

Background

Many religious laws from different faiths have formed the basis for modern livestock processing practices. One common theme among all faiths has been a respect for animals, avoidance of animal suffering and appreciation for the nourishment that they provide. These themes permeate the practices of the meat packing industry.

In 1958, Congress passed the Humane Slaughter Act, which laid out specific rules for livestock treatment in meat plants that sold meat products to the federal government. In 1978, the law was reauthorized and expanded to cover all federally inspected meat plants (except those performing religious slaughter). But beginning in the early 1990s, the meat industry embarked on a proactive effort to enhance animal welfare in meat plants.

Working with leading experts, including Dr. Temple Grandin, associate professor of animal science at Colorado State University, the industry began to embrace the idea that enhanced welfare had distinct additional benefits, including:

- Enhanced meat quality. Calm animals produce better meat products with fewer quality defects.
- Enhanced plant efficiency. Animals that are calm and humanely handled move easily through processing plants.
- Improved worker safety. Calm livestock reduce the chance that an employee will become injured by an animal.
- Enhanced morale. When animals are handled humanely, employees tend to have better attitudes toward their jobs.

Government Oversight

The U.S. meat industry is one of the most heavily regulated industries in the nation. Thousands of pages of regulations govern every aspect of the meat packing business, including how livestock are treated. The Humane Slaughter Act of 1978 dictates strict animal handling and slaughtering practices for packing plants. Those standards are monitored by Food Safety and Inspection Service (FSIS) inspectors nationwide, who are present in packing plants during every minute

of operation. FSIS inspectors are empowered to take action in a plant any time they identify a violation of the Act.

Humane slaughter rules require:

- That animals must be handled and moved through chutes and pens in ways that do not cause stress.
- That livestock must be rendered insensible to pain prior to slaughter. The Act details the methods that must be used to stun animals.
- That animals must have access to water and that those kept longer than 24 hours must have access to feed.
- That animals kept in pens overnight must be permitted plenty of room to lie down.
- That non-ambulatory livestock in the stockyards, crowd pens or stunning chutes may not be dragged.

These federal requirements are the minimum standards for animal welfare. Industry's own voluntary standards take federal requirements a step further.

Voluntary Efforts and Audits

In 1991, the industry asked Dr. Temple Grandin to author the landmark Recommended Animal Handling Guidelines for Meat Packers. Five years later, Dr. Grandin completed an audit of meat packing plants for the U.S. Department of Agriculture and concluded that animal welfare evaluations need not be subjective. Rather, she said they could be measured using objective criteria.

In 1997, AMI asked Dr. Grandin to develop a new audit tool using objective criteria that could be used by plants to monitor their own animal welfare practices. She developed Good Management Practices for Animal Handling and Stunning and the "AMI audit" was born. This audit program was embraced first by leading quick service restaurant chains and later by major retailers.

As part of the audits, plants measure criteria that include:

- Livestock vocalizations that may indicate stress
- Slips and falls that can cause injury

- The effectiveness of stunning techniques
- The use of electric prods

By measuring and monitoring these criteria over time, plants can determine when variations occur and can correct problems promptly.

As part of AMI's proactive efforts, the Institute in 1997 launched the Animal Care & Handling Conference, now an annual conference held in February in Kansas City. In 2006, nearly 300 people attended the conference.

In 2002, the American Meat Institute Board of Directors took another proactive step by voting to make animal welfare a non-competitive issue among the Institute's members. Today, members share information that can enhance welfare and welcome each other into plants in an effort to share best practices.

In 2005, AMI merged the 1991 and 1997 documents in the comprehensive 2005 Animal Handling and Audit Guide. The guide includes standardized audit forms. The documents are posted for public viewing and downloading on www.animalhandling.org.

Economic Benefits of Humane Handling

In addition to a natural, human concern for animals, there are distinct economics benefits that result from humane handling.

When an animal is stressed due to heat, anxiety, rough treatment or environmental factors, the meat that comes from the animal will be of a lesser quality. For example, if an animal becomes agitated in the chute, stress hormones like adrenalin are released, and muscle pH drops. In cattle, this can result in "dark cutters," or dark spots, in meat. In hogs, this can cause Pale Soft Exudative (PSE) tissue, which appears as pale, soft spots in pork. These quality defects cause direct economic losses to meat companies.

Numerous studies have been done that detail the financial losses that can be attributed to these stress-related quality defects.

In order to maintain optimal efficiency, meat plants depend on a continuous supply of livestock moving through the plants. Animals that are calm and well-handled typically will move through the chutes more

easily, which enables the process to operate efficiently.

Data Reflect Improvement

Data collected by Grandin through surveys done annually since 1996 demonstrated consistent, sustained improvement in livestock handling and stunning. The data are available on www.grandin.com.

In addition, a 2001 survey of American Meat Institute members reflects an increasing focus on animal handling and stunning by meat plants. According to the results, 93 percent of beef plants and 92 percent of pork plants conduct animal handling and stunning self-audits. Twenty-three percent of auditing beef plants and 32 percent of auditing pork plants said their audits had resulted in strong improvements in handling/stunning. Seventy percent of auditing beef plants and 73 percent of auditing pork plants report modest improvements in animal handling and stunning.

Seventy-nine percent of beef plants and 81 percent of pork plants indicated that they had hired a consultant to resolve animal handling and stunning problems. Ninety-three percent of beef plants and 81 percent of pork plants said they had purchased special equipment like a restrainer to improve handling and/or stunning.

The U.S. meat industry is committed to finding new ways to enhance animal handling and stunning in plants even further.

Research

Many academic papers and presentations have been given on this subject. Each year summary presentations are delivered at the AMI Foundation Animal Care and Handling Conference for the food industry. They may be viewed at www.animalhandling.org.

Conclusion

The U.S. meat packing industry will seek new ways to continually improve animal welfare in the meat industry by monitoring research, sharing best practices and embracing training programs. Optimal welfare clearly is good for livestock – and for business.

Helpful Links

American Meat Institute

<http://www.meatami.com>

<http://www.animalhandling.org>

Grandin Livestock Handling Systems

<http://www.grandin.com>

Colorado State University,

Department of Animal Sciences

<http://www.ansci.colostate.edu>

Third-Party Experts

Temple Grandin, Ph.D.

Associate Professor

Department of Animal Sciences

Colorado State University

(970) 229-0703

John Scanga, Ph.D.

Assistant Professor

Department of Animal Sciences

Colorado State University

(970) 491-6244

john.scanga@colostate.edu

Janice Swanson, Ph.D.

Professor

Department of Animal Sciences

Kansas State University

(785) 532-1244