

Public animal welfare discussions in the United States: perspectives from a Missouri farm boy turned economist

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Implications

- Hard- and soft-science forces are merging to shape U.S. livestock and meat industries.
- Animal welfare is one of the several complex social issues facing U.S. industries.
- A complex set of economic forces underlie the current animal welfare situation in the United States.
- Livestock and meat industries will be well served to recognize the animal welfare challenge and actively pursue solutions. If markets are allowed to work, the future seems promising given the expected strong global protein demand.

Key words: animal welfare, economics, livestock, meat

Introduction

Einstein is said to have commented “not everything that counts can be counted, and not everything that can be counted counts” (Quote Investigator, 2017). Similarly, it is often said the “the consumer is always right.” Although, perhaps it is more accurate to say “customers are not always right, they are just never wrong” (Entrepreneur, 2015). These statements can broadly be taken to begin describing the dynamic situation professional animal scientists face regarding animal welfare discussions in the U.S. meat and livestock industries. Given the valuable, hard-science approach developed and refined over centuries as applied today throughout the world by professional animal scientists, the situation presented by livestock production systems adjusting in response to a complex set of softer-science factors can be frustrating. In fact, casual observation suggests that hard- and softer-science approaches are merging to shape modern production which itself can add to contention within any discipline.

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This article aims to provide the context from an economist’s perspective on the current situation, ongoing developments, and implications of animal welfare discussions in the United States. (Here the term animal welfare is used consistent with the principles outlined by the American Veterinary Medical Association (AVMA, 2017). The topic of animal welfare and not animal rights is of focus.) To meet this goal, the article is structured by making a series of broad observations using demonstrative examples. The intent of these observations is to provide context and hopefully stimulate additional critical-thinking both within and outside the professional animal science community.

There is more than one way to skin a cat!

As a farm-kid at heart turned Ph.D. agricultural economist for profession, it is often discerning to reflect back on personal experiences. Growing up on a farrow-finish swine operation in Missouri which changed notably over time provided exposure to multiple production practices. This included first-hand experience with total confinement systems as well as less confined, partially pasture-based systems. A key take-home point is that there are multiple ways to raise livestock, each with a lengthy set of advantages and disadvantages.

In the specific case of animal welfare, it is likewise important to appreciate how each production system offers a complex set of benefits and drawbacks that is well documented (Lay, 2014; Nielsen and Zhao, 2014). What is challenging is the friction between current scientific understanding and contemporaneous expectations of the public regarding animal welfare. While most residents have never “had manure under their fingernails” providing grounded production context, their influence, nonetheless, is real and must be appreciated. It is easy to see how the public may identify, if not always accurately, some system trade-offs and “ask questions.”

Animal welfare is one of the several, potentially related social issues

The growing disconnect between typical U.S. consumers and food production is well documented leading to increasing calls to document, verify, and at times adjust “conventional” meat production practices. This applies not only to animal welfare, but also to food safety, environmental impact, source or

origin labeling, and use of technologies, including growth hormones, antibiotics, and β -agonists. What this lengthy list has in common is an ongoing tension between production systems hesitant (in aggregate at least) to change and growing end-user desires for transparency and/or adjustment.

Complex economic forces underlie this situation. In most cases, an externality (indirect effect of production on others or a social concern such as environmental impact) worry underlies discussions around “conventional” production. When producers are provided economic signals that partially, but not fully, reflect externalities, public calls can increase to possibly adjust production practices.

Willingness-to-pay may exist for some products but higher expense incurs on whole animals

One less understood challenge is the alignment of consumer demand for some meat products that require adjustment in how an animal is raised which provides a large and diverse suite of meat (and non-meat) products (McKendree et al., 2013). Consider the case of beef cattle where ribeye steaks, hamburger, roasts, and tongue reflect a spectrum of many products derived from a given animal. While a viable market (characterized by premiums) for “humanely raised” ribeye steaks may well exist, good luck finding a parallel market for “humanely raised” beef tongue. The economic situation that follows is that producers face higher costs of raising an animal that can only be offset by potential premiums on a subset of consumer items originating from their livestock. Hence, the case may indeed persist where consumers may pay say a \$3/lb premium for a ribeye from steers raised in an animal welfare certified system and yet conventional producers may not adjust given the lack of corresponding premiums on other beef items.

What the public wants is reasonably clear, how it is to be accomplished is not

An instructive tweet was made by the Center for Food Integrity on September 4, 2013: “Science tells us if we can do something. Society tells us if we should do it.” (emphasizing underlining added). Scientific knowledge is always changing and at any given point in time, available knowledge and technology depicts what is possible (supply-side factors in economist jargon). Meanwhile, consumer and customer (intermediate firms in the industry) acceptance of current production practices and willingness to purchase corresponding products is also dynamic over time (demand-side factors in economist jargon). If one pauses to consider discussions, for example, around the use of antibiotics, growth hormones, and genetically modified corn in livestock feed this Center for Food Integrity quote and its modern application become readily apparent.

This likewise holds on a host of animal welfare issues in the United States. Consider the use of β -agonists in feedlots, gestation stalls in swine systems, and laying hen cages in egg production. There is little debate about whether these processes *can* accomplish a goal of scientifically efficient production of products for human consumption, what increasingly underlies

contention is that the societal assessment of whether these approaches *should* be used. Given dynamics in how society *can* produce meat and how the public think meat *ought* to be produced, ongoing research is needed to document this situation and provide grounded information to guide industry decisions.

Consumers will pay more, but perhaps not how you think (or wish)

Economists are often asked whether consumers will put money where their mouth is when it comes to requesting animal welfare-oriented adjustments that often involve higher production costs. The short answer to this is yes, but not immediately and only after any higher production costs are built into an entire meat-livestock industry.

Most existing research suggests that only a minority of consumers in the United States will actually pay a substantial premium for meat, milk, or egg products coming from systems with enhanced animal welfare. In fact, animal welfare is often one of the lowest ranking determinants of purchasing decisions when examined in a manner that considers the relative role of food safety, freshness, taste, and other decision factors (Lusk and Briggeman, 2009; Lister et al., 2017). Given a limited up-front willingness to pay premiums voluntarily, the typical consumer will pay only higher meat prices once higher production costs are realized and passed on (at least partially) to remaining consumers.

Vote-buy disconnects and unfunded mandates persist

Given limited direct market signals from consumers in the form of paying premiums for products based on animal welfare claims, a key the question becomes what other economic force is (at least in part) driving the change in the U.S. livestock industries? The answer is a “vote-buy disconnect” that becomes an “unfunded mandate” faced by producers.

There is an increasing tendency for the public collectively to signal a desire for change in food production methods at the ballot box or legislative outlets that is not met with immediate corresponding “free market” signals at the grocery-store or restaurant. That is, a voting resident signals for change they simultaneously are not conveying with their food purchasing actions. These “mixed signals” significantly add to contention in many animal welfare discussions.

One clear and high-profile demonstration is that cage-free eggs held less than 5% market share in the United States when the majority of residents who voted on related ballots supported the restricted use of laying hen cages (Allender and Richards, 2010; Norwood and Lusk, 2011). When voters require practices that shoppers will not fully fund, it has an adverse effect on agricultural producers. That is, if producers want to remain in business, and appease customers under pressure to change, they are required to adjust practices without realizing an immediate benefit in the form of offsetting higher output prices.

Ultimately, of course, higher production costs result in higher retail prices being faced by consumers; so, yes, consumers

ultimately pay higher prices. However, in the absence of actual demand growth, this end-game situation is characterized as one of the smaller production volumes and higher prices than would have otherwise occurred. These industry size and price dynamics are further complicated by international market forces, given the increasingly globalized nature of meat production, trade, and consumption.

Why is the United States so special in this discussion?

The United States is unique in the global animal welfare discussion as it is a major producer and exporter of meat products while also being a chief importer and consumer. This combination is not common in other major meat-producing countries. To understand how a country can be both a major importer and an exporter, one must appreciate the diversity of product flow in the global meat protein marketplace. For instance, the United States historically imports large volumes of lean beef used in ground beef production while exporting very different beef products such as livers and tongues that are more highly valued outside the United States. This trade pattern reflects comparative advantages and the role of trade in allowing countries to specialize in what they produce, export, and import.

This situation makes the U.S. industry sensitive not only to domestic developments around animal welfare but global ones as well. Domestic developments shape production costs domestically and “local” demand factors. Meanwhile, animal welfare developments abroad affect production costs in other countries

which, in turn, affects prices of products the United States has historically imported.

Tables 1 and 2 show 2016 historical and projected (2021 and 2026) aggregated trade flows summarizing this situation and the countries that would immediately be affected by any associated production changes stemming from animal welfare-based adjustments in the United States or elsewhere. This highlights the role of the United States as a key importer and exporter. Moreover, the distinction between key exporters such as Brazil, Canada, and the European Union from main importers mainly in Asia, Africa, and the Middle East is central to future effects animal welfare discussions may (or may not) have in meat trade.

Conclusion

If the industry takes an iron-curtain (historical pun intended) approach to squash or ignore animal welfare concerns from the public, a declining industry seems imminent. To appreciate this, consider the case of rotary phone salesman who refused to recognize changes in available phones and future technology—hopefully the meat and livestock industry can avoid a similar fate.

If the industry recognizes the challenges, accepts it (even if not liking it), and actively pursues solutions while markets are allowed to work with limited governmental interference then the future seems promising and vibrant. That is, under these conditions, technical capacity to produce meat (supply factors) and social desires and signals (demand factors) could effectively coordinate industry effort to producer products desired by the public leading to improved economic well-being for society collectively. This article was written specific to the United States, but many underlying points apply globally. Hopefully, the core

Table 1. Major Importers of beef, pork, and poultry.

	2016	2021	2026
Beef			
United States	1,366	1,302	1,358
Other North Africa and Middle East	842	1,086	1,294
China	825	1,102	1,285
Japan	715	740	762
Russia	585	547	511
Major importers	7,278	8,100	9,024
Pork			
China	2,400	2,270	2,405
Japan	1,320	1,330	1,330
Mexico	1,025	1,130	1,267
South Korea	610	685	740
United States	502	486	516
Major importers	7,888	8,017	8,598
Poultry			
Other Middle East	1,575	1,859	2,133
Other Sub-Saharan Africa	1,091	1,307	1,505
Mexico	994	1,213	1,382
Japan	956	961	988
Saudi Arabia	888	982	1,103
Major importers	10,236	11,815	13,259

Source: USDA (2017).

Table 2. Major exporters of beef, pork, and poultry.

	2016	2021	2026
Beef			
Brazil	1,850	2,248	2,646
India	1,850	2,202	2,497
Australia	1,385	1,460	1,572
United States	1,115	1,224	1,296
Other Latin America	861	796	783
Major exporters	9,083	9,985	10,947
Pork			
European Union	3,300	3,290	3,543
United States	2,349	2,650	2,929
Canada	1,350	1,365	1,426
Brazil	900	925	975
China	180	188	198
Major exporters	8,219	8,587	9,259
Poultry			
Brazil	4,315	5,152	6,096
United States	3,351	3,941	4,083
European Union	1,363	1,393	1,413
Thailand	670	844	995
Former Soviet Union	480	608	717
Major exporters	11,159	13,006	14,470

points embedded here can aid in animal welfare discussions, lead to more efficient economic outcomes, and lead to ultimately a more prosperous meat and livestock industry worldwide.

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