



Animal Welfare Standards and Marketing

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The World Organization for Animal Health (2019) defines animal welfare as the “physical and mental state of an animal in relation to the conditions in which it lives and dies.” By improving the welfare of the animals they raise, farmers, too, may benefit. Research shows that consumers are willing to pay more for foods with trustworthy labels certifying that animal welfare standards have been met (Spain et al. 2018).

This handout provides an overview of animal welfare economics and the benefits to farmers from marketing their commitments to animal welfare. The handout and the “Animal Welfare Standards and Marketing” webinar it accompanies are part of the Virginia Sustainable Farms and Agribusiness Education Initiative offered by Virginia Tech’s Department of Agricultural and Applied Economics and Virginia Cooperative Extension. The webinar is available at https://video.vt.edu/media/1_9tqvmcrg. More information about the initiative is at <https://aaec.vt.edu/extension/va-sustainable-farms-agribusinesses.html>.

How is animal welfare defined?

Two noted ways to define animal welfare are Brambell’s Five Freedoms of Animal Welfare (Brambell 1965; Farm Animal Welfare Council 2009) and Fraser’s Three Conceptions for a Life Worth Living (Fraser et al. 1997).

Brambell’s Five Freedoms of Animal Welfare suggests that animals should be free from hunger and thirst; discomfort; pain, injury, or disease; and fear and distress, while having the freedom to express normal behavior.

Fraser’s Three Conceptions for a Life Worth Living identifies three components to good animal welfare. The first is basic health and functioning. This includes good physical health, normal production, and freedom from pain, injury, or disease. The second component is the animal’s affective or emotional state. This includes freedom from fear and distress, as well as the

opportunity for positive emotions like pleasure and contentment. The third component of animal welfare is a natural living environment. This includes having access to natural elements — aspects of the animal’s natural habitat, such as roughage or grass for ruminants, and friable bedding to dust bathe in for poultry — and the ability to show natural behavior.

How is animal welfare measured?

Animal welfare can be assessed in many ways. Dwyer (2017) classifies animal welfare measurements as either resource-based or animal-based.

Resource-based measurements may be considered input-based measurements. They typically involve measuring the quality of management, the quality of the animal’s environment, and the animal’s previous experience or background.

Quality of management may be measured by assessing stockperson training and experience levels, the handling methods used, and the experience provided to the animal. Quality of the environment may be measured in terms of housing conditions, feed quality and feed frequency, and other resources available to the animal. Measuring an animal’s background or early-life experiences could involve assessing earlier treatment and genetic attributes.

While resource-based measurements indirectly reflect animal welfare status, animal-based measurements directly reflect that status. Animal-based measures may be considered output- or outcome-based measurements. They typically involve measuring animal health and production, animal behavior, and physiological responses.

Health may be measured by tracking illnesses, injuries, body weight, and size. Animal behavior may be

measured by observing posture, facial expression, or the expression of normal and abnormal behaviors. Physiological responses such as hormone levels, body temperature, and heart rate, can also be assessed.

What industry standards exist for animal welfare?

The U.S. Department of Agriculture's National Agricultural Library provides a list of animal welfare standards and guidelines. Major certification issuers and programs include the [North American Meat Institute](#), [Certified Humane](#), [American Humane Certified](#), [Global Animal Partnership](#), [Animal Welfare Institute](#), and [USDA Certified Organic](#). There are also commodity-specific standards set by organizations such as United Egg Producers and the American Sheep Industry Association.

Although certification processes vary, there are similarities. Farmers hoping to be certified should apply after they determine that they meet the standards. The certifying organization will conduct a farm inspection before approving the certification. Different certifications are valid for different periods of time, and costs vary.

What are the main animal welfare concerns?

Some animal welfare concerns relate to specific species, while others are more general. General concerns include the following (Dwyer 2017):

- Undernutrition or hunger
- Lack of access to drinking water
- No shade or shelter when housed on pasture
- No litter or bedding material
- Untreated disease or injury
- Abnormal injurious behaviors such as feather pecking or tail biting
- Aggression and fighting

What do consumers think about animal welfare?

Consumers' thoughts about animal welfare vary widely. Because they have specific concerns, some people eat

vegan diets and some purchase organic milk or cage-free eggs. However, most animal products sold are not animal welfare-certified or labeled.

While consumers have different perspectives, research shows that farmers and consumers generally share similar perceptions about what is important for animal welfare (Vanhonacker 2008). For example, the researchers found that farmers and consumers agreed that a balanced diet, the human-animal relationship, animal health, and some housing conditions (temperature and flooring) were important for animal welfare.

Are consumers willing to pay for improved animal welfare?

Economists use several tools to determine how much consumers are willing to pay. Some of these include auctions and surveys. In surveys, economists often ask customers to make hypothetical choices between different products at different prices. This helps determine how much the differences in the products matter to consumers.

Research has shown that some consumers are willing to pay premiums when certain animal welfare standards are met. Here are some examples:

Average premiums (increases in willingness to pay) for pork chops (Lusk, Norwood and Pruitt 2006; Lusk, Nilsson, and Foster 2007; Olynyk, Tonsor and Wolf, 2010; Lusk and Norwood, 2011; Ortega and Wolf, 2018):

- Pasture access: 118% to 194%
- Individual crates: 54% to 80%
- Antibiotic-free: 30% to 90%
- Animal well-being certified: 28%
- Stall-free: 26% to 67%

Average premiums for cow's milk (Wolf and Tonsor 2017):

- No hitting: \$2.06 per gallon
- Clean facility: \$1.92 per gallon
- Treat or euthanize sick cows: \$1.68 per gallon
- 4+ hours of outdoor access: \$1.24 per gallon

Average premiums for eggs, compared with conventional cage system (Lusk and Norwood 2011; Ortega and Wolf 2018; Chang, Lusk, and Norwood 2010):

- Cage-free/barn: 26% to 66%
- Aviary system: 53%
- Aviary with free range: 103%
- Organic: 85% to 142%

However, these premiums tend to decrease as more attributes are added (Dickinson and Bailey 2002). This means, for example, that consumers who are willing to pay \$1.24 more for a gallon of milk that comes from cows with four hours of outdoor access and \$2.06 more for milk that comes from cows that are not hit are not likely to pay a total of \$3.30 more for a gallon from cows that both have outdoor access and are not hit.

The market potential for animal-welfare friendly products varies among different consumer groups. In one study, women and highly educated consumers were more likely than men and consumers with less education to purchase welfare-friendly products (de Graaf et al. 2016).

What regulations currently govern farm animal welfare?

Few federal regulations relate to farm animal welfare. The 1873 Twenty-Eight Hour Law prohibits animals from being transported for more than 28 hours without water. The Humane Methods of Slaughter Act of 1958 requires proper treatment and humane handling of all food animals slaughtered in U.S. Department of Agriculture-inspected slaughter plants, excluding poultry.

Virginia has a few regulations, including Code of Virginia §3.2-6503.1, which requires that farmers provide feed to prevent malnourishment, water to prevent dehydration, and veterinary care as necessary. Exceptions are allowed in certain instances — for example, when prescribed by a veterinarian or prevented by an act of God.

Other states have more stringent laws governing the housing of farm animals. In 2008, California voters banned conventional battery cages for egg-laying hens. Massachusetts voters did the same in 2016. Similarly, voters in Florida, Arizona, California, and Massachusetts have passed laws banning gestation crates for sows.

Bovay and Sumner (2019) estimate that voters in 48 states and Washington, D.C., would have supported animal welfare legislation in 2008 and 2016 if it had

been on the ballot. This suggests that while Virginia has limited animal welfare regulations now, additional regulations may be passed in the coming years.

How do animal welfare standards affect production costs?

Different animal production practices have different effects on production costs. In some cases, consumers' willingness to pay is high enough to offset additional costs. Wolf and Tonsor (2017) found this to be true for tail docking in dairy cattle. Consumers were willing to pay 49 cents per gallon extra for milk from cows' whose tails had not been docked, while farmers required only 4 cents per gallon to cover costs. However, labeling costs and other expenses can sometimes offset the premiums that consumers are willing to pay.

Conclusion

Farmers can improve animal welfare by taking steps to ensure that animals are free from hunger and thirst, discomfort, pain, injury, disease, fear, and distress and to promote good health, positive emotions, and natural behaviors. Because many of these steps result in better animal health and better production, they align naturally with farmers' goals.

By pursuing certification related to animal welfare, farmers signal to consumers that they have taken steps to ensure their animals are treated well. Studies have shown that some consumers are willing to pay extra for animal welfare-certified products and that the profitability of producing these goods depends on consumer preferences that can vary greatly across markets.

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