

Husbandry and Welfare of Livestock in Pasture Based Systems

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Abstract

Extensively raised livestock are thought to be healthier, less prone to developing the behavioral and physiological problems associated with more intensive systems, and produce a more “natural” product. The day-to-day husbandry of these animals may not require much handling. However management procedures such as transport to market or alternate grazing locations, vaccinations and routine health maintenance will require periodic handling by people. Since grazer nutrition is derived from resources such as pastures or open range during the growing season, or hays and other preserved forages during winter months, close attention must be paid to understanding the nutrient content and proper management of the food supply. Problems arise when resources and animals are mismatched or mismanaged, there is poor human handling, and routine health management is neglected.

Editors Note:

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Changing Times

- The intensity, concentration and growth of animal agriculture
 - Changed public perceptions of animal agriculture
 - The treatment of agricultural animals is a public issue
- Customer and consumer assurances
 - “Farm to table”
 - Precedent set with food safety initiatives
 - Biosecurity concerns for disease control and/or public protection



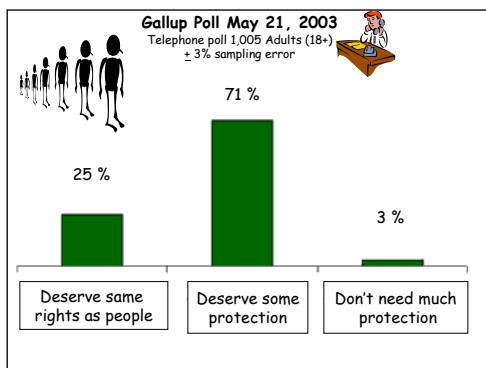
In examining issues of farm animal welfare, and the points of animal management that cause heartburn with the public, one thing we have to realize is that this little girl is the person influencing the future of food production. She will make decisions about what she is going to eat, form opinions about animal production systems, voice her concerns about the environment she lives in and the sustainability of these systems. This little girl's world is going to be a very different

world than the one in which we grew up. We are going to have to learn and understand the concerns our growing public. We also need to understand how to continue to interact with them as a customer and consumer, and how to provide those assurances that they are looking for. Precedents have already been set on securing assurance on other issues such as food safety. One factor that has pre-charged the issue of animal welfare has been the growth and the concentration of the animal industry. In many respects, it was the adoption of product output protocols by engaging paradigms to capture production efficiency. In some respects it has transformed the stereotype of farmers and ranchers from Mr. Green Jeans (as portrayed on Captain Kangaroo) into one of business men and women. Therefore, animal agriculture is often characterized as one model (big and concentrated), when in fact we have many different types of production, with for example, the production of swine in this country. The public and activists often don't realize it isn't one model. These are the types of concerns or ideas that we need to consider when interacting with the public on animal welfare.

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The one thing we don't want to do is to shut people out. This cartoon expresses what has happened within the biomedical community. There seems to be sentiment that people don't need to know what is going on "in there", it is not the public's business to know. I will do the science, I will produce the food; you buy it and by default you agree to what we are doing. That thinking prevailed when the public started to ask about what we do with animals in biomedical laboratories. There was significant push back from the medical community at that time; "It's none of your darn business what we are doing in there! What we are doing is good for you." There was an assumption that as long as we were doing something that we perceived as beneficial to you, you shouldn't have to ask questions about it. What eventually developed were federal rules and standards of animal care for experimental animals. The agricultural community is coming under that same type of public pressure. I have dealt with this issue for close to 15 years, starting with my employment at USDA. What leads us to trouble is when we tell people it is none of their business. We don't want to travel this route. We should talk about what we do. We want to let the public know that there are a variety of ways in which food animals are produced.



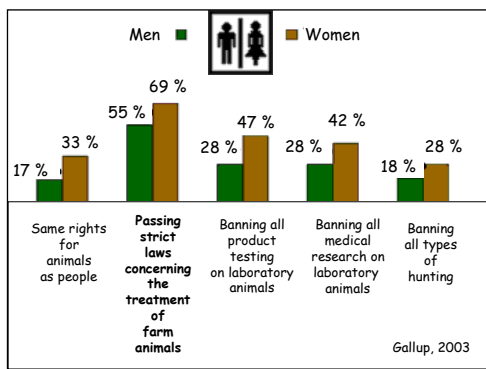
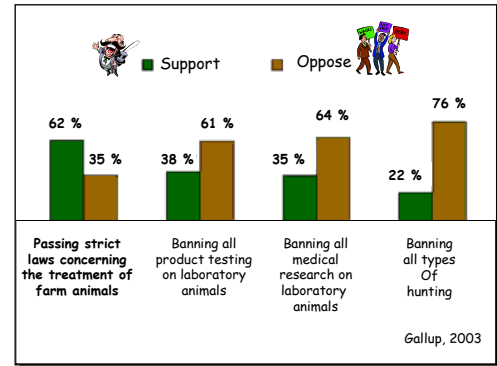
If you don't think public concern for agricultural animal production is real, start looking at the polls. This recent Gallup Poll is only one example. There have been many studies and surveys which look at emerging attitudes on issues of animal welfare in the American public. I think one of the popular strategies people adopt is to categorize animal welfare as an "us and them" issue and intentionally make it polemic. Either you are a blatant animal rights activist or you are somebody that enjoys going into a facility and torturing

animals. They eliminate middle ground and the discussion. Most people believe that in the service of providing a benefit to humans that we also have an obligation to provide care to the animal. In the case of food animals, it's the provision of appropriate care and a humane death. Defining those obligations does fluctuate and change. Cultural differences and moral attachments do play a role in making those decisions.

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Let's look at one public survey. There are definite differences in public opinion relative to the various types of activities listed. What is most interesting is the reversal of the bars on the far left with regard to the treatment of farm animals, indicating public interest in the protection of farm animals. I remember this question being asked in a similar manner on a survey that was completed back in the early 90's. The public had a response rate in the 60th percentile supporting strict laws concerning the treatment of farm animals. Again, the industry concentration, the intensity, the acquisition of more knowledge about how animals are actually produced under different types of circumstances and our evolving culture are prompting people to ask these questions. They want to know food animals are provided with a decent quality of life.



One item you must understand is that the public does not disagree with animal use. In looking at the data on diet preferences in the United States, we don't see a significant trend of people saying "I am no longer going to eat meat, drink dairy products, and so on." A small percentage of the public will choose not to, but for the most part Americans accept eating animal products. Most people do not feel that animals deserve the same rights as people. This slide addresses the response of men and women on different issues. Of course there is debate about what is meant by "animal rights" too. Also, the public appear to believe that there should be some way of monitoring animal care. Again, you still see that animal use is generally accepted and that there tends to be a gender difference.

Who is responsible for animal welfare? We have a lot of these discussions on this subject. I sit on the Burger King scientific advisory committee, the McDonald's committee, and the Food Marketing Institute and National Chain Restaurant Scientific Advisory Committee. Also, I have sat on my share of producer and commodity committees. Everyone engages in the discussion of who is responsible? There are a lot of stakeholders involved, including the public at large. Most people forget the "public at large". Some people assert that a person shouldn't care about animal welfare if they don't actually consume the animal product. Nor should they have something to say about it. We don't work that way in this society.

Who is responsible for animal welfare?

- Primary stakeholder
 - Owners
 - Managers
 - Stock handlers
- Secondary stakeholder
 - Scientists
 - Veterinarians
 - Special Consultants
 - Government
- Tertiary stakeholder
 - Consumers
 - Public at large





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Public Assurance

- Quality of life
 - Production conditions for animals
 - Conditions for workers
- Humane transport and slaughter
- Quality and safety of food product
- Environmentally responsible and sustainable animal production practices
- Verification process for production practices
 - Certification, assessment and/or audit programs



Animal treatment has been on the agenda of Americans for a long time and it is not because they are in the labs doing the work or the recipient of the drug derived from animal research or actually eating pork. What it means is that we have arrived at a general social consensus (that includes all members of society, not just consumers) that there is a level of treatment that we should expect from any person or entity that owns or uses an animal in a particular way. We must understand that the

public (consumer and non-consumer) has the right to provide input on biomedical research, and the handling of downed livestock, etc. We need to get over the idea that if you don't partake, you have no say. We do need to better understand how the public works through the process of coming to social consensus on this issue.

What are stakeholders concerned about? How do stakeholders want to assure or help secure their interests in animal welfare? Here are some of the concerns that come up with respect to public assurance. What I see emerging is the assurance of animal welfare from birth to fork. What is the "quality of life" for that animal as it passes through the system? It used to be only concerns about particular pieces and components of a system "I don't like this type of management practice or type of housing." But now people are asking for the full picture. What is the quality of life for animals from the time they are born to the time when they are slaughtered? The other interesting aspect of the issue is the public concern for people working within those production systems. I know the more concentrated industries identify occupational hazards as a critical issue too.



The humane transport and slaughter of food animals has been an issue for a long time. Of course we do have legal obligations on the books regarding slaughter (at least with animals that are producing red meat). There is continued concern about why poultry are not covered under the humane slaughter rules. The quality and safety of the resulting food product and environmental sustainability of production certainly are targets, and have been for some time. The new issue to tackle, as a result of the call for public assurance of animal welfare, is how to verify humane production practices.

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You heard the talk this morning by Temple Grandin. She provided information on the types of auditing and assessment processes that are currently in practice. We also have a wellspring of labels that assert that animals are treated in a particular way. Controversy comes with these labels. What a “Certified Humane” label might require may not be the same as “Free Farmed”. The United Egg Producers label “Animal Care Certified”, may not be based on the same animal care audit criteria as the Animal Welfare Audit program put together by the food retailers, even though both programs are primarily based on producer guidelines that have been worked through a review and scientific process. When consumers buy labeled product, what does this mean to them and how do they find out what information the label represents? At present there is controversy over the Animal Care Certified label that the United Egg Producers have developed.

- Acute and chronic pain due to surgical practices, injuries or lameness
- Disease, starvation, and mortality
- Techniques to carry out on farm euthanasia
- Stunning/slaughter practices
- Transport
- Animal handling practices

What are the key issues that generate public concern? These tend to be the big ones: acute chronic pain and distress, surgical procedures performed on animals, stunning before slaughter, animal handling practices, transport practices, feeding regimes, space allowances, social deprivation, neglect, early weaning and the development of abnormal behaviors. Disease, injury and lameness rates represent real problems inherent in raising livestock and in some cases

directly link to the production environment or practice. When things go wrong, they go very wrong for the welfare of the animal and can cause a great deal of suffering.

What are some of these husbandry procedures that create controversy? One popular example is castration performed without anesthetic relief. No one would think of taking his or her cat, or dog, in to be spayed or neutered without that benefit. The pet owning public assumes that farm animals are treated in the same manner. When they learn that

these animals do not receive the benefit of

anesthesia a double standard of treatment emerges and questions and emotions are raised. So how do we justify the denial of pain relief to farm animals? It is a difficult to do. We examine the history of the practice, the scientific literature, the ethics, economic impact, and the alternatives and then formulate an answer and hopefully reach an acceptable solution.

- Castration (age/method)
 - Surgical
 - Anesthetic relief?
 - Banding
- Tail docking (allowed/disallowed?)
 - Surgical removal
 - Banding
- Spaying heifers
 - Provision of anesthetic relief
- Non-ambulatory livestock
 - Handling and disposition protocol



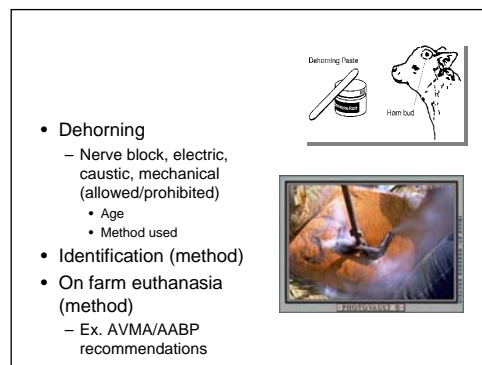
Common Husbandry Practices Associated with Pain and/or Distress



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The provision of anesthetic relief for surgical procedures such as castration or dehorning may not be as difficult as once believed. Lidocaine is cheap and with a little practice can be fast and efficient. A couple of former feedlot veterinarians working at the USDA Meat Animal Research Center in Nebraska have been studying the use of Lidocaine to provide pain relief during castration and dehorning. They found that animal handling is easier; the practice is not expensive and it can be done quickly. They are finding that they can dehorn and castrate more cattle using pain relief than they could without it. We need to invest more time in identifying best practice and then make the time to promote and implement the practice.



Docking the tails of dairy cattle presents another example. Certain producers feel it is an acceptable practice based on consideration of the milker and keeping cattle clean. Others feel it is an unacceptable practice. Scientific research has been conducted looking at the effects on cattle and justification for the practice. Is tail docking dairy cows an ethically and scientifically defensible practice? This is the sort of interrogation that must take place to address how we manage the issues and determine whether the practice should be changed. In some cases there has not been enough scientific research done to look at these practices, and identify what the best practices and methods really are. They have been accepted standard agriculture practices for so long nobody really questioned them. There is more being done to elucidate which practices need to be modified and identify suitable alternative practices.



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The issue concerning the welfare of non-ambulatory livestock has been particularly onerous and provides an excellent example of what happens when issues are not resolved quickly. Livestock go down for a variety of reasons: it may be poor culling decisions, poor handling, acute illness or injury, etc. Unfortunately this issue has been in political debate for an extended period of time. In 1991 it first sprang into the media spotlight with a video shot in the St. Paul stockyards. This video caused outrage among the public, and concern within the government and livestock industry. It was also the genesis of the “Downed Animal Protection Act”, a bill introduced to address the issue. This bill has been recycled in nearly every Congress since then with no success. Although measures to address non-ambulatory animals were undertaken by the livestock industry, there were still producers, particularly dairy, that still had not adopted adequate measures to resolve the problem. During this same period Bovine Spongiform Encephalopathy (BSE) had climbed onto the scene along with its relationship to vCJD, a new variant of Creutzfeldt-Jakob Disease. Suddenly disabled cattle produced a new public anxiety that included a potential human health hazard. In early 2004 the Secretary of Agriculture had to lower the boom and say no more non-ambulatory livestock are to be accepted by processors. It is ridiculous for the agricultural community to allow that sort of issue to drag on, especially when it starts as a welfare problem that subsequently manifests to a food safety issue. We can't afford to allow animal agriculture to be perceived as negligent.

Another practice identified for concern is the abrupt weaning of livestock. Abrupt weaning can induce considerable stress to both offspring and mother. In the previous talk, it was identified that fence line techniques are now being adopted allowing a more gradual separation to develop. There are several universities, UC-Davis, Kansas State, University of Saskatchewan, that have conducted work on gradual weaning of calves. In addition to fence line weaning, a two step phase weaning has been developed. The nursing cycle is broken first and then the calves are separated from their dam. This technique works fairly well for farms or ranches without facilities for a fence line wean.

- Weaning (method, timing)
 - Abrupt versus gradual
 - Fence line techniques
 - Age of weaning
- Handling
 - shouting, hitting, electric prods
 - Dragging animals
 - Slipping and falling
- Transport
 - age and health status
 - loading & unloading
 - handling quality & driver quality



- Restraint
 - Handling
 - Prod use, slips falls, exit from chute
- Shearing
 - Rough handling
 - Cuts and lacerations

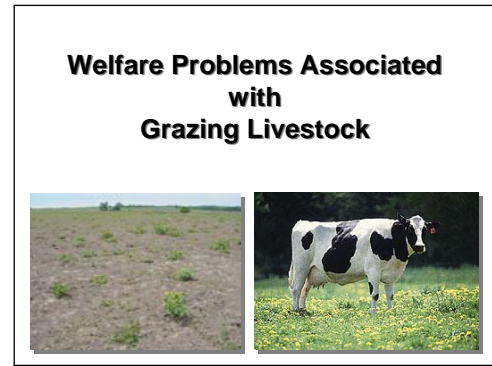


Temple Grandin talked quite a bit about animal handling so I will not recover that issue. Transport, the proper use of restraint, appropriate technique for shearing sheep to avoid cuts, etc are practices for which food retailers are developing auditing criteria. Temple pointed out that an audit gives a producer instant feed back. If producers self audit their own facilities, it helps a great deal in achieving success on a third party audit.

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The next speaker is going to talk about specific grazing issues. In Kansas, grazing livestock tend to be the most often presented neglect case. I will show you a couple of pictures taken from a case worked early last summer.



- Overstocking
- Poor nutritional management
 - Poor soil and forage quality
 - No supplementation: salt, mineral
- Grazing management during drought
 - Little or poor quality supplementation
- Poor water quality
 - Don't test water sources



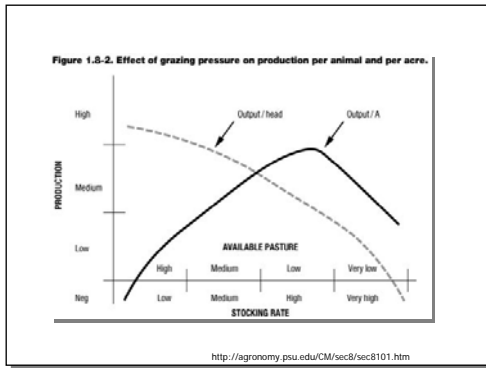
This case involved chronic overstocking of grazing ground and the poor nutritional management of cow-calf pairs. In Kansas the last six years have been drought prone years. This imposes special challenges for managing grazing land and cattle. 80 cow-calf pairs on 120 acres of land were simply left there from the beginning of the grazing season.

This person was quite devious and deliberately oversold the grazing ground, in fact took the money up front. During that part of the year enough rain had fallen to produce a beautiful year for grass, but these cattle were so starved they were stretching their necks across the fence line trying to eat grass in the adjacent pasture.



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The trick to appropriate management of grazing is to determine the optimal grazing pressure and then moving that target as you understand what your forage quality is and how many cattle you are able to sustain to get the type of output that you need per acre. This slide came from the Penn State University website. There are some really nice information web sites out there on grazing.

Now back to the abuse case and the condition of the cows. These are Angus and Angus crossbred cattle. The cattle you see in the slide are about a condition score two. The National Cattleman's Beef Association cattle management guidelines say that a condition score two for a beef cow is simply unacceptable. The cattle shouldn't be in this condition. So monitoring the condition score and grazing environment is very important.



Layered into this is poor water quality. There are producers with grazing programs that include cattle drinking from ponds; many are rain water collection ponds with no other feed. However, the water has never been tested to assess its quality. Water quality can be as important to maintaining good health and condition as forage quality




The provision of shelter, shade and protection is also an issue with grazing livestock. Some parts of the country may require the provision of shade. In other areas cattle or sheep do very well out in the open environment. It's all to do with the provision of proper management and regular monitoring. It doesn't matter if you are raising livestock in a sustainable or a conventional system; the welfare of an animal can be just as poor in either one if they are not managed appropriately.

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Predation, plant toxicity and foot problems were addressed in the veterinary talk. I will confirm these are common problems in grazing livestock.

- Poor body condition
- Lack of regular monitoring
- Predation
- Lack of shelter for extreme conditions
- Foot problems (wet regions)
- Plant toxicity
- Disease: Lack of preventative health program



Land Pressure



- Availability of quality pasture/grazing ground
 - Effect on management decisions made with respect to animal welfare?
 - More common abuse cases in grazing animals are nutritional deprivation or neglect of health (personal observation)
 - Human dimension
 - Competition with other species of animals
 - Maintaining the health of the ecosystem

Another issue on the horizon is land pressure, which is creating a lack of real good quality grazing land. It's being gobbled up. Even in Kansas good grazing land is going under development. How are you going to maintain sustainable grazing systems if you are losing the quality land? That's a real issue. The lack of grazing land also forces people into situations where animals do become nutritionally deprived because they don't want to raise animals in another manner (feedlot). Linked to this you also have the question of competition of

other species in the ecosystem.

Where do we need to improve? First we need to decide what level of public assurance we are going to provide on animal welfare, particularly those of you interested in sustainable systems. Are you going to certify, accredit, or audit your systems? How will this be accomplished? Will your system be publicly acceptable? Next, you must identify best practices. Are they science based? If not, what are they based on? It is important to understand the current public attitude and what their expectations are.

Animal Welfare: Research, Development and Outreach

- Providing public assurance
 - Codes of Practice? Guidelines? Laws?
 - Accredited? Certified? Audited?
 - Impact of these expectations on economic well-being of producers?
- Identify, develop and implement science-based best practices for animal husbandry
 - Public assurance includes auditing for the use of best practice by producers
 - What are the expectations for pasture-based systems?
- What is the current public attitude and moral expectation?

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Health Program: Outreach

- Prevention protocols (Veterinary derived)
 - Vaccination
 - Parasite control
 - Hoof trimming
 - Culling, etc
- Treatment protocols
 - Veterinary derived
 - Proper use and management of therapeutics
- Monitoring protocols (how often)
 - Body condition (system, counts)
 - Locomotion, etc. (system, counts)
 - Health (daily? weekly? monthly?)



Finally, using best practices and regular monitoring of health, body condition, lameness, forage and water quality, and implementing an appropriate preventative health program is important to maintaining the welfare of grazing livestock.

Thank you very much.

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