



PHOTO BY SHAUNA ROSE HERMEL

Scientific Assessment of Animal Welfare

A risk assessment approach to animal welfare is becoming increasingly important.

by **Kindra Gordon**

Jeffrey Rushen provided an overview of the importance for scientific assessment of animal welfare to participants at the International Symposium on Beef Cattle Welfare (ISBCW) May 20. Rushen is a researcher in dairy cattle welfare at the Agriculture and Agri-Food Canada Research Centre, in Agassiz, B.C., and an adjunct professor in the Animal Welfare Program at the University of British Columbia and at the University of Laval in Quebec.

Animal welfare is increasingly becoming a trade issue — particularly in Europe, where several mandates are already in place, Rushen said. The movement is gaining momentum with many international trading partners, such as Japan, China, Korea and Brazil.

He noted that many like to downplay the high animal care standards in Europe saying they are based on emotion rather than science. But Rushen said the Europeans are starting to build a very formal system of regulations based on science.

To that end, Rushen says a risk assessment approach to animal welfare is becoming increasingly important. He defined risk assessment as a generally accepted, repeatable, transparent and validated measurement.

“It’s a myth that pain cannot be measured in animals,” Rushen added. “Studies show us that pain control can be measured using anesthetics and analgesics.”

He also said, “Can we judge the emotions

of animals? People are starting to do this.”

Noting this, Rushen encouraged the beef industry to solve animal welfare problems while it has time to do so. He noted that consumers still perceive the cow-calf industry as fairly favorable, with the image of cows on green grass. But he stated that issues like indoor housing, muddy pens, transportation, and pain of dehorning/castration are issues that need to be addressed.

“There is a broad agreement on many of the



PHOTO BY TROY SMITH

► Jeffrey Rushen encourages the beef industry to solve animal welfare problems while it has time to do so. Issues of indoor housing, muddy pens, transportation and pain of dehorning/castration need to be addressed, he said.

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animal welfare practices,” Rushen noted in closing. “It’s just that different terms are being used.”

He also suggested that future science should start measuring the “positive” things animals experience on farms.

“As scientists we’ve been good with science to measure pain, disease, stress,” he said. “I think people would feel more comfortable knowing about animals’ play behavior and positive social relationships between animals.”

“I think this is one of the directions that animal welfare needs to move,” Rushen concluded. “It’s not all bad. There is some positive interaction, too.”

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.





Benchmarking Animal Welfare Progress

When encouraging those in the beef industry to make changes to improve animal well-being, measured outcomes can provide the reason why.

Story by *Kindra Gordon*

Dan Thomson, professor and director of the Beef Cattle Institute (BCI) at Kansas State University (K-State), posed the question, “Why do we need to measure outcomes?” as he addressed the International Symposium on Beef Cattle Welfare (ISBCW) May 20 on the K-State campus.

Thomson replied, “Because when you are asking people to make changes, they are going to ask ‘Why?’” Having measured outcomes can give a basis for the animal well-being recommendations that are made.

Additionally, Thomson emphasized that when making recommendations for animal well-being and animal husbandry, consideration needs to be given to what producers are being asked to implement. “There is a practical application that has to be met,” he stated.

The areas that Thomson suggested the industry focus on documenting include:

- ▶ labor and training;
- ▶ implementation of standard operating procedures (SOPs); and
- ▶ statistical process control.

“We need to be a more proactive industry,” Thomson said. “We’ve got to define what normal is so we know what abnormal is.”

As an illustration of this, he explained, “One number, such as mortality rates, doesn’t do a good job of describing what’s going on. Statistical process control allows for explaining why things happen so we can be proactive and prevent the

incident from happening again versus being reactive.”

Looking to the future, Thomson also talked about some of the shifts in thinking that may be necessary.

“Animal welfare should not be competitive (i.e., my animal welfare practices are better than yours),” he said. “Instead, the beef industry needs to formalize one welfare assessment tool.”

Expanding on that thought, Thomson said in his view producer groups know what’s best.

“I don’t think government regulation is the way to go,” he said. “SOPs and assessment tools and third-party audits can be an effective system for ensuring animal well-being practices are implemented.” He suggested this may be an ideal role for rural practitioners because they know the producers.

Another shift that Thomson indicated the industry may need to adapt is beef quality audits and where they occur.

“The audits used to be about physical qualities of the meat. Now animal handling and herd management are moving up in importance on that list. Maybe we need to start doing a feeder calf audit for animal well-being. That’s a shift,” Thomson said.

Thomson highlighted an online training center focused on animal care that K-State has initiated at www.animalcaretraining.com. The site offers 200 modules in Spanish and English on

beef, dairy and equine animal care, behavior and handling topics. Eight of the modules are specifically designed as training for livestock auction market employees with a post test at the end.

Thomson emphasized how tools such as this can help ensure proper animal well-being training and documentation of that training to help implement a proactive change in the beef industry.

In closing, Thomson acknowledged that, “Nobody cares more about cattle than the people who get up and take care of them every day. . . . I’m humbled to be a part of that.”

He then challenged the industry to pick two or three issues and improve them.

“You can’t eat an elephant in one bite,” he said, explaining that a list of 100 items becomes worthless because you can’t change them all. “You’ve got to pick two or three things and then, as an industry, over three, five or 10 years make a change.”

As an example, he pointed out how the industry focused on injection-site lesions several years ago and was able to greatly reduce the problem.

“In the last two years, I’ve seen the beef industry accept change, create more transparency and focus on improving the industry with regard to animal welfare,” Thomson concluded. “But, like any good team, we want to continue to get better every day. We have a lot of people and cattle counting on us.”

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PHOTO BY TROY SMITH

▶ “We need to be a more proactive industry,” Dan Thomson says. “We’ve got to define what normal is so we know what abnormal is.”



The Economics of Animal Welfare

Recent studies of how welfare concerns affect aggregate meat demand indicate expenditures for pork and poultry have declined by 2.5% and 5%, respectively.

Story & photo by **Troy Smith**

What can an economist add to the discussion of animal welfare? During the International Symposium on Beef Cattle Welfare (ISBCW), Kansas State University (K-State) Agricultural Economist Glynn Tonsor said surveying how consumers spend money at the meatcounter reveals something about their animal welfare concerns. According to Tonsor, results indicate the beef industry cannot afford complacency.

It's true, Tonsor admitted, that animal welfare advocacy groups have focused more attention on the pork and poultry industries. Still, surveyed consumers say they are concerned about the welfare of beef cattle. They don't, however, always make a clear distinction between beef and dairy cattle. Regarding practices such as castration, tail-docking and confinement feeding, consumers don't always distinguish between animal species. And regardless of species, consumers associate "good" animal welfare practices and higher food safety with meat from animals produced on small farms.

"The thing to remember," Tonsor warned, "is that no meat industry (segment) is immune from scrutiny."

Tonsor said voter response to state ballot initiatives designed to regulate certain animal production practices also signal what is on consumers' minds. Survey results suggest as many as 70% of consumers, across the United States, would support



► "The evidence shows there is a high cost of not being engaged in the discussion," Glynn Tonsor says of the animal welfare movement.

national requirements similar to those adopted in California through that state's Proposition 2 ballot initiative. That suggests a need for more education about meat production.

Consumer perceptions regarding the accuracy of information provided by meat industry sources does influence consumer thinking, Tonsor added. The key is to convince consumers that industry information is more accurate than that promoted by opposing activist groups.

"The evidence shows there is a high cost of not being engaged in the discussion," he stated.

According to Tonsor, recent studies of how welfare concerns affect aggregate meat demand indicate no significant effect on consumer expenditures for beef. However, expenditures for pork and poultry have declined by 2.5% and 5%, respectively. When a reduction occurs for one meat product, expenditures do

not necessarily shift to another. Instead, consumers tend to spend that money on non-meat items.

To Tonsor, that means a broader, collaborative meat industry response is needed, rather than species-specific action.

"Remember that perception drives decisions, whether it is based on accurate knowledge or not. Be aware, think



Regarding practices such as castration, tail-docking and confinement feeding, consumers don't always distinguish between animal species. And regardless of species, consumers associate "good" animal welfare practices and higher food safety with meat from animals produced on small farms.

carefully and be proactive," Tonsor advised. "Remember, consumers are concerned about animal welfare. Producers probably won't get paid more for improving animal welfare conditions. Not in the short term. But you really don't have a choice."

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Responding to Public Concern

Beef producers need to understand consumers' concerns about animal welfare and learn how to talk to consumers about animal care.

Story & photo by **Troy Smith**

According to Lily Edwards, assistant professor of animal behavior and welfare at Kansas State University (K-State), the beef industry must face the facts. There is a changing societal ethic regarding animals. More consumers are concerned about the physical and psychological well-being of domestic livestock. More consumers are interested in where and how food animals are produced.

Speaking during the International Symposium on Beef Cattle Welfare (ISBCW), hosted by K-State, Edwards said consumers are forming opinions on how animals should be raised, and expressing their preferences at the meatcounter. However, those preferences often are influenced by negative images of livestock production. The image of "factory farming," particularly in pork, poultry and

veal production, doesn't set well with many consumers. As evidence, Edwards cited the successful passage of state ballot initiatives that restrict certain production practices.

"Generally, consumers look more favorably upon cattle producers," Edwards offered. "But they are questioning practices such as dehorning, castration, branding and confinement feeding."

Edwards said the beef industry needs to engage consumers and tell its story. Lecturing consumers won't work. And if producers want to lose an argument with consumers, Edwards suggested these 10 simple steps she credited to Dave

Daley at the University of California-Davis:

- 1) Justify management practices with economics. Animal well-being is secondary.
- 2) Assume science gives all the answers. Ethics don't matter.



► It is becoming obvious at the meatcounter that consumers are becoming more interested in how the meat they buy is produced, Lily Edwards shared.

- 3) Assume you must defend all production practices — even if they are questionable.
- 4) Assume all producers are doing the best job possible. There's always room for improvement.
- 5) Attack anyone who disagrees with you.
- 6) Never listen to the opposing argument.
- 7) Assume the lunatic fringe represents the general public.
- 8) Be reactive, not proactive.
- 9) Assume the opposition is stupid, evil or both.
- 10) Don't even try to build coalitions with consumers.

In fact, Edwards said, producers should do the opposite of everything on the list. The industry should build bridges of communication with consumers, and seek middle ground.

"We as an industry might have to give some ground to find compromise," stated Edwards.

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Auditing Animal Welfare

by **Troy Smith**

According to Temple Grandin, Colorado State University (CSU) animal behaviorist and welfare specialist, the beef industry does a lot of things right. That doesn't mean there is no room to improve the way cattle are handled. During the International Symposium on Beef Cattle Welfare (ISBCW), hosted by Kansas State University (K-State), Grandin urged livestock producers to implement on-farm auditing systems to maintain high standards in cattle handling.

Grandin helped the meatpacking industry implement auditing systems for harvest facilities, creating a numerical scoring system by which packers could evaluate and fine-tune their practices. Packer cattle handling audits typically evaluate stunning procedures, frequency at which cattle prods are used, rates at which cattle vocalize as an expression of distress, and rates at which

Audits should assign scores to simple things that can be measured on an outcome basis.

cattle slip and fall. Cattle producers could audit their own methods and procedures to similarly reduce stress and potential injury to cattle.

"It prevents bad (practices) from becoming normal," Grandin explained, noting how adequately trained handlers backslide, falling into old habits.

Grandin said audits should assign scores to simple things that can be measured on an outcome basis. She advised producers to avoid ambiguity when setting standards for cattle handling. Standards defined as proper, sufficient or adequate are open to too much

interpretation. Guidelines, she said, should be clearly stated.

Grandin said outcome measures that could be monitored through on-farm audits include body condition score, hair coat condition and cleanliness, animal lameness and injuries, ammonia levels in confinement housing and abnormal animal behaviors.

"Measure a small number of critical control points — the really important things that can be directly observed. Do it on a regular basis," Grandin advised.

Through vigilance, she said, producers can use audits to evaluate the results of their handling practices, identify areas where changes are needed and measure whether changes result in improvement.

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Adopting Industry Guidelines for Animal Welfare

Using the same approach to cattle well-being as to beef quality assurance will allow producers to meet animal welfare goals without regulation.

by *Kindra Gordon*

Bob Smith emphasized the importance of adopting industry guidelines — such as Beef Quality Assurance (BQA) practices — through the entire beef production chain as he addressed participants of the International Symposium on Beef Cattle Welfare (ISBCW) May 19. Smith, who is a veterinarian based in Stillwater, Okla., works in private practice with five other veterinarians at Veterinary Research and Consulting Services. The group works with feedlot and stocker cattle clients across the High Plains.



PHOTO BY TROY SMITH

► Producers can solve problems without regulation, Bob Smith says, but to do so they need the problems identified and proper education and training as to how to eliminate those problems.

in the beef that is produced by taking responsibility and working together.”

He shared how in the past through BQA and the Beef Quality Audits, injection-site lesions were identified as an industry problem. Then, through education, the incidence of these lesions was reduced from over 20% to 2%.

“This tells us producers can solve problems without regulation as long as the problems are identified and education and training is provided,” he said.

In advancing animal welfare efforts throughout the beef industry today, Smith credited the industry

Smith has also been active in cattle and veterinary organizations, including the BQA Advisory Board; chairing the National Cattlemen’s Beef Association (NCBA) Cattle Health and Well-being Committee; and serving as president of the American Association of Bovine Practitioners, the Academy of Veterinary Consultants and, currently, the Western Veterinary Conference.

Smith reminded attendees that one of the core BQA values is the belief that production practices affect consumer acceptance of beef. He added, “Producers can make a difference

with building on BQA principles and more recently developing the Cattle Care and Handling Guidelines to set standards for animal care from nutrition, feeding and health to cattle handling and euthanasia, and the BQA Feedyard Self Assessment Guidelines to conduct self- or third-party audits evaluating safety, quality, environmental and animal welfare practices.

Smith called programs such as



“If you are going to do things right, you don’t just do it at the audit. We should do things right all the time, and then you don’t have to worry about an audit or the media showing your cattle operation on the 6 o’clock news.”
— Bob Smith

these “proactive” efforts by the industry. “This is being proactive and trying to stay ahead of the game,” he said.

Particularly of the self-assessment guidelines that can be used for audits, Smith said he is hopeful these become the accepted audit format by all interested parties, and he shared that similar guidelines for self- or third-party audits are being developed by the industry for cow-calf and stocker operations — again so that a proactive role is taken.

Smith credited the newly instituted Masters of Beef Advocacy (MBA) program as another proactive means to educate people working in the beef industry and in turn helping them better inform consumers about their stewardship and animal care efforts.

In his closing remarks, Smith reiterated the importance of character throughout the industry, saying, “Character is what you do when no one else is looking. ... If you are going to do things right, you don’t just do it at the audit. We should do things right all the time, and then you don’t have to worry about an audit or the media showing your cattle operation on the 6 o’clock news.”

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Incorporating Animal Welfare into the University Curriculum

Students are graduating from colleges of veterinary medicine without instruction in food animal care or animal welfare.

by *Linda Robbins*

Animal welfare should be incorporated into every course at every level where there's an opportunity to work with animals," said Gatz Riddell at the International Symposium on Beef Cattle Welfare (ISBCW). Riddell, professor emeritus at Auburn University and current executive vice president of the American Association of Bovine Practitioners (AABP), discussed the challenges faced by veterinary schools and colleges of animal science when trying to integrate animal welfare concepts and instruction into their respective courses.

The economic realities of today dictate that funding for needed faculty and research opportunities will be limited, Riddell said. Particularly in the colleges of veterinary medicine, the diversity of students and the level of pre-veterinary experience makes curriculum development a challenge. Many schools are already tracking students through small animal, equine or food animal specialities instead of requiring exposure and experience in all areas, including research and animal welfare.

Riddell said that while it can give graduates a higher level of

expertise in their chosen speciality, it isolates more students from food animal practices and from an even basic understanding of what food animal veterinarians do. He cited negative comments from some small animal practitioners within the professional veterinary journals concerning food animal practices when their only knowledge of those practices came from movies and other public relations materials created by animal rights activists.

In his experience as a professor, Riddell emphasized that the majority of veterinary students do not have an agricultural background. He said the best way he has found to handle student interactions, whether they have had agriculture experience or not, was to answer questions honestly, to try to make the student's experience in clinical applications as positive as possible, and to make sure he maintained contact with the students throughout the course.

In closing, Riddell suggested that, in the interest of advancing

Gatz Riddell suggested that, in the interest of advancing animal welfare in the university curriculum, advocates should remember that economics and science cannot answer all the questions surrounding ethical and humane handling questions.

animal welfare in the university curriculum, advocates should remember that economics and science cannot answer all the questions surrounding ethical and humane handling questions. He said there should be a singleness of purpose in the training and practice of veterinary medicine with an emphasis on One World-One Health concepts (see story about this concept in the May 2010 *Angus Journal*), and that the emphasis should be on one-on-one interactions.

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PHOTO BY TROY SMITH

► In his experience as a professor, Gatz Riddell emphasized that the majority of veterinary students do not have an agricultural background.

Teaching Animal Welfare in the Field

Improving cattle handling skills can improve animal performance, quality of life and animal welfare.

Story & photo by **Troy Smith**

“**A**ctually, I don’t teach animal welfare. I talk about cattle handling,” explained Texas AgriLife Extension Specialist Ron Gill, speaking before the International Symposium on Beef Cattle Welfare (ISBCW) at Kansas State University (K-State) in Manhattan, Kan.

Gill said complacency and confidence in tradition make animal welfare, by itself, a hard sell among most industry segments. Many producers don’t view it as a real problem. However, Gill said, producers can accept how low-stress cattle handling methods can improve animal performance, decrease incidence of sickness and injury, and lower production costs.

“Good cattle handling can improve profitability and help sustain a family operation. That improves quality of life,

which is a huge issue for many cattle producers,” Gill added. “So improving handling skills affects all three issues: animal performance, quality of life and animal welfare. And improving handling skills takes little added investment, other than time.”

Gill said animal anxiety and stress is low or non-existent when cattle want to go where the handler wants them to go. That’s the message shared with producers, livestock market employees, veterinary students and others during stockmanship training sessions conducted in cooperation with the National Cattlemen’s Beef Association (NCBA).

The challenge for many people, and especially some veteran cattlemen, is to break old habits. Gill urges cattle handlers to slow down. Ultimately the job will get done faster.

Instead of working cattle from behind, he

advises handlers to work from the front or side of the cattle to draw them toward the desired direction. Pressure to make cattle move should be applied from the side, at an angle, and pressure should be released as a reward for cattle movement. The key, Gill explained, is the position of the handler and how pressure is applied and released to control cattle movement, their speed and their direction.

The industry, Gill added, needs to improve livestock handling methods to eliminate the ram-and-jam mentality and use what we know about animal behavior to make cattle handle more easily and more quickly.

“But change is hard, especially for people in agriculture,” Gill admitted. “The skills can be taught, but it requires commitment to use them. Probably the strongest commitment must come from management. If management doesn’t support change, employees may revert to old ways.”

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► The only way to work cattle quickly is slowly, says Ron Gill, Texas AgriLife Extension specialist.



PHOTO BY SHAUNA ROSE HERMEL

► “Improving handling skills affects all three issues: animal performance, quality of life and animal welfare. And improving handling skills takes little added investment, other than time,” says Gill.

Euthanasia Techniques

Admittedly a hard subject to discuss, humane euthanasia techniques provide veterinarians and other animal caregivers the means to provide 'a good death.'

by *Linda Robbins*

Jan Shearer, professor and Extension veterinarian at Iowa State University, acknowledged at the beginning of his presentation on humane euthanasia that the subject itself is difficult to discuss. In his opening remarks at the International Symposium on Beef Cattle Welfare at Kansas State University (K-State) May 21, Shearer said he has to be in the right frame of mind to even talk about it at times.

"I characterize it sometimes as one of the easiest procedures to perform, but one of the most difficult things to do," he explained. Shearer said most cattle owners have a lot of difficulty euthanizing their own animals, and, because of that, it is not being done in a timely manner, which makes it important for veterinarians to accept the role.

He realizes that many students in veterinary programs consider themselves healers and not executioners, but he says it's not realistic for them to think of themselves op-

erating outside of the veterinary oath, which centers on the "relief of animal suffering."

Shearer said once those students are actually practicing veterinarians, they will find that there are some conditions in animals, originating from injury or illness, that cause excruciating pain and/or horrible suffering that can't be relieved any other way than through euthanasia.

Shearer also acknowledged that a discussion of humane euthanasia wouldn't be necessary if animals were not sentient and conscious beings, capable of perceiving pain and feeling fear and distress. He said he can remember a time when people questioned whether animals were sentient, but he has never done so, and he wanted the symposium attendees to understand why a discussion of humane euthanasia was needed.

"The objective of humane euthanasia is 'a good death,' whereby life is ended without causing pain or distress to the animal,"

Shearer said. "Euthanasia requires techniques that induce an immediate loss of consciousness followed by cardiac and respiratory arrest that results in the loss of brain function and death."

Shearer discussed two techniques, firearms and penetrating captive bolt systems with a secondary kill step (injections, exsanguination and pithing), along with anatomical site selection. Shearer said anecdotal evidence suggests that the traditional preferred anatomical site in adult cattle may not be optimal.

Shearer suggested further studies were needed to find the optimum site, depending on breed and gender, along with changes in training for veterinarians.

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PHOTO COURTESY OF JENNIFER WOODS

Causes — and Prevention — of Livestock Accidents

Understand why accidents happen to help prevent them in the future.

by *Kindra Gordon*

Livestock handling specialist Jennifer Woods from Blackie, Alta., Canada, shared some of the causes of accidents involving commercial trailers transporting cattle with attendees May 19 at the Emergency Preparedness Seminar that preceded the International Symposium on Beef Cattle Welfare (ISBCW).

Driver fatigue is the leading cause of these accidents, Woods said. “There is a lot of demand on these drivers. They are the only drivers who often sort, load and unload their own freight.”

Woods gathered data from more than 400 accidents involving livestock in North America. She cautioned that the findings cannot be considered scientific, since these incidents were typically from personal accounts or third-party informants and only account for about 25%-30% of all livestock accidents.

However, Woods said there were some interesting commonalities from the information gathered, including:

- ▶ 80% of incidents were single-vehicle accidents;
- ▶ 59% of incidents occurred between 12 a.m. and 9 a.m.;
- ▶ 56% involved cattle, and of those 70% involved feeder calves;
- ▶ 84% of trailers tipped over on the right-hand side; and
- ▶ 85% of incidents were connected to driver error.



PHOTO BY TROY SMITH

▶ There are interesting commonalities among livestock hauling accidents, Jennifer Woods says, adding that understanding those similarities may help prevent future occurrences.

To minimize accidents, Woods suggested truck drivers try to do the following:

- ▶ Be well-rested.
- ▶ Minimize driver distractions, such as eating, texting or talking on the cell phone.
- ▶ Use caution on corners.

“Consider that if you take a corner too fast, and throw off the center of gravity of the cattle, the truck will start tilting,” she said, adding,

“There is a lot of demand on these drivers. They are the only drivers who often sort, load and unload their own freight.”
— Jennifer Woods

“Livestock are different than any other load; especially cattle, which have a higher center of gravity.” She reported that studies have shown a 5-degree angle is the point of no return for a trailer tipping. “Trailers are not very forgiving,” she said.

- ▶ Be careful on gravel roads and soft shoulders. “The end of the driveway is a common place for accidents because the back tires slip off the road into the ditch,” she noted.

Woods concluded that with planning, experience and caution, “Livestock trucking accidents can be prevented.”

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Canadians Provide Benchmark Data on Cattle Transport

North American livestock industry needs its own science on which to base guidelines for humane hauling and transport.

by *Kindra Gordon*

How many hours do cattle spend on a truck when transported? What are the average load densities when animals are transported? How long are they off feed and water? What's the percentage of downed, injured or dead cattle that result from transportation?

The answers to those questions could help the North American cattle industry establish guidelines for humane animal hauling and transport — but very little data has been collected related to cattle transportation. Thus, Karen Schwartzkopf-Genswein, a research scientist with Agriculture and Agri-Food Canada, has embarked on a large study in Alberta to begin benchmarking some of that information.

Genswein shared her initial research findings May 20 during the International Symposium on Beef Cattle Welfare (ISBCW) hosted by Kansas State University's (K-State's) Beef Cattle Institute.

"Transportation is the first and most visible part of our industry," Genswein said, emphasizing the importance of the topic. "Consumers are exposed to trucks on the highway every day."

She noted that in Europe strict regulations are in place for the minimum amount of time cattle can be off feed and water during transport and the maximum amount of time they can spend on the truck.

"In Canada and the U.S., transportation regulations are much more broad. We have different cattle than Europe and longer distances, so we need to develop our own guidelines, but we need our own science to make good, solid decisions," she explained.

Genswein and her colleagues collected more than 10,000 surveys from commercial cattle haulers in Alberta during more than a year's time. The data collected accounted for



PHOTO BY ADAM CLAUSEN

► Karen Schwartzkopf-Genswein and her colleagues collected more than 10,000 surveys from commercial cattle haulers in Alberta during more than a year's time. The data collected accounted for 277,440 animals being transported. She shared some of the findings related to long hauls.

277,440 animals being transported. Among the information collected related to long hauls:

- average distance traveled was 671 miles;
- average temperature was 61° F;
- 23% of all loads used bedding;
- 34% of drivers had more than 10 years of experience;
- for every hour on the truck, shrink increased 0.15 kg; and
- average delay time due to weather, for unloading, border access, etc., was 3.3 hours.



PHOTO BY TROY SMITH

► "We have different cattle than Europe and longer distances, so we need to develop our own guidelines [for cattle transport], but we need our own science to make good, solid decisions," Karen Schwartzkopf-Genswein says.

While there is still much information to glean from the study, Genswein said the data provides an initial snapshot of what is presently occurring in the industry related to cattle transportation.

She says fat cattle showed the fewest incidences of handling transport stress, while feeder calves were more susceptible to transport stress.

"Transportation is the first and most visible part of our industry. Consumers are exposed to trucks on the highway every day."

— Karen Schwartzkopf-Genswein

The information should eventually help establish positive change in the industry. These may include everything from guidelines on the maximum amount of time cattle should be on a truck to the design of trailers for better ventilation.

"I think we can make major changes in the industry," Genswein said. "The economic losses from cattle transportation are greater than anticipated, so change is needed."

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PHOTO BY CATIE HOPE

Beef Cattle Welfare

Considerations on Cow-Calf Operations

While cattlemen can't control some of the factors that affect cattle well-being on the farm or ranch, they can plan ahead.

by *Kindra Gordon*

When most people think about cow-calf operations, they visualize wide-open spaces, green grass, horse and rider and a beautiful environment. The reality is that cow-calf operations are an outdoor production system, and conditions are less than idyllic most of the year. Cattle are affected by changing weather conditions, nutrition issues and diseases.

These factors present animal welfare challenges that must be addressed at the cow-calf level, said Kansas State University (K-State) faculty KC Olson and Chris Reinhardt as they co-presented to participants at the International Symposium on Beef Cattle Welfare (ISBCW) May 20. Olson is an associate professor of cow-calf nutrition and management; Reinhardt is an associate professor and Extension feedlot specialist.

The duo identified three areas cow-calf producers must consider with respect to animal welfare:

1. Nutrition. "Sub-par or malnutrition can occur when stocking rates are too heavy or too light. Both situations result in poor diet quality," Olson stated. He explained that when overgrazed, a plant only offers basal stems with little nutritive quality. Conversely, when a plant is allowed to reach

reproductive maturity (i.e., a seedhead) the nutritive quality is also low. Thus, Olson said, "A moderate stocking rate allows diet quality to remain high."

Also, from an animal welfare consideration, Olson suggested that scheduling the calving season so that calving and lactation coincide with peak forage quality may be more beneficial to the animals for calf survival rates and for nutrition for the cow — while also allowing for a savings in feed costs.

"This can also extend to weaning

management," he added. "August weaning rather than October allows cows to restore body condition going into the winter months. Early weaning can be a critical animal welfare intervention, especially in times of drought."

Olson also said, "The science says early-weaned calves are equally as healthy, and in some cases more healthy."

2. Genetics. Olson explained that this aspect means matching the biological type of the cow to the environment. "A larger mature cow size increases nutrient requirements, which increases maintenance costs — and can also result in bigger calves and more calving difficulty."

He gave the example of switching mature cow size from 1,350 pounds (lb.) to 1,200 lb. For a 400-head herd, that's 60,000 lb. less body weight, which means less feed, less cost, smaller calves born at birth, and the potential for greater cow longevity.

3. Health. Reinhardt emphasized that good animal health begins with the cow-calf producer preparing calves for the weaning process and trying to reduce stress.

"Preconditioning is becoming an obligation," he stated.

Reinhardt identified timely castration and dehorning, as well as vaccinations and 15 days of backgrounding as important animal care practices prior to shipping calves.

Likewise, he said, the state of health of cull bulls and cows should be considered before shipping.

Reinhardt concluded, "Animal welfare starts with nutrition, and then it is really about decision-making — when to calve, wean, market and what genetics to use. Along with those decisions, producers need to consider the weather — we can't control it, but we can manage and be prepared and make different decisions. We need to ask ourselves if we are causing some of our own problems with the choices we've made."

Additional coverage of the ISBCW is available online at

www.api-virtuallibrary.com/meetings_other_news.html.



► **Right:** Matching cow size and biological type to the environment can improve animal well-being by helping to meet nutrient requirements, says KC Olson.

► **Left:** "Preconditioning is becoming an obligation," Chris Reinhardt says.



PHOTOS BY TROY SMITH



PHOTO BY MICKY WILSON

Feedlot Animal Welfare

Cattle behaviorist Temple Grandin says the industry can address problems of mud, heat stress and cattle handling to improve cattle well-being in feedlots.

by *Troy Smith*

Closeout data is important to a cattle feeder, but Temple Grandin believes feedlot operators ought to be just as concerned about the public's perception of cattle management practices. The Colorado State University professor and noted animal behaviorist addressed the International Symposium on Beef Cattle Welfare (ISBCW), hosted by Kansas State University (K-State) in Manhattan, Kan., saying public perception will influence the future of the cattle feeding business.

Grandin said people in New York City are learning what a confined animal feeding operation (CAFO) is. She called public perception increasingly negative, and beef industry efforts to counter misinformation have been largely unsuccessful.

"We are not winning the communication battle," Grandin declared.

Often, Grandin explained, the public perceives feedlots as perpetually muddy quagmires. Mud is

viewed as a huge animal welfare issue. She said muddy feedlot conditions, poor cattle handling practices and heat stress really are issues that most often compromise animal welfare.

"For managing mud, the single most important thing is feedlot pen design — having sufficient slope for drainage," Grandin stated. "That makes a big difference in pen surface management. But it's still difficult to keep pens clean and cattle clean if yard management is poor. Managers must be 100% committed."

Managing heat stress is easier to address than mud, Grandin said. She noted how, in particularly hot climates, structures affording shade increase feedlot cattle comfort and performance.

Cattle handling technique is the easiest fix of all, Grandin said, and often can be accomplished with the least expense. She advised managers to evaluate how facility design and maintenance affect cattle handling, and emphasized

the importance of employee cattle handling methods.

"About 20% of trained people are naturally good stock handlers," Grandin opined. "About 10% shouldn't do it at all. The remainder usually need some supervision."

In addition to training employees in cattle handling methods, Grandin advised feedlot managers to make sure crews are staffed with adequate numbers of trained people and the scheduling of regular breaks during the workday to prevent employee fatigue. Grandin also advised regular maintenance of hydraulic squeeze-chutes and other equipment.

Grandin urged feedlot managers to adopt auditing systems to evaluate core criteria — outcome-based measurement of factors for monitoring animal welfare. Criteria warranting measurement and analysis include death loss, sickness, heat stress, lameness, mud score and handling score.

"Use simple measures that are easy to do," Grandin stated. "Establish standards that mean something."

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



PHOTO BY TROY SMITH

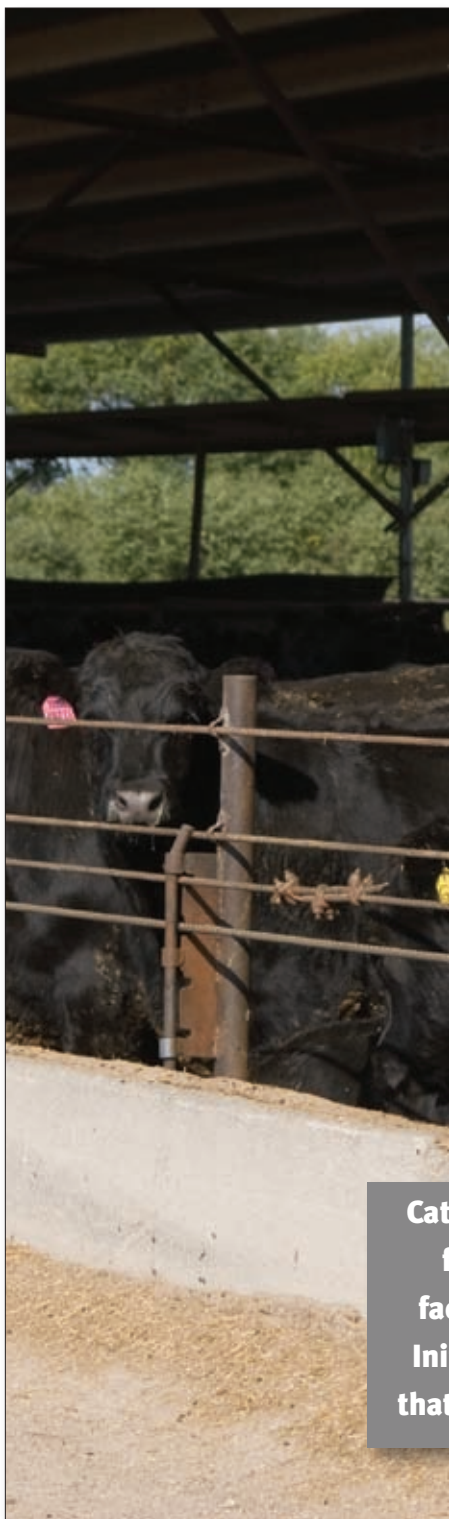
► Temple Grandin says mud, heat stress and cattle handling issues are three areas feedlot managers need to address to improve consumer perception and cattle well-being.



Caring for Feedlot Cattle Under Roof

Feeding cattle indoors protects cattle from the elements, but producers should be observant of issues created by slatted floors and stocking density.

Story & photos by **Troy Smith**



Feeding cattle indoors is a practice unfamiliar to many beef producers, as well as consumers, who typically think about cattle spending all of their lives outdoors. However, animal behaviorist and Ontario Veterinary College researcher Derek Haley believes the future may see more cattle fed under cover, at least in certain regions. During the International Symposium on Beef Cattle Welfare (ISBCW), Haley discussed both positive and negative aspects of indoor cattle feeding in Canada.

Haley cited two reasons prompting development of indoor cattle feeding facilities in Ontario. One is the increasingly limited availability of agricultural land in an area of heavy human population and urban encroachment. Another issue is the climate, which typically delivers copious amounts of heavy, wet snow. Winter temperatures also vary significantly, between relatively moderate daytime temperatures and much colder nights. Cattle are more comfortable when fed under a roof, but covered facilities are expensive to build. Initial investment may be double that of an outdoor feedlot, or more.

According to Haley, approximately 600,000 head of cattle were finished in



► **Non-slip flooring and low-stress cattle handling techniques are important to prevent injury and stress to cattle finished indoors, Derek Haley says.**

Ontario during 2009. The average finishing facility handles about 400 head per year and has some form of covered area to house cattle. Typically, calves are backgrounded in outdoor yards and are transported to covered facilities for a finishing period of up to 150 days. Roughly half of the cattle finished in Ontario come from outside the province.

Despite the fact that cattle are often commingled and transported long distances, Haley said the larger, older cattle coming into finishing barns generally experience a low rate of respiratory disease.

“The biggest health issue seems to be lameness related to time spent on slatted floors,”

Haley reported. “We see a higher incidence of abnormal behavior in positions cattle take when lying down. They seem to have a harder time finding a comfortable position that relieves pressure on joints and feet. Also, manure doesn’t always go through the slats, so footing may be slippery and increase risk of injury.”

Haley said animal density usually is greater for indoor facilities. Tail-docking of animals on slatted floors is common to prevent injury due to one animal stepping on the tail of another that is lying down. It’s a practice that has been used by the dairy industry, but often is perceived as objectionable by the public.

Haley called non-slip footing and low-stress cattle handling techniques important to prevent injury and stress to cattle finished indoors. Ongoing research, he explained, is aimed at enhancing animal comfort and well-being through improved facility design. Particular areas of focus include flooring and feedbunk access.

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.html.

Cattle are more comfortable when fed under a roof, but covered facilities are expensive to build. Initial investment may be double that of an outdoor feedlot, or more.





PHOTO COURTESY OF JENNIFER WOODS

Emergency Response Techniques

When responding to an accident involving livestock, a lack of understanding can make the situation worse.

Story & photo by **Troy Smith**

A motor vehicle accident involving a big rig or stock trailer loaded with cattle can quickly go from bad to worse, depending on how humans respond. Animals trapped within the wreck or spilled onto a highway create a volatile situation. Law enforcement and other emergency personnel often are ill-equipped to handle the dangerous mix of traffic, frenzied human activity and frightened, unpredictable and perhaps injured cattle.

During the International Symposium on Beef Cattle Welfare (ISBCW), hosted by Kansas State University (K-State), animal behaviorist and consultant Jennifer Woods discussed the need for education in livestock emergency response techniques. Based in Alberta, Canada, Woods has traveled across North America and abroad to deliver emergency response training to police and animal-control officers, firefighters and others who might serve as first-responders to accident scenes.

According to Woods, the most common problems

associated with animal-related accidents include a lack of understanding of distressed animal behavior, a failure to plan ahead, and ineffective communication among responders. Another problem is too many people on the scene, including media representatives and curious onlookers.

“That’s my pet peeve. My rule is: Unless you received an official invitation, you cannot stay,” Woods said, noting that first-responders



► First-responders need to make the right decisions when dealing with an accident involving livestock, Jennifer Woods said, giving examples of “the right decisions.”

need to be in control of who is on the scene. “It’s a human safety issue and an animal welfare issue.”

Woods said preparedness for accidents involving cattle means having access to resources, including portable panels to erect a containment structure for loose animals, and assistance from experienced livestock handlers. Another potential option for containment is herding animals to pasture or pens of a nearby farm or ranch. If animals must be unloaded from a truck or trailer, she warned against

“A cowboy and a rope is not containment. Don’t unload until there is a way to contain the cattle.”
— Jennifer Woods

releasing animals onto a highway, creating a more dangerous situation and potential liability issues.

“A cowboy and a rope is not containment,” Woods stated. “Don’t unload until there is a way to contain the cattle.”

Depending on the situation, it may be necessary to have stock trailers on standby in case cattle must be transported to another location. Woods said a veterinarian may be needed to provide treatment or euthanize injured animals, and a renderer may be needed to remove dead animals.

“The first concern should be human safety,” Woods added. “Human safety always takes precedence over animal rescue.”

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.





PHOTO BY MICKY WILSON

Heat Stress in Feedlots

Keep cattle alive by combatting heat stress

by **Mathew Elliott**, assistant editor

“Cattle don’t get hot and die; they get hot and then die the next day,” said Dee Griffin, professor at the University of Nebraska Veterinary and Biomedical Science Department. Speaking at the International Symposium on Beef Cattle Welfare (ISBCW), Griffin explained several factors involved with heat stress in cattle.

Heat stress occurs when the heat load is greater than what the animal can dissipate, Griffin noted. There are three different types of susceptibility factors to heat stress:

- ▶ Inherent factors, including hair color and genetics;
- ▶ transient factors, including age, acclimation, nutrition and health; and
- ▶ environmental factors, including temperature, humidity, wind speed and overnight low temperatures.

Low temperatures reached overnight

are key to timing cattle processing, Griffin said. When trying to work cattle in the late evening, he realized the cattle were not getting cool enough and they were still having problems with heat stress and death. Working cattle of an evening may be cooler for those working, but the cattle core body temperatures are just peaking, he explained, adding that they now wait till 4 a.m. to begin processing on extremely hot days.

Griffin also advised feeding during evening hours so the heat caused by digestion will occur during the cooler evening hours.

The design of an operation can play a role in how much the heat will stress an animal. Griffin advised putting tall mounds around the lot, explaining they can increase wind speeds by 3-5 miles per hour for cattle standing on top of them. Griffin encouraged getting rid of all windbreaks (unless winter weather is extreme) as they can block airflow during summer months.



PHOTO BY TROY SMITH

▶ Recognize high-risk groups and symptoms of heat stress early, Dee Griffin recommends.

Along with the welfare issues, heat stress can cause economic losses. A decrease in feed intake and increased susceptibility to diseases are two examples.

Along with the welfare issues, heat stress can cause economic losses. A decrease in feed intake and increased susceptibility to diseases are two examples Griffin gave.

Recognize the high-risk groups and signs of heat stress early, Griffin advised. “Do what it takes to keep them comfortable.” Ask the local fire department to come out and spray the cattle with water to help them cool, he offered as an example. Steroids and IV fluids can also be used in extreme situations to save a life.

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



▶ **Above:** Griffin advised putting tall mounds around the lot, explaining they can increase wind speeds by 3-5 miles per hour for cattle standing on top of them.

Handling Cattle Loose in a Field

Expert livestock handlers stress the need to understand cattle behavior when trying to gather and move cattle loose at the scene of an accident.

by **Troy Smith**

What happens when a loaded livestock trailer is involved in a highway accident and cattle escape? All too often, the actions of people at the scene make a bad situation worse. During the Emergency Preparedness Seminar that preceded the International Symposium on Beef Cattle Well-Being (ISBCW), livestock handling consultants Jennifer Woods, of Blackie, Alta., Canada, and Tom Noffsinger, of Benkelman, Neb., discussed common mistakes and offered advice for handling cattle running loose at the scene of an accident.

Addressing an audience consisting of emergency response personnel as well as cattle producers, Woods emphasized that fear is the strongest stressor animals can experience, and distressed or injured animals are unpredictable. When frightened, cattle will react instinctively. Usually, their strongest instinct is to flee. When cornered, however, they will fight.

“They do not think. They react,” Woods stated. “Cattle live in the moment. You cannot reason with them.”

According to Woods, low-stress cattle handling techniques should be used always, but such methods are critical at the scene of an accident. Flashing lights, sirens, traffic and crowds of people heighten fear in loose cattle. Common mistakes include trying to handle the cattle with too many people, too hurriedly and with too much noise. Sometimes, police or others at the scene try to chase animals with their cars. If cattle haven’t fled the scene

already, Woods recommends allowing them some time to settle down.

“Don’t chase them. Give them time to chill before you do anything,” she advised, reminding the audience that cattle handle better as a group. Lone animals can be particularly dangerous. If possible, cattle should be gently gathered together on the same side of the road. Better still, they could be directed to a nearby field away from traffic and other commotion.

In an ideal world, all cattle would be trained to respond to the low-stress handling methods taught by Woods and Noffsinger. But it’s not an ideal world, and an accident involving loose cattle is far from an ideal situation.

“The scene of an accident is not a good place to train animals, but you have to try to take the animals’ focus away from the traffic, noise and confusion, and lead them to where you want them to go,” Noffsinger explained. “Try to make the animal and human interaction a positive experience for the cattle. They actually need and want someone to lead and guide them to where they feel safe.”

Noffsinger echoed Woods’ warning against trying to handle the cattle with too many people, especially if the people are inexperienced in handling cattle. One person who understands cattle, their herd mentality and prey animal instincts can often handle the situation better than a group of people.

According to Noffsinger, such a person avoids circling around cattle (like a stalking

predator) and does not try to drive the herd from behind. A savvy handler works from near the front of a herd, approaching at an angle to initiate motion among lead animals, which will draw the remainder of the herd to follow.

Noffsinger advised handlers to establish a “working zone” by maintaining sufficient distance from the herd to achieve a desired response. Moving closer to apply pressure initiates movement, and moving farther back rewards the animals’ response. By working from the side of the herd, moving parallel to its direction of movement, a handler can control the speed of movement. Advancing in the same direction the cattle are flowing, toward the front of the herd, the handler can slow and even stop its movement. By moving toward the rear of the herd, in the opposite direction of flow, the handler can hasten movement.

“Motion is a powerful magnet that pulls the herd along. Direction and speed of motion can be controlled by the way you apply and release pressure. But cattle need to be able to see where the pressure is coming from and see a place to go, simultaneously,” Noffsinger explained. “And if they don’t go where you want them to, it’s because you didn’t ask them correctly.”

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



PHOTO BY SHAUNA ROSE HERMEL

► Tom Noffsinger advised handlers to establish a “working zone” by maintaining sufficient distance from the herd to achieve a desired response. Moving closer to apply pressure initiates movement, and moving farther back rewards the animals’ response.

A Tool for Managing Mud in the Feedlot

by *Linda Robbins*, assistant editor

Terry Mader, beef cattle Extension specialist and professor of animal science at the University of Nebraska-Lincoln (UNL), told attendees at the International Symposium on Beef Cattle Welfare (ISBCW) May 20 that managing mud in feedlots is really about mitigating the effects of the environment and minimizing the stress those conditions cause in livestock.

Mader explained that there are studies of the performance losses among animals that are stressed by heat, mud, cold and other environmental factors. Using these studies as models, Mader said, can provide information for the study of individual stressors, such as mud, and how feedlot design and management techniques can help animals at least maintain body condition in cold, wet environments.

While important, performance losses are not the sole focus of mitigating the effects of mud in feedlots, Mader emphasized. "Comfort will be highly correlated to performance."

Mader said snow causes deeper mud than rain. Mitigation assessments can include pen surface properties, meaning the moisture storage capacity of each pen; the moisture infiltration rate of each pen; and the pen

maintenance and residue loads. In addition, any assessment must include ground slope; the number of animals in each pen; and a depth determination of water intake, urine output, evaporation rate and environmental parameters.

The drying rate, or the chance for the ground to dry out in between rain or snow events, will help determine the mitigation techniques used. In a feedlot built with some slope in the pens, rain will run off, thus improving the drying rate. The worst conditions, Mader noted, are freezing and thawing patterns with snow, because the ground has no chance to dry before it freezes again. This pattern creates rough ground and can cause performance losses of 1 to 1½ pounds (lb.).

Maintenance energy requirements (NEM) for animals must be determined by mud depth, temperature, the portion of the animal



PHOTO BY TROY SMITH

► While important, performance losses are not the sole focus of mitigating the effects of mud in feedlots. "Comfort will be highly correlated to performance," Terry Mader emphasized.

that is wet, wind speed and effect, animal weight or mass and the percentage of change in net energy for maintenance (NEM) due to the mud.

Mader recommended that during muddy conditions feedlot operators provide bedding for animals; provide more space per head at feedbunks; push snow/mud out of pens as soon as possible; market fat and near-fat cattle; minimize off-feed/out-of-feed events; and maintain and clean pens regularly. Mader also suggested that operators provide a smooth rather than rough surface, if possible.

The goal, Mader emphasized, is to make sure the animal is comfortable physically, socially and physiologically.

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PHOTO BY MICKY WILSON

Weaning Management

Alternatives to abrupt weaning — including fenceline weaning and using a noseguard — can reduce stress and get calves off to a better start.

by **Troy Smith**

Joe Stookey believes the well-known term “shipping fever” is a misnomer. The University of Saskatchewan animal behaviorist thinks it should be called “weaning fever.” Addressing attendees at the International Symposium on Beef Cattle Welfare (ISBCW), Stookey said the traditional weaning process causes terrific psychological stress and prompts huge costs to the beef industry due to calf sickness and death losses.

“Weaning has to be the most traumatic and stressful event of an animal’s lifetime,” Stookey said. “The science is clear, showing that weaning on the ranch well before transporting calves results in improved [postweaning] health and performance. Still, most calves are weaned abruptly onto a truck headed for market.”

Stookey explained how weaning calves abruptly typically results in three to five days

during which calves walk the fencelines and bawl. Feed and water consumption is low, and susceptibility to infection with disease increases. Stookey said it doesn’t have to be that way.

Fenceline weaning, where calves are weaned directly across the fence from their dams, can help alleviate all of those issues, because cows and calves can still see each other.

Another low-stress option is two-stage weaning, utilizing devices attached to the muzzles of calves to prevent nursing. Stookey presented research evaluating two-stage weaning in which the noseguards were applied four days prior to weaning.

“You take away the milk, while calves remain with their mothers for a few days. Then you take away the cows, too,” Stookey explained. “If I were to rank weaning methods based on resulting stress, abrupt weaning is by far the worst. Fenceline weaning is much better, but two-stage weaning is the best. You do have to handle cattle twice, but if you use low-stress handling techniques, it’s still nowhere near as stressful as traditional [abrupt] weaning.”

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.

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PHOTO BY MICKY WILSON



PHOTO BY TROY SMITH

► A calf believes he’s going to die if he is separated from his food source, Joe Stookey said, explaining why weaning calves abruptly causes enough stress to lead to disease.

Human Safety and Animal Rescue

Livestock handling expert Jennifer Woods offers tips for ensuring the safety of rescuers, bystanders and livestock on the scene of an accident.

Story & photo by **Troy Smith**

There are ample reasons why accidents involving loaded livestock transporters and stock trailers can occur. It could be because of driver fatigue or inexperience. Road conditions may be dangerous. A live load of livestock might shift, contributing to a trailer turnover, especially if the rig takes a corner at excessive speed. Trailer or tow vehicle maintenance issues may also be to blame. In many cases, several factors contribute to accidents.

Regardless of how an accident happens, it creates a situation in which responders may have to attend to trapped, injured or escaped animals. However, according to livestock emergency response specialist Jennifer Woods, the first consideration should be for human safety. During the Emergency Preparedness Seminar that preceded the International Symposium on Beef Cattle Well-Being (ISBCW), the Alberta, Canada-based consultant shared advice for minimizing risk to responders and onlookers while attempting to rescue cattle.

Job-one at an accident scene is attending to drivers and passengers of involved vehicles. Then, Woods said, evaluate livestock that may be running loose.

“Are they agitated and presenting a threat to humans? Injured but mobile animals

are the most dangerous,” Woods explained. “There are times when, in the name of human safety, euthanasia is the best course of action.”

When dealing with loose or trapped animals, Woods recommended involving only as many responders as is absolutely necessary. Crowd control can be critical.

Onlookers and media personnel should be moved back and out of the way to reduce noise and activity that frighten the animals and increase risk of human injury.

Woods also offered tips for rescuing animals that remain in trailers following an accident:

- ▶ If a trailer remains upright and can be towed, it should be moved to a location where animals can be contained after unloading.
- ▶ Never unload cattle to run loose along a busy roadway. Cattle should not be unloaded until they can be contained. Portable livestock panels can be brought to the scene to erect an emergency containment pen.
- ▶ Do not try to transfer cattle from one trailer directly into another trailer. Unload into a pen first, and then reload into the second trailer.
- ▶ If a loaded trailer has overturned, don't try to set it upright while still loaded. The



▶ When dealing with loose or trapped animals, Jennifer Woods recommended involving only as many responders as is absolutely necessary. Crowd control can be critical.

“The most important thing is to think about what you are doing before you do it, and always remember that human safety takes precedence over animal rescue.”

— Jennifer Woods

trailer may tear apart, injuring the cattle or releasing them among workers and traffic.

- ▶ Entering a loaded trailer to handle cattle is risky. Avoid situations where the handler may be trapped with no means of escape.
- ▶ If an overturned trailer must be cut open to rescue cattle, make sure it is stabilized to prevent further shifting.
- ▶ When choosing where to cut into a trailer, first determine locations of live cattle within. Choose the most practical and safest locations to create openings for removing livestock. Give careful attention to structural design of the trailer, and do not cut supports important to structural integrity.

“The most important thing is to think about what you are doing before you do it,” Woods stated. “And always remember that human safety takes precedence over animal rescue.”

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



Managing Pain in Cattle

The lack of analgesic compounds approved for cattle in the United States represents a significant challenge to producers.

Story & photo by **Troy Smith**

Societal concern for the humane care of food-production animals is only one reason why veterinary pharmacology researchers, like Kansas State University's (K-State) Hans Coetzee, are looking for ways to better manage animal pain. Another reason is that more effective pain management could help livestock producers optimize animal performance and the economic sustainability of their operations.

Speaking before the International Symposium on Beef Cattle Welfare (ISBCW), Coetzee said there are no easy answers to effective mitigation of animal pain in the production environment. There are different types of pain to manage. Acute pain may be managed through local or general anesthesia or sedatives, while chronic pain may require anti-inflammatory drugs applied more specifically for control of neuropathic pain. And some procedures, including castration and dehorning of cattle, may be accompanied by both kinds of pain.

"Effective pain management requires multi-modal analgesia (pain relief)," Coetzee said. "That may require more than one drug

— a combination of an anesthetic and other drugs."

According to Coetzee, the lack of analgesic compounds approved for cattle in the United States represents a significant challenge to producers. Therapeutic treatment with existing analgesics represents an "off-label" use, which may be applied only by or under the supervision of a veterinarian.

Further challenging effective use of available drugs is the delay between time of administration and onset of drug activity. Typically, inconvenient intravenous administration is required. Drug activity often is relatively short-lived, requiring repeated treatment. And drugs may also violate food residue restrictions.

The ideal analgesic drug would be more convenient to use — orally or by injection. It



► The lack of analgesic compounds approved for use in cattle in the United States represents a significant challenge, Hans Coetzee says.

would be long-acting, safe for both humans and animals and would require only a short withdrawal period before treated animals could go to slaughter. The answer probably lies in using a combination of drugs.

"This is the concept of multi-modal analgesia, where we 'attack' pain perception at several points along the pathway from tissue damage through transduction, transmission and perception," Coetzee explained. "Our research goal is to identify these therapies and design effective analgesic remedies that are cost-effective and

convenient for producers to use routinely."

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



Management of Downer Cows

If downer cows are to recover, they need immediate attention. Humane care is vital no matter what the expected outcome.

by **Kindra Gordon**

Carolyn Stull, an animal welfare Extension specialist with the University of California-Davis, shared management strategies for handling downer cows as she

addressed participants at the International Symposium on Beef Cattle Welfare (ISBCW) May 21.

Stull has primarily worked with

nonambulatory dairy cows, but many of the same management principles apply to downer beef cows as well.

Stull noted that if a cow is nonambulatory —



PHOTOS COURTESY OF CAROLYN STULL

► Physical therapy is a critical factor in the successful recovery of downed cows. Sling systems, hip lifters and flotation tanks are all available to assist with helping the cow stand and walk again. "A lot of labor goes into any of these methods," says Carolyn Stull, animal welfare specialist.

unable to get up — for more than 6 hours, it is highly unlikely that she will recover. Thus, Stull emphasized that it is important to have steps in place for dealing with downed or injured cows.

“Downer cows are a medical emergency,” she said. “Every hour they remain down and on concrete decreases their chances of ever getting up.”

Stull recommended working closely with a veterinarian and outlined these steps if a cow is down:

1. Conduct a physical examination to assess the cow’s suffering and get a diagnosis and prognosis.

2. If the cow is suffering or the prognosis is poor, euthanize her immediately.

3. If the cow has a chance to recover, move her to a soft surface and

▶ If a cow is nonambulatory for more than 6 hours and remains in the same position on concrete, due to crushing of the sciatic nerve it is highly unlikely she will recover, Carolyn Stull says, stressing the importance of taking proper care of these cows immediately.



PHOTO BY TROY SMITH

start treatment. Stull recommends 12 inches of sand as a surface to help the cow get traction and minimize muscle or nerve damage.

Additionally, Stull emphasized the importance of not dragging a downed cow, but moving her carefully with a sled, sling or front-end loader.

Providing shelter or protection from the weather is important for the care of downed cows, as well as providing feed and water that is accessible.

Physical therapy is also a critical factor in the successful recovery of downed cows.

Sling systems, hip lifters and flotation tanks are all available to assist with helping the cow stand and walk again.

“A lot of labor goes into any of these methods,” Stull said.

Stull concluded by re-emphasizing that if you are not going to take care of downed cows humanely, they need to be euthanized.

“You have to train employees and it has to be done in a timely manner,” she said.

Proper care of Downer Cows

Recovery depends on quality of care

Housing including:

- ▶ Non-slip flooring surface
- ▶ Dry, clean soft bedding
- ▶ Protection from weather extremes

Separate downers:

- ▶ From ambulatory cows

Feed and water:

- ▶ Accessible to each cow

Nursing care including:

- ▶ Prop-up lateral recumbent cows into sternal position
- ▶ Roll side-to-side every two to three hours to minimize tissue damage
- ▶ Assess daily ability to stand and bear weight

For more information on handling downer cows visit www.vetmed.ucdavis.edu/vetext/animalwelfare/.

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



Managing Neonatal Dairy Bulls

Providing alternatives for current management of dairy bull calves is a beef industry issue.

by **Shauna Rose Hermel**

To be sustainable, all segments of the beef industry have to be profitable, said Guy Loneragan, epidemiologist and associate professor at West Texas A&M University. Speaking at the International Symposium on Beef Cattle Welfare (ISBCW), he told attendees there are two ways to increase profit: get more dollars for the product produced or decrease input costs.

The byproducts of the dairy industry offer the beef industry an opportunity to capture low-cost products, Loneragan noted. About 20% of cattle harvested as beef are not fed cattle, and a significant portion of those animals are culled dairy cows. About 10% of fed animals are dairy steers.

The point: “Whether

we admit it or not, dairy is part of the beef industry,” Loneragan said.

Several Jersey dairies have moved from California to Texas to supply a new cheese production facility, Loneragan shared, adding that the last thing they want is a Jersey bull calf. The current management solution is to euthanize those calves within a day of birth.

This isn’t a welfare concern unless improper technique is used, Loneragan emphasized. The question becomes: Is it an ethical practice to euthanize an otherwise healthy animal?

Taking a positive approach toward a practice that could be a black eye to the beef industry, Loneragan said it is in the beef industry’s best interest to provide alternatives. Two such alternatives include finding ways to extend the lactation

period so fewer calves are required to be born and utilizing sexed semen.

The latter has been adopted by the dairy industry, but with some indirect consequences. The dairy buyout didn’t have the expected effect on dairy cow numbers, Loneragan explained, because of the large number of replacements available following use of sexed semen to get heifer calves.

Loneragan, who moved to Texas Tech University July 15, suggested producers may want to consider using sexed semen to mate cows to terminal sires, such as Angus, to produce calves that could represent a positive in the beef production chain. Jersey cattle are second only to Wagyu in their ability to marble, he noted. And with smaller portion sizes becoming more popular, there may be opportunity to create pull-through demand for these bull calves.

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



PHOTO BY TROY SMITH

▶ The byproducts of the dairy industry offer the beef industry an opportunity to capture low-cost products, Loneragan notes. About 20% of cattle harvested as beef are not fed cattle, and a significant portion of those animals are culled dairy cows. About 10% of fed animals are dairy steers.

unable to get up — for more than 6 hours, it is highly unlikely that she will recover. Thus, Stull emphasized that it is important to have steps in place for dealing with downed or injured cows.

“Downer cows are a medical emergency,” she said. “Every hour they remain down and on concrete decreases their chances of ever getting up.”

Stull recommended working closely with a veterinarian and outlined these steps if a cow is down:

1. Conduct a physical examination to assess the cow’s suffering and get a diagnosis and prognosis.

2. If the cow is suffering or the prognosis is poor, euthanize her immediately.

3. If the cow has a chance to recover, move her to a soft surface and

▶ If a cow is nonambulatory for more than 6 hours and remains in the same position on concrete, due to crushing of the sciatic nerve it is highly unlikely she will recover, Carolyn Stull says, stressing the importance of taking proper care of these cows immediately.



PHOTO BY TROY SMITH

start treatment. Stull recommends 12 inches of sand as a surface to help the cow get traction and minimize muscle or nerve damage.

Additionally, Stull emphasized the importance of not dragging a downed cow, but moving her carefully with a sled, sling or front-end loader.

Providing shelter or protection from the weather is important for the care of downed cows, as well as providing feed and water that is accessible.

Physical therapy is also a critical factor in the successful recovery of downed cows.

Sling systems, hip lifters and flotation tanks are all available to assist with helping the cow stand and walk again.

“A lot of labor goes into any of these methods,” Stull said.

Stull concluded by re-emphasizing that if you are not going to take care of downed cows humanely, they need to be euthanized.

“You have to train employees and it has to be done in a timely manner,” she said.

Proper care of Downer Cows

Recovery depends on quality of care

Housing including:

- ▶ Non-slip flooring surface
- ▶ Dry, clean soft bedding
- ▶ Protection from weather extremes

Separate downers:

- ▶ From ambulatory cows

Feed and water:

- ▶ Accessible to each cow

Nursing care including:

- ▶ Prop-up lateral recumbent cows into sternal position
- ▶ Roll side-to-side every two to three hours to minimize tissue damage
- ▶ Assess daily ability to stand and bear weight

For more information on handling downer cows visit www.vetmed.ucdavis.edu/vetext/animalwelfare/.

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Managing Neonatal Dairy Bulls

Providing alternatives for current management of dairy bull calves is a beef industry issue.

by **Shauna Rose Hermel**

To be sustainable, all segments of the beef industry have to be profitable, said Guy Loneragan, epidemiologist and associate professor at West Texas A&M University. Speaking at the International Symposium on Beef Cattle Welfare (ISBCW), he told attendees there are two ways to increase profit: get more dollars for the product produced or decrease input costs.

The byproducts of the dairy industry offer the beef industry an opportunity to capture low-cost products, Loneragan noted. About 20% of cattle harvested as beef are not fed cattle, and a significant portion of those animals are culled dairy cows. About 10% of fed animals are dairy steers.

The point: “Whether

we admit it or not, dairy is part of the beef industry,” Loneragan said.

Several Jersey dairies have moved from California to Texas to supply a new cheese production facility, Loneragan shared, adding that the last thing they want is a Jersey bull calf. The current management solution is to euthanize those calves within a day of birth.

This isn’t a welfare concern unless improper technique is used, Loneragan emphasized. The question becomes: Is it an ethical practice to euthanize an otherwise healthy animal?

Taking a positive approach toward a practice that could be a black eye to the beef industry, Loneragan said it is in the beef industry’s best interest to provide alternatives. Two such alternatives include finding ways to extend the lactation



PHOTO BY TROY SMITH

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period so fewer calves are required to be born and utilizing sexed semen.

The latter has been adopted by the dairy industry, but with some indirect consequences. The dairy buyout didn’t have the expected effect on dairy cow numbers, Loneragan explained, because of the large number of replacements available following use of sexed semen to get heifer calves.

Loneragan, who moved to Texas Tech University July 15, suggested producers may want to consider using sexed semen to mate cows to terminal sires, such as Angus, to produce calves that could represent a positive in the beef production chain. Jersey cattle are second only to Wagyu in their ability to marble, he noted. And with smaller portion sizes becoming more popular, there may be opportunity to create pull-through demand for these bull calves.

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Managing Pain in Cattle

The lack of analgesic compounds approved for cattle in the United States represents a significant challenge to producers.

Story & photo by **Troy Smith**

Societal concern for the humane care of food-production animals is only one reason why veterinary pharmacology researchers, like Kansas State University's (K-State) Hans Coetzee, are looking for ways to better manage animal pain. Another reason is that more effective pain management could help livestock producers optimize animal performance and the economic sustainability of their operations.

Speaking before the International Symposium on Beef Cattle Welfare (ISBCW), Coetzee said there are no easy answers to effective mitigation of animal pain in the production environment. There are different types of pain to manage. Acute pain may be managed through local or general anesthesia or sedatives, while chronic pain may require anti-inflammatory drugs applied more specifically for control of neuropathic pain. And some procedures, including castration and dehorning of cattle, may be accompanied by both kinds of pain.

"Effective pain management requires multi-modal analgesia (pain relief)," Coetzee said. "That may require more than one drug

— a combination of an anesthetic and other drugs."

According to Coetzee, the lack of analgesic compounds approved for cattle in the United States represents a significant challenge to producers. Therapeutic treatment with existing analgesics represents an "off-label" use, which may be applied only by or under the supervision of a veterinarian.

Further challenging effective use of available drugs is the delay between time of administration and onset of drug activity. Typically, inconvenient intravenous administration is required. Drug activity often is relatively short-lived, requiring repeated treatment. And drugs may also violate food residue restrictions.

The ideal analgesic drug would be more convenient to use — orally or by injection. It



► The lack of analgesic compounds approved for use in cattle in the United States represents a significant challenge, Hans Coetzee says.

would be long-acting, safe for both humans and animals and would require only a short withdrawal period before treated animals could go to slaughter. The answer probably lies in using a combination of drugs.

"This is the concept of multi-modal analgesia, where we 'attack' pain perception at several points along the pathway from tissue damage through transduction, transmission and perception," Coetzee explained. "Our research goal is to identify these therapies and design effective analgesic remedies that are cost-effective and

convenient for producers to use routinely."

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Management of Downer Cows

If downer cows are to recover, they need immediate attention. Humane care is vital no matter what the expected outcome.

by **Kindra Gordon**

Carolyn Stull, an animal welfare Extension specialist with the University of California-Davis, shared management strategies for handling downer cows as she

addressed participants at the International Symposium on Beef Cattle Welfare (ISBCW) May 21.

Stull has primarily worked with

nonambulatory dairy cows, but many of the same management principles apply to downer beef cows as well.

Stull noted that if a cow is nonambulatory —



PHOTOS COURTESY OF CAROLYN STULL

► Physical therapy is a critical factor in the successful recovery of downed cows. Sling systems, hip lifters and flotation tanks are all available to assist with helping the cow stand and walk again. "A lot of labor goes into any of these methods," says Carolyn Stull, animal welfare specialist.

Guidelines for Compromised Cattle Transport

Make sure an animal can walk off the trailer before putting in on.

by *Kindra Gordon*

Jennifer Woods, a livestock handling specialist from Blackie, Alta., Canada, addressed the topic of animal transport and which animals are fit to travel May 20 as she addressed the International Symposium on Beef Cattle Welfare (ISBCW) on the campus of Kansas State University (K-State).

Woods said, “The question is not, ‘Can the animal walk on the trailer?’ It needs to be ‘Is the animal going to be able to walk off the trailer?’”

She added, “The transport of compromised animals is one of the most vulnerable issues for our industry because it is so visible.” Woods gave the example of the Westland-Hallmark video showing a downed dairy cow being drug off of a semi-trailer.

“The fact that animals reach this condition and then are shipped is a black eye for the industry, violates consumer trust, can lead to possible prosecution of the individuals involved, and it is wrong,” she said.

Woods shared that Canada has taken a proactive approach to the issue and has a law in place so that compromised animals cannot be transported. Additionally, she shared that in Alberta the livestock industry has developed guidelines and handbooks in the dairy, swine, sheep, beef and equine industries stating whether animals should or should not be shipped.

“These handbooks have given producers tools and have empowered haulers as to what they should or should not haul,” Woods reported, and added that the handbooks have been well-received.

She points out that transportation stressors to animals include handling, mixing, fatigue, environmental conditions, and time off feed and water. “A normal healthy animal can handle these stresses; a compromised animal cannot.”

Among some of the guidelines in the handbook for beef cattle:

- ▶ A downer animal that cannot rise or walk cannot be transported.
- ▶ An animal with a broken leg cannot be transported.
- ▶ Severely lame animals — which means they cannot rise, remain standing or walk — cannot be transported.
- ▶ Animals in body condition score (BCS) 1 on a 5-point scale cannot be transported.

BCS 2 cattle have a special provision that they can only be hauled a short distance.

- ▶ Animals with early stage of cancer eye or respiratory disease can only be hauled a short distance; animals with advanced stage of either of these two diseases cannot be transported.
- ▶ Animals with a fever cannot be transported.
- ▶ Prolapsed animals can only be transported to the veterinarian.
- ▶ Animals that are bloated cannot be transported.

Likewise, there are guidelines for hauling buller steers; horned and polled cattle can't be mixed unless they've previously been socialized; and bulls and cows or cows with calves must be segregated.

“Our producers don't find these rules restrictive; they recognize these are good management practices,” Woods says.

For producers, she says, “Think ahead to the obstacles the animal will face if it is transported, such as the distance they'll travel, how long they'll be on the truck and all the stressors. Maybe you can take an animal by horse trailer to a local plant instead.”

Bottomline, Woods says, “If you wouldn't eat the animal, don't ship it and expect other people to.”

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▶ “Think ahead to the obstacles the animal will face if it is transported, such as the distance they'll travel, how long they'll be on the truck and all the stressors. Maybe you can take an animal by horse trailer to a local plant instead,” says Jennifer Woods.

PHOTO COURTESY OF JENNIFER WOODS



PHOTO BY SHAUNA ROSE HERMEL

Animal Welfare at Livestock Auctions

by **Mathew Elliott**, assistant editor

Animal well-being was the main focus of the K-State Beef Cattle Institute's (BCI's) International Symposium on Beef Cattle Welfare (ISBCW). One area where animal care is especially visible is at auction markets, where cattle are commingled from many different producers and are constantly being moved around.

"Auction markets have gotten a bad rep," said veterinarian Dave Sjeklocha of Haskell County Animal

Hospital. "Part of that is because of the public access, really anytime, but especially



PHOTO BY TROY SMITH

► "Auction markets have gotten a bad rep. Part of that is because of the public access, really anytime, but especially on sale days," says veterinarian Dave Sjeklocha of Haskell County Animal Hospital.

producers at appreciation dinners, and explain the dangers of bringing a down

on sale days. Workers are pushed to keep animals moving, there are cull/compromised animals and lots of activity with hundreds of trailers, and animals being moved four or five times per day."

Sjeklocha advised the audience to look at the Livestock Marketing Association's (LMA's) Guide to Handling and Employee Training. The guide advises auction managers to ask questions about everything from handling and risk management issues to facility issues and when it's time to euthanize animals.

When dealing with nonambulatory animals, Sjeklocha suggested handling with extreme caution or, preferably, not at all.

"Communicate with all

animal to the market; then have a stern discussion with them if they bring them to your market," Sjeklocha said.

He also suggests training employees to recognize when an animal is hurt and proper handling to try to avoid injury in the first place.

If an animal becomes nonambulatory in the auction market facility, a policy should be already established to prevent poor animal welfare. Humane ways to move a down animal include constructing a sling out of old baler belts, rolling the animal into a loader bucket or onto a pallet.

While the standards out there are a step in the right direction, Sjeklocha suggested things could always be better, from increasing second- or third-party audits to removing some of the objective measures involving proper electric prod usage.

Additional coverage of the ISBCW is available online at www.api-virtuallibrary.com/meetings_other_news.html.



► **Above:** Animal care is especially visible at auction markets, which is why Sjeklocha advised using LMA's Guide to Handling and Employee Training.

Animal Welfare at the Beef Packing Level

Cargill Animal Protein uses remote video auditing system to evaluate and enforce animal welfare practices in its slaughter facilities.

Story & photo by **Troy Smith**

Human behavior is almost as fascinating as animal behavior, according to Mike Siemens, an executive with Cargill Animal Protein. During the International Symposium on Beef Cattle Welfare (ISBCW), Siemens talked about what the meatpacking company has learned about its employees through the remote video auditing systems installed at beef slaughter plants. Some employees perform differently when they forget they are on camera.

Siemens explained how Cargill works with a New York-based company to audit operations through video observation of unloading areas, crowding pens, restrainers and other points along each plant's chain of operations. Particular attention is paid to all "critical" locations of cattle handling. If the third-party auditors see an event not in compliance with company protocol for animal welfare, Cargill management is notified.

Supervisory personnel can then view the video and address noncompliance issues. Siemens said the feedback from video auditing helps the company improve its practices.

"We can identify potential handling issues and conduct trend analysis across plants," Siemens explained. "It helps drive change, improves consistency and instills accountability."

Siemens emphasized the need for commitment from the top down. Management must state clearly defined expectations and provide clear, consistent communication. Management must be consistent in responding to noncompliance and reward employees who meet or exceed expectations. Sharing results of audited performance across plants and between work shifts has created friendly competition to achieve high performance evaluations.

"In the future, I expect increased auditing



► Mike Siemens emphasizes the need for commitment to animal welfare practices from the top down. Management must clarify expectations and respond appropriately to both compliance and noncompliance.

"The red meat supply chain needs to be confident in what it is doing. It needs to understand what is scientifically proven, but it also needs to understand societal concerns."

— Mike Siemens

requirements for all phases of [food animal] production and harvest," Siemens stated. "The red meat supply chain needs to be confident in what it is doing. It needs to understand what is scientifically proven, but it also needs to understand societal concerns. With regard to animal welfare, we need to do things the way we say we do, and always try to improve."

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