
0278 Welfare assessments of low stress handling in finishing feedlot cattle. K. S. Schwartzkopf-Genswein*, *Agriculture and Agri-Food Canada, Lethbridge, AB.*

Over the past 10–15 yr low stress handling for beef cattle and the techniques used to achieve it have gradually increased in use and understanding. The goal of low stress handling is to facilitate ease of animal movement as well as improve animal and handler safety. Its use is particularly important when handling finishing feedlot cattle that are heavy (> 300 kg) and more prone to injury, exhaustion, heat stress and lameness particularly at marketing when cattle are sorted, loaded/unloaded. Much excellent information is written and available on websites regarding specific techniques. The goal of this talk is to provide a brief overview of relevant low stress handling techniques for finishing cattle with a main focus on how and if these techniques reduce stress both physiologically and behaviorally. Studies assessing the effects of noise, light, visibility of the handler, facility design and prod use on indicators of cattle stress, as well as performance and meat quality have shown significant relationships between these variables. Overall, these studies help to validate the use of low stress techniques. Continued research is required to document the effects that low stress handling has on animal health, welfare and economics in the feedlot industry.

Key Words: low stress, handling, feedlot, finishing cattle

279 Evolution of animal welfare at packing plants.

L. N. Edwards-Callaway*, *JBS USA, Greeley, CO.*

Animal welfare and humane handling have become integral components of slaughter plant operations over the past several decades. In the early nineties, Dr. Temple Grandin, a world-renowned animal scientist who revolutionized animal handling within the livestock industry, worked with the North American Meat Institute (NAMI) to publish the *Recommended Animal Handling Guidelines for the Meat Packing Industry*, which since its inception has served as the gold standard for animal handling at packing plants. Many commercial slaughter facilities address the proper treatment of animals through standard operating procedures, verification and monitoring programs, founded on the NAMI guidelines, in addition to applicable federal regulations. In the mid-1990s, Dr. Grandin was commissioned by the USDA to develop an objective system to evaluate the critical control points of animal handling at packing facilities. A HACCP-type (Hazard Analysis Critical Control Point) approach to evaluating animal handling was developed and adopted by NAMI and ultimately the meat industry as the voluntary standards for proper humane handling at slaughter facilities. By the end of the '90s, major corporations such as McDonald's began requiring animal handling audits at beef and pork supplier slaughter plants. With

their purchasing power, these major food companies were able to drive improvement in animal handling performance at the packing facilities that supplied them. Within the past several years, many federally inspected plants have implemented a "systematic approach" to humane handling, which is a voluntary HACCP-based program described by the USDA Food Safety Inspection Service (FSIS) as a program that assesses critical control points of animal handling, develops appropriate programs and facilities to minimize stress and discomfort to animals and monitors performance continually. The meat industry has professionalized animal handling by supporting additional training and certifications specific to working with and processing animals, building a strong culture of animal care with the animal handlers at their facilities. As the number of plants reaching "excellent" levels on animal handling audits have continued to increase, the meat industry looks for novel ways to continually make progress (e.g., implementing the use of remote video auditing to monitor and train employees). There has been more focus in recent years on the condition of animals arriving at facilities and the impacts that has on how they must subsequently be handled. Animal handling continues to be a priority for all segments of the value chain.

Key Words: animal handling, auditing, slaughter

BIOETHICS SYMPOSIUM

0280 How was that chicken raised? Ethics and deliberating conscientiously about animal welfare standards. R. X. Anthony*, *University of Alaska, Anchorage.*

How was that chicken raised? Ethics and deliberating conscientiously about animal welfare standards

Whose or which animal welfare standards should be framing and guiding deliberations and practices so that they actually contribute to higher level of animal welfare? Animal welfare standards should first and foremost produce positive outcomes for the health and welfare of farm animals. However, the development and implementation of these standards do not always meet this mark. Global trade and commercial factors and the lack of governance structures and local science can result in less than desirable outcomes for animals. Farmers must contend with governmental regulations that are legally binding and a variety of private standards ranging from assurance and certification schemes and programs, voluntary codes of practice and standards of excellence from advocacy organizations. The plethora of standards can lead to "psychic numbing" and the moral psychology of denial among both farmers and consumers and can impede the discharge of good animal husbandry practices. Here, I explore the promise and shortcomings of employing wide reflective equilibrium (WRE, Daniels, 1996) to address these conditions. WRE can

help to produce coherence among conflicting sets of beliefs and values held by a moral agent or groups of moral agents, such as farmers and consumers who must consider “wicked problems,” i.e., problems that are seemingly intractable in nature and which breed error, ignorance, confusion, transference of responsibility and learned helplessness. The development and implementation of animal welfare standards produce “wicked problems” that are complicated by social, economic and environmental constraints, empirical deficits and political struggle among different stakeholders in the food system. Implications of WRE for personal morality and public policy will be discussed.

Key Words: animal welfare, bioethics, ethics and deliberation

0281 Farm animal welfare: Three essential ingredients from an international context. A. De Paula Vieira*, *Positivo University, Curitiba, Brazil.*

The animal food chain is characterized by an array of values that represent the interests of different stakeholders. These values are reflected in policies, practices, branding, and media. They highlight market share and profitability, food safety, quality assurance, traceability, sustainability, good governance, and trustworthiness. Animal welfare value is informed by animal welfare science, which brings the perspective of the animal into focus. This presentation will highlight (1) the centrality of animal welfare science and technology in innovating for animals’ needs; (2) the importance of local contexts and engaging stakeholders in discussions when implementing substantial changes; and (3) the roles of shared value, well-informed communication and development of tools for monitoring, e-government and education, respectively.

(1) Animal welfare science is central in ensuring that policymakers, producers, consumers, retailers and industry agents continue to make the interests of farm animals a priority as the global system anticipates new challenges. Animal welfare scientists are essential in multidisciplinary teams to design new apparatuses, articulate the proper role of care for farm animals, and in transferring knowledge to producers.

(2) Engaging with all interested parties at the local level is key to contextualize the needs and challenges faced by animal producers in their home countries as they strive to be responsible custodians of their animals, promote respectable livelihoods and enhance food security and efficient use of resources, and minimize food loss and waste. Local producers and professionals such as animal welfare scientists should be given training and greater visibility as strategic collaborators for their significance in promoting animal welfare and “co-branding.”

(3) There is increasing aspiration by consumers that animal production reflects common goals such as greater transparency and reflexivity by all in the food system, humaneness and social justice. Here, it is paramount that animal welfare

scientists become conduits of innovation. Technology such as e-government platforms together with public policies will be crucial as the production sector embraces robust sustainability pathways and produces “responsible commodities” in the information age.

To sustain financial success and promote social benefit, animal value chains must consider the structure of their respective operations, be open to perform structural changes that is informed by the best science available and have strong ethical grounding, adopt new practices, design and model business and production processes that are personalized to their customers, and innovate their products and services to meet contextualized local and global expectations.

Key Words: farm animal welfare, sustainability, food chain

0282 Breaking down communication barriers to connect with stakeholders. R. Beck*, *The Center for Food Integrity, Gladstone, MO.*

The science is clear on antibiotics, animal housing, GMO feed, the global demand for protein, etc.—so why does it seem consumers don’t understand or agree with any of it? The gap between consumer expectations and perceived industry performance presents grand challenges for those trying to stick to the science, but presenter Roxi Beck will lay the foundation for a big solution that serves to decrease that gap. In this session, attendees will:

(1) Gain an understanding of what U.S. consumers believe about animal agriculture and associated issues (animal care, antibiotics, GMOs, etc.)

(2) Expand awareness of why consumers distrust agriculture and the food system

(3) Review the Center for Food Integrity’s peer-reviewed and published model to build consumer trust

(4) Learn effective approaches that allow stakeholders (including consumers) to consider complex and controversial science in their decision-making process

(5) Walk away with a toolbox of approaches and methods that complement CFI research to have meaningful stakeholder conversations

Key Words: consumers, industry performance, trust

**ADVANCES IN BOVINE
RESPIRATORY DISEASE**

283 Genetic approaches to selection for resistance to bovine respiratory disease. J. E. Womack*, *Texas A&M University, College Station.*

Advances in genomics, molecular genetics and genotyping technology offer unique opportunities to identify genetic