses and possibly loss of weight or condition among older horses.

Shade can be provided by several means. Large trees and open barns are quite effective in providing shade. Proper ventilation is another key to good management during the summer. Good air movement is critical in maintaining a comfortable environment. In Louisiana, where the primary environmental consideration is protection from heat and humidity, barns and stables should have high ceilings and open sides to provide good ventilation. Stall fans keep a horse from sweating in a stall but are ineffective in moving air in and out the barn.

Flies and mosquitoes are a problem that magnifies with the increase in temperature and humidity. Proper control of flies and mosquitoes can

greatly increase the comfort of your horse and reduce the amount of energy used fighting these pests.

Conditioning improves the horse's ability to withstand heat. Horses ridden regularly develop a greater tolerance to heat and humidity, and they are more capable of withstanding stress during the hot months. Horses that are excessively fat and poorly conditioned are the most susceptible to heat stress. Therefore, it is essential that horsemen develop a sensible riding program during the summer. Early morning or late evening riding is preferable, and exercise should be limited. Care should be taken to cool the horse properly after each ride, and horsemen should realize that a horse that is cool on the outside is not necessarily cool internally. At least 1 ½ to 2 hours should be provided for the horse to cool down before feeding. Horses that show excessive sweating, staggering or weakness, rapid breathing or other signs of overheating should be treated as a medical emergency. Cooling a horse rapidly with water and calling a veterinarian are the proper emergency responses.

By providing the proper nutrients, good management, conditioning the horse and being attentive to any signs of heat stress, you can assure the comfort of the horse throughout the summer.

Swine (Dr. Tim Page)

Swine Genetics – Past, Present and Future

The swine industry has made genetic progress over the last 25 years, primarily by breeders and breeding companies applying genetic principles, advances in technology and improvement in breeding practices. Their goal has been to use genetic variability to identify the best animals within and among breeds to produce pigs that are superior to their parental lines in traditional traits and the most economical to grow out. Most of the genetic progress in traditional traits such as growth, carcass and sow productivity has been made by selecting on performance records and an estimate of breeding value, without the knowledge of the specific number of genes that affect the trait or the effect of each gene.

As the industry moves ahead, the genetic principles of selection will remain applicable, but will have molecular tools such as gene markers and trait loci available. As swine genome information is expanded, the potential use of these tools will increase. Gene mapping and gene identification will continue at a very rapid pace. The complete genome sequence of the pig likely will be obtained in the next three years. This will allow breeders to select for reproduction, growth, feed efficiency, disease resistance, meat quality, disposition, behavior and even waste reduction. This has the potential to allow breeders to create niche products with tremendous economic value. Cloning will become easier and will allow the production of copies of outstanding animals used to produce more uniform pigs for certain production methods.

The influence of artificial insemination on selection intensity is a key benefit for the swine industry. More important, future genetic opportunity with artificial insemination will be observed when semen sexing becomes economically feasible. Sexed semen offers the opportunity for increased selection intensity of replacement females, an area where the industry now has little opportunity because of poor sow longevity and high cull/death rates in commercial production. It also will offer advantages to the show pig and purebred breeders.

The production of transgenic pigs, adding genes from other species, for biomedical uses will continue to expand. A part of the swine industry will be devoted to producing pigs for the human health industry. With certain human genes expressed, these biomedical pigs can be grown to help produce organs for human transplantation. Another challenge is the need to reduce antibiotics in pig production. To do so, geneticists will need to identify pigs that are genetically less susceptible to disease. Protection of our environment presents a problem for generations to come. Strict regulations can hamper genetic improvement. With improved genetic knowledge, breeders will be able to produce pigs that produce less manure, a huge step toward protecting the environment.

Possible success weighed against the value that can be generated by improving a specific trait must be evaluated when emphasis on any trait is considered. Molecular methods offer great potential, but they will not completely replace quantitative methods. Their best use will be in conjunction with traditional selection programs. Gene markers can and will be found. The key is to find those with measurable effects and economic value. There is a tendency to think we will find all the answers in genetics to solve many of the industry's problems. But, there is the danger in waiting for new technologies to improve our industry instead of continuing to use proven quantitative methods. The real solution is to combine the proven methods of genetic selection with the new technologies that hold much promise for the future.