

Consumer Preferences for Farm Animal Welfare: Results of a Nationwide Telephone Survey



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Executive Summary

Because public policy and industry standards are being shaped by public perceptions about animal welfare, more information is needed to identify exactly what people want in terms of farm animal welfare. A nationwide telephone survey was conducted from June to July 2007 with a representative sample of U.S. households. The primary findings from the survey are as follows.

1. Almost everyone eats meat. Vegans and vegetarians only comprised 0.96% and 2.64% of the population, respectively.
2. The importance of farm animal welfare ranked low compared to other social issues. People indicated that human poverty, the U.S. health care system, and food safety were roughly 5 times more important to them than farm animal welfare. The financial well-being of farmers was rated as more important than food prices and the well-being of farm animals.
3. People believe the opportunity for animals to exhibit natural behaviors and exercise outdoors is more important than protection from other animals, shelter at a comfortable temperature, and comfortable bedding.
4. Although 81% of respondents believe animals and humans have the same ability to feel pain, most respondents believed human suffering should take precedence over animal suffering. Nevertheless, 62% believed farm animal welfare should be addressed even in the presence of human suffering.
5. Survey responses reveal that people are willing to allow up to 11,500 farm animals to suffer if the suffering of one human could be eliminated.
6. People recognize the link between improvements in farm animal welfare and higher meat prices. Many Americans are willing to pay for improved animal well-being. Almost 70% agreed that farmers should be compensated if forced to adopt more stringent animal welfare standards.
7. Most people believe that their purchases impact the lives of farm animals, and two-thirds of consumers believe that food companies will provide humanely raised meat if consumers want it.
8. Although people expressed confidence that food markets can respond to animal welfare concerns, they also indicated that the government should take an active role in promoting farm animal well-being.
9. Informing people of a benefit of gestation crates increased the percentage of people finding the crates humane by 27 percentage points.
10. People believe animals have better lives on “small” farms than “large” farms and better lives on “small” farms than “corporate” farms. Sixty-four percent of respondents felt that farmers and food companies put their own profits ahead of treating farm animals humanely.

11. Over three-quarters of respondents believe animals raised under higher welfare standards produce safer and better tasting meat.
12. An equal percentage of people thought animal welfare decisions should be based on expert opinions as the percentage of people who thought animal welfare decisions should be based on public opinion.
13. About 40% of the respondents believed ethical and moral considerations should be primarily used to determine how to treat farm animals, but about 45% believed scientific measures of animal well-being should be primarily used to determine how to treat farm animals.
14. There is a marked difference between what people say they believe about farm animal welfare and what they think the average American believes. Whereas 95% of people said it was important to them how farm animals are cared for, only 52% thought the average American had the same concern. Likewise, whereas 76% of respondents said animal welfare was more important than low meat prices to *them*, only 24% thought the average American felt the same. Such findings point to the fact that people respond to survey questions in a manner that creates a favorable impression of themselves, rather than their true preferences. Thus, in typical survey questions, people likely overstate their true concern for farm animal welfare.

Consumer Preferences for Farm Animal Welfare: Results of a Nationwide Telephone Survey

Farm animal welfare is an increasingly controversial and complex topic, as indicated by testimony presented in the House Agricultural Subcommittee hearing on animal welfare on May 11, 2007. Modern livestock practices provide low-cost meat to consumers, but some contend this is at the expense of farm animal welfare. The trend towards confined, intensive livestock operations has improved animal welfare in some regards but reduced welfare in other ways. Confined production systems protect animals from predators, provide comfortable temperatures, allow easy access for health treatment, and reduce the cost of meat production. However, to prevent animals from abusing one another many facilities house animals in cages or stalls. On poultry farms, beaks are often trimmed to prevent chickens from harmful pecking of fellow birds. Although such activities protect animal welfare in one respect, they are viewed unfavorably by the public, and some contend they reduce animal welfare in other respects.

The efforts of animal rights activists have created a new awareness of farm animal welfare and have led to changes in public policy and industry standards. Sow gestation crates are now banned in Florida and Arizona, and referendums for similar bans will likely appear on ballots in other states (Arnot and Gauldin, 2006). A pending House of Representatives bill (the Farm Animal Stewardship Purchasing Act) would require the government to ensure all egg and meat procurements comply with several animal welfare requirements (HSUS, 2007). The year 2007 brought further victories to animal rights groups. The largest swine producer, Smithfield Foods, announced it would phase out the use of gestation crates on its farms (Smith, 2007a), Burger King announced it would begin buying eggs and pork from suppliers who do not cage animals (Martin, 2007), and Wolfgang Puck (a celebrity chef) now refuses to purchase products from farms using what he calls “the worst practices associated with factory farming,” which include gestation crates (Farm Sanctuary, 2007).

Activists are not the only group responding to animal welfare concerns. To comfort meat eaters who consider themselves compassionate carnivores, Whole Foods market is developing a meat label “animal compassionate”, which ensures consumers the animal was raised in a humane fashion. A number of other labels and animal welfare certifications are also available, such as certified humane and free-farmed labels (Martin, 2006).

In addition to the niche markets catering to animal welfare concerns, livestock industry organizations have taken an active role in addressing animal welfare. The United Egg Producers, representing approximately 90% of all egg producers, is a prime example. They convened an outside, diverse, and objective committee to review the industry’s animal welfare standards. The committee made a number of suggestions,

one of which was to increase pen space from 48 to 67-86 square inches per bird. The recommendations were received enthusiastically by the United Egg Producers and are currently being implemented (Smith, 2007b). Some animal welfare experts are concerned that legislative bans on gestation crates and cages could ultimately reduce animal welfare (Curtis, Grandin, and McGlone, 2007). If they are correct, the actions of animal rights group could surprisingly cause a reduction in the well-being of farm animals.

While much has been heard from animal rights and industry groups in the farm animal welfare debate, the largest group of people affected—consumers—have been given little attention. From the few surveys that have been conducted, it is known that consumers place a good deal of trust in farmers, and believe farmers are concerned with the well-being of farm animals (Market Directions, 2006). At the same time, consumers indicate they would pay more for meat that is labeled humanely raised. Specifically, 33-55% say they are willing to pay 10% higher prices for meat or dairy products produced under more humane conditions (Market Directions, 2006; Rauch and Sharp, 2005).

While these surveys are informative, a number of questions remain. How important is farm animal welfare compared to other societal issues? What factors do consumers feel are important for providing animals with a pleasant life? To what extent are people willing to forego human welfare to attain enhanced farm animal welfare? Are people really willing to pay higher food prices to improve animal well-being, or are they just saying so in a survey? Do consumers feel their purchases influence animal well-being, and do they consider animal welfare at the grocery store? Who is ultimately responsible for ensuring adequate animal care and who should pay the costs of animal welfare improvements? How does the image of large, small, private and corporate farms differ in terms of animal treatment? Is there a perceived relationship between animal welfare and meat quality? These are all important questions; important questions we addressed by conducting a nationwide telephone survey.

Survey Details and Profile of Respondents

A nationwide telephone survey was conducted to provide insights into individuals' preferences for farm animal welfare. The survey was designed by Bailey Norwood and Jayson Lusk at Oklahoma State University, with input from a number of academics, industry professionals, and professional survey administrators. The Bureau for Social Research at Oklahoma State University was hired to administer the survey during June and July of 2007. A total of 48 survey questions regarding farm animal welfare were asked of each individual. Most of the questions were asked in a random order, eliminating ordering effects that could otherwise be present.

The goal of the survey was to provide a snap-shot of the opinions of a representative sample of the U.S. population. Thus, households from all U.S. states were contacted. A sample of telephone numbers was purchased from Survey Sampling International, Inc. Of this sample, 17% was from rural, 50% from suburban, and 33% was from Urban households, which matches the makeup of the U.S. population.

A total of 6,365 households were contacted, yielding 1019 usable survey responses (including 17 partially completed surveys), for a response rate of 16%. While some non-response bias always exists in surveys (meaning individuals with certain personality and demographic characteristics are more likely to participate in the survey), great care was taken to ensure that the participating individuals were not more or less likely to possess certain views on farm animal welfare.

The telephone interview proceeded as follows. After an individual over the age of 18 was contacted, the individual was asked if they would like to participate in a survey regarding their views towards food. The issue of farm animal welfare was not specifically mentioned to avoid biasing the sample with people of particularly strong opinions on the issue. The survey began with questions related to people's general concern for a variety of social issues, of which animal welfare was only one. Only after these initial questions did the survey delve more deeply into the treatment of farm animals.

An investigation of the survey respondents reveals that the surveyed sample is representative of the U.S. population, as shown in Table 1. The age, ethnicity, household size, and incomes of the survey respondents match closely with that of the population. Political party affiliations were split evenly, with 28% considering themselves Republicans, 33% Democrats, and 25% independent. A majority (62%) of respondents owned a pet, vegetarians comprised 2.64% of the sample, with vegans comprising only 0.96% of respondents.

Table 1. Demographics of Survey Respondents and the U.S. Population

	Survey Sample	U.S. Population
Percent Male	35%	49.3%
Percent Female	65%	50.7%
Average Age	52	49 ^a
Percent White	83%	75%
Percent African American	9%	12%
Percent Hispanic	3%	15% ^b
Percent with Bachelor's Degree	39%	24% ^c
Average Household Size (number of people)	2.73	2.57
Percent of Annual Households with Pre-tax Income \$0-29,999	26%	33%
Percent of Annual Households with Pre-tax Income \$30,000-\$99,999	53%	50%
Percent of Annual Households with Pre-tax Income \$100,000 or more	21%	17%

Sources: U.S. Census Bureau, Annual Demographic Survey.

^a For the head of household (person who owns or leases the housing unit).

^b Individuals can be listed as Hispanic and another ethnicity, so the ethnicity percentages do not have to sum to one.

^c Only counts those 25 years of age or more.

As with any survey, sampling error exists because not everyone in the population was surveyed. Most of our survey questions relate to the percentage of people who chose a particular response category. Given a sample size of 1,019 implies that the survey responses contain a sampling error of around 3%. Thus, if 50% of respondents said “yes” to a survey question, we can be 95% sure that the true proportion of people in the population who would say “yes” to this question is between 47% and 53%. As the percentage of respondents who said “yes” moves away from 50%, the lower the sampling error; thus, the maximum sampling error is 3%.

Results: Farm Animal Welfare as a National Issue

Some people believe farm animal welfare issues are of great importance, equaling or surpassing other societal issues such as poverty, food safety, and the environment. Previous surveys also tend to paint this picture. What is needed is a survey question that forces people to say not whether animal welfare is important, but whether it is more or less important than other issues. The first survey questions included in the

survey were designed to provide a measure of the importance of the well-being of farm animals relative to the following competing societal issues.

1. Human Poverty
2. U.S. Health Care System
3. Food Safety
4. The Environment
5. Financial Well-Being of U.S. Farmers
6. Food Prices

The Question

Respondents were presented with two randomly selected issues from the list above and were asked which issue they are more concerned with. For example, a respondent may have been asked, “Which issue are you more concerned with, the well-being of farm animals or the financial well-being of U.S. farmers?” After indicating which issue was of most concern, five additional questions were asked that were exactly the same except for the two issues the respondent was asked to choose between. The result is that 1,019 respondents each answered 6 questions in which each of the 7 issues were paired with each other numerous multiple times.

Justification for Question Format

One may wonder why this particular type of question was asked. The reason is that it forces individuals to seriously consider the importance of each issue. One could simply ask individuals to rate the importance of each seven issues on a scale of 1-7 (where 1 = not important and 7 = very important). However, individuals have a tendency to simply say all issues are important because it makes answering the questions easier. By forcing respondents to choose between two issues, there are no easy answers, and the individual must provide an answer that reflects greater thought on their part.

How the Data are Analyzed

Answers to this question are analyzed using a logit model, a statistical model specifically developed for these types of questions. In essence, we estimate the probability of a respondent choosing one issue as more important than another. For each issue, the logit models provides one number for each issue indicating its relative importance for all survey respondents. The predictions take the form of probabilities, and thus the sum of the estimated importance scores across all 7 issues must equal 100. If two issues (Issues A and B) are roughly equivalent in importance to respondents, roughly half the subjects will say Issue A is more important and half will say Issue B is more important. The logit models will then assign an identical number (say, 10) to both issues. Conversely, if Issue A is deemed more important by 500 individuals, and Issue

B deemed more important by 250 people, the logit model will assign an importance score to Issue A that is twice the score of issue B. For example, Issue A may receive a score of 30 while Issue B's score is 15. Therefore, the importance scores assigned to each issue reflects the percentage of times that issue was considered more important than other issues. The numbers can be compared proportionally, meaning if Issue A's number is two times larger than Issue B, Issue A is twice as important as Issue B.

Results

Results in table 2 show the relative importance of each issue. The importance scores can be interpreted as follows: if a large group of people were asked to state which of the 7 issues was most important, 23.95% would say human poverty, 23.03% would say U.S. Health Care, 21.75% would say food safety, and so on. Table 2 shows that farm animal welfare was estimated as the least important of the seven societal issues, and is of similar importance to food prices. This indicates that Americans feel the well-being of farm animals is almost as important as maintaining low food prices. However, both issues are trumped by the financial well-being of U.S. farmers. This illustrates that legislation improving farm animal welfare is not desirable if it causes significant economic harm to U.S. farmers. One should note that the phrase "farmers" likely plays a role in the outcome. Had the phrase been replaced with "food companies" or "corporate farms" the results would likely have changed. Finally, protecting the environment and promoting food safety were the leading food-related issues, both warranting more attention than farm animal welfare. Issues directly related to human welfare (poverty, health care, and food safety) were more than 5 times more important than the well-being of farm animals.

Table 2. Importance of Farm Animal Welfare as a National Issue

<i>Relative Importance of Each Issue</i>	
Human Poverty	23.95
U.S. Health Care System	23.03
Food Safety	21.75
The Environment	13.91
Financial Well-Being of U.S. Farmers	8.16
Food Prices	5.06
Well-Being of Farm Animals	4.15

Note: The numbers associated with issue indicates its relative importance compared to the other issues. The numbers can be interpreted as the percent of people who would say that issue is the most important issue from the list, and therefore the numbers must sum to 100.

Results: Factors Determining Farm Animal Welfare

Scientists have spent decades studying the factors that influence farm animal welfare in livestock production systems. Yet, if the factors deemed most important to scientists differ from the perceptions of the general public, efforts to increase food value via enhanced animal welfare may fail. For example, if food consumers prefer eggs from cage-free production systems, but these cage-free systems lower farm animal welfare, consumers' concern for animal welfare may actually harm animals. To aid food companies developing animal-friendly products and to help industry groups develop strategic responses to animal welfare initiatives, it is imperative that consumer perceptions of what enhances farm animal welfare be understood. The second portion of the survey sought to determine the relative importance of each of the following nine factors in promoting farm animal welfare. This list is developed from the Five Freedoms list, which is the standard list of all factors contributing to animal welfare (Appleby and Hughes).¹ The list was expanded and made more specific so that it could be used to evaluate specific animal production practices. Also included in the list is a factor regarding food prices. These factors are as follows.

To ensure high animal welfare, it is important that farm animals...

1. receive ample food and water
2. receive treatment for injury and disease
3. are allowed to exhibit normal behaviors
4. are allowed to exercise outdoors
5. are protected from being harmed by other animals
6. are provided shelter at a comfortable temperature
7. are allowed to socialize with other animals
8. are raised in a way to keep prices low
9. are provided comfortable bedding

As with the previous question, individuals were presented with two randomly chosen factors and asked which of the two factors was more important for raising farm animals. Six of these questions were asked of each respondent, with different factors randomly drawn for each question. The motivation for using such a question format and the methods used to analyze the responses are described in the previous section.

¹ The Five Freedoms are (1) freedom from hunger and thirst (2) freedom from discomfort (3) freedom from pain, injury, and disease (4) freedom to express normal behavior and (5) freedom from fear and distress. These freedoms were developed by the Farm Animal Welfare Council of the United Kingdom in the 1960's.

Results

Providing ample food and water and treatment for injury and disease are the most important factors. This result is not unanticipated, but it does provide a useful benchmark from which to compare the relative importance of the remaining factors. Access to outdoors and the opportunity to behave normally top the list of the remaining factors, and are more important than protection from other animals. This has important implications for how consumers evaluate sow stalls and battery cages. Access to outdoors is more important than protection from the weather and socialization with other animals. Comfortable bedding is the least important factor.

Table 3. Importance of Livestock Production Practices

<i>Relative Importance of Each Farm Animal Welfare Factor</i>	
<i>It is important that farm animals ...</i>	
receive ample food and water	38.43
receive treatment for injury and disease	29.05
are allowed to exhibit normal behaviors	8.01
are allowed to exercise outdoors	7.95
are protected from being harmed by other animals	5.90
are provided shelter at a comfortable temperature	4.43
are allowed to socialize with other animals	2.76
are raised in a way to keep prices low	1.75
are provided comfortable bedding	1.72

Note: The numbers associated with issue indicates its relative importance compared to the other issues. The numbers can be interpreted as the percent of people who would say that issue is the most important issue from the list, and therefore the numbers must sum to 100.

These results suggest consumers may view high animal welfare as meaning a pasture production system. Pasture systems allow access to outdoors and give animals freedom to behave naturally, but does not necessarily protect them from the weather, other animals, or provide them with comfortable bedding. This is in direct contrast with the opinion of many animal welfare experts, who contend shelter, comfortable temperatures, and protection from other animals to be the most important issues. Finally, table 3 shows that, in this particular question format, food prices have a lower priority compared to farm animal welfare as compared to the previous question format. This may be due to the fact that the question primarily is concerned with farm animal welfare, forcing respondents to consider it more carefully. Also, if respondents believe

the portion of the survey devoted to farm animal welfare is an indication of its importance, the question itself may induce greater concern for animal well-being.

Results: Farm Animals versus Humans

In many cases, the welfare of farm animals and humans can be improved simultaneously through certain production practices. Protecting animals from hurting one another reduces animal suffering, but also reduces bruising of meat, benefiting both animals and humans. Yet, in other cases a tradeoff must be made. Providing animals with access to the outdoors may improve animal welfare (so long as they are given sufficient space per animal), but may raise meat production costs without improving the quality of the meat. Breeding animals can be selected based on their docility, placing less emphasis on meat quality and ultimately leading to less desirable food taste. In these cases, the benefits to the animal must be weighed against the costs to humans.

There is little doubt that society could devote more resources to improving the lives of humans, especially those with a disadvantaged background or those living in developing countries. Do these humans needs take complete precedence over animals, or do farm animals warrant concern even in the face of human suffering? That is, should society focus more on reducing human suffering before turning attention to the well-being of farm animals? The answers in Table 4 suggest the answer is no.

Table 4. Do you agree with the following statement? <i>Until we learn to significantly reduce human suffering, we should not worry about the well-being of farm animals.</i>		
Strongly Agree	14%	
Agree	14%	28%
Neither Agree Nor Disagree	9%	9%
Disagree	24%	
Strongly Disagree	38%	62%
Don't Know	2%	2%
<i>1,005 Responses</i>		

Most people feel that farm animal welfare deserves some attention, even if society has room to improve in terms of the welfare of humans. However, how individuals interpret the word “suffering” is not straightforward. When answering this question, do individuals view animals as a sentient being like humans, or are they considered a less sentient being with a reduced capacity to undergo suffering? The question in Table 5 suggests that people believe farm animals’ ability to suffer is equivalent to that of humans. This provides insights into the unpopularity of cages. When individuals see sows in gestation crates, perhaps they think about how

uncomfortable they would be in a tight cage on a hard concrete floor, extrapolating this to animals and assuming they undergo the same psychological strain

Table 5. Do you agree with the following statement? <i>Farm animals have roughly the same ability to feel pain and discomfort as humans.</i>		
Strongly Agree	57%	
Agree	24%	81%
Neither Agree Nor Disagree	5%	5%
Disagree	7%	
Strongly Disagree	5%	12%
Don't Know	3%	3%
<i>1,007 Responses</i>		

One difficulty with the result in table 4 is that people were not explicitly forced to make a trade-off. Exactly how much human suffering should be taken care of before we focus on animals? A third question attempted to quantify the extent to which a human's well-being can be sacrificed for that of a farm animal. Is one human worth more than one thousand farm animals, one million, or an infinite number of farm animals? Consider the question below which was asked of each individual, where the value of X varied randomly across survey respondents. That is, for some people the value of X was 50, for others X was 100, for others X was 500, etc.

Table 6. Do you agree with the following statement? <i>If a new technology were created that could either eliminate the suffering of 1 human or the suffering of X farm animals, it should be used to eliminate the suffering of the 1 human.</i>		
$X =$	% Who Agree	% Who Disagree
1	86%	9%
10	80%	13%
50	71%	19%
100	61%	27%
500	69%	20%
1,000	62%	18%
5,000	51%	35%
10,000	50%	34%

Note: the percent who agree and disagree may not sum to one because some could answer "neither agree nor disagree" or "don't know".

The answers in Table 6 suggest that people, as a whole, are able to make rational, calculated tradeoffs between the suffering of animals and humans. Increasing the number of animals who must suffer, to prevent one human from suffering, decreases the percentage of respondents who believe the human should be given priority. These data allow us to use statistical modeling (the aforementioned logit model) to calculate an exact number of animals which are equivalent to one human, and this number is 11,500. When given the choice to prevent one human from suffering and 11,500 farm animals from suffering, half respondents are expected to choose the human and half the farm animals. The number suggests that, for the average person, the suffering of 11,500 farm animals is equivalent to the suffering of one human. Thus, if one human's suffering reduces the suffering of more than 11,500 farm animals, the human suffering is justified. This has the important result that human welfare does not take complete priority over animal welfare. There is a calculated tradeoff between the welfare of humans and animals, where the welfare of both count, but one human counts 11,500 times more than one farm animal.

Results: Farm Animal Welfare and Meat Prices

Some factors contributing to animal welfare also enhance the animal productivity, decreasing production costs. As such, farmers would likely adopt such measures voluntarily. However, other factors increase the cost of production, leading to higher meat prices. The questions in Tables 2 and 3 have already illustrated people's willingness to face higher meat prices for enhanced animal welfare. Several additional questions were asked to ascertain whether individuals' associate improvements in animal welfare with higher meat prices, and if so, whether they were willing to accept such price rises.

Table 7. Do you agree with the following statement?		
<i>If food companies improve animal welfare standards, the price of meat will rise.</i>		
Strongly Agree	38%	
Agree	36%	74%
Neither Agree Nor Disagree	6%	6%
Disagree	10%	
Strongly Disagree	7%	17%
Don't Know	3%	3%
<i>512 Responses</i>		

As Table 7 above shows, a majority of people believe improvements in animal well-being will lead to higher meat prices. To further test this belief, Table 8 asks the question in a slightly different manner. Instead of asking whether individuals think meat prices will rise in response to animal welfare improvements, they are asked

whether meat prices will fall. A majority disagreed with the Table 8 question, lending further credence to the finding that improving the life of farm animals is expected to raise meat prices for consumers.

Table 8. Do you agree with the following statement?		
<i>If food companies improve animal welfare standards, the price of meat will fall.</i>		
Strongly Agree	6%	18%
Agree	12%	
Neither Agree Nor Disagree	14%	14%
Disagree	32%	
Strongly Disagree	30%	62%
Don't Know	7%	7%
<i>491 Responses</i>		

Given that consumers understand the tradeoff between animal happiness and meat prices, what is their willingness to make this tradeoff? The question below shows that consumers generally feel that the well-being of farm animals is more important than low meat prices. This suggests that individuals are willing to accept some increase in meat prices if it is necessary to ensure farm animal well-being.

Table 9. Do you agree with the following statement?		
<i>Low meat prices are more important than the well-being of farm animals.</i>		
Strongly Agree	5%	16%
Agree	11%	
Neither Agree Nor Disagree	7%	7%
Disagree	26%	
Strongly Disagree	50%	76%
Don't Know	1%	1%
<i>1004 Responses</i>		

It is important to keep in mind the context of these questions. The question in Table 9 is a hypothetical question. Individuals can freely say meat prices are a low priority and suffer no consequences from their answer. That is, those who say animal welfare is more important than low meat prices do not actually pay higher meat prices. As a result, individuals can easily misrepresent their true preferences at no cost. This is a phenomena referred to as social desirability bias, where individuals give the answer they believe will create a favorable impression, as opposed to the answer reflecting their true preferences. By saying animal welfare is more important than low meat prices, the individual appears to be a compassionate person, the individual makes herself feel good by giving a compassionate answer, at no cost to herself. As a result, the survey

overestimates individuals' true willingness to pay higher meat prices for enhanced animal welfare.

A method for correcting this bias exists, which entails asking individuals how they think *another* person would answer the question. The idea is that although people want to create a favorable impression of themselves, they have little desire to create a favorable impression of others. When responding to how they think another person would answer, people “factor out” the need to create a positive impression. The result is that people’s predictions of other’s behavior can provide a more accurate picture of how the respondent would actually behave than the typical survey approach of asking people how they would behave. Indeed, we have shown in our previous research that this so-called indirect questioning approach reduces social desirability bias and improves one’s ability to predict actual shopping behavior in a grocery store (Lusk and Norwood, May and August, 2007).

Table 10. Do you agree with the following statement? <i>The average American thinks that low meat prices are more important than the well-being of farm animals.</i>		
Strongly Agree	35%	
Agree	33%	68%
Neither Agree Nor Disagree	6%	6%
Disagree	12%	
Strongly Disagree	12%	24%
Don't Know	3%	3%
<i>1008 Responses</i>		

When comparing the answers in Table 10 to those in Table 9, it is clear that a significant degree of social desirability bias may be present in Table 9. Whereas most people say they value farm animal welfare more than low meat prices, they also say the average American thinks low meat prices are more important. This suggests that individuals truly value low meat prices more than animal happiness, but that they are just reluctant to say so in a survey.

Table 11. Do you agree with the following statement? <i>It is important to me that animals on farms are well cared for.</i>		
Strongly Agree	75%	
Agree	20%	95%
Neither Agree Nor Disagree	2%	2%
Disagree	2%	
Strongly Disagree	1%	3%
Don't Know	0%	0%
<i>1017 Responses</i>		

Consider also the answers in Tables 11 and 12, which also suggest social desirability bias. An overwhelming majority of people agree with the statement, *“It is important to me that animals on farms are well cared for.”* This is consistent with the findings of Rauch and Sharp that 75% of Ohioans believe farm animals should be protected from physical pain. Yet, would we really expect someone to disagree with this statement? Even if one cares little for farm animals, disagreeing with this statement makes one appear insensitive and crude, something most of us want to avoid. Now consider the statement, *“The average American thinks that farm animal welfare is important.”* This is not exactly the same question, but is similar. Roughly half of individuals agree with this statement. So, although people are reluctant to say they do not care about the welfare of farm animals, they will say that the average American does not care. This provides a unique insight into that person’s own, true beliefs about the importance of farm animal well-being. In all likelihood, respondents overstate their true concerns for farm animals in typical survey questions.

Table 12. Do you agree with the following statement?		
<i>The average American thinks that farm animal welfare is important.</i>		
Strongly Agree	25%	52%
Agree	27%	
Neither Agree Nor Disagree	9%	9%
Disagree	21%	
Strongly Disagree	16%	37%
Don't Know	2%	2%
<i>1015 Responses</i>		

Results: Shopping for Animal Compassionate Meat

Retailers and restaurants are placing an increasing emphasis on how farm animals are treated, suggesting some individuals consider animal welfare in their meat and dairy purchasing decisions. What about most Americans, or the average American? To determine the extent to which farm animal welfare influences meat purchasing decisions, individuals were asked whether they consider animal welfare when shopping for meat. Surprisingly, half of the survey respondents say they do. This response is suspect, given there are so few retailers advertising meat raised under more humane standards. Perhaps this question is also subject to social desirability bias, where people are simply reluctant to admit they pay animal welfare no concern when food shopping. Again, to test for social desirability bias, individuals were also asked whether they think the average American considers animal well-being in their meat purchasing decisions. As shown in Table 14, only 21% of individuals think the average

American makes their meat purchasing decisions with animal welfare in mind. While readers are free to form their own interpretation of Tables 13 and 14, one could reasonably conclude that meat purchasing decisions are usually made with little consideration towards how the animal was raised.

Table 13. Do you agree with the following statement?
I consider the well-being of farm animals when I make decisions about purchasing meat.

Strongly Agree	29%	49%
Agree	20%	
Neither Agree Nor Disagree	10%	10%
Disagree	20%	
Strongly Disagree	21%	41%
Don't Know	1%	1%

1011 Responses

Table 14. Do you agree with the following statement?
The average American considers the well-being of farm animals when they make decisions about purchasing meat.

Strongly Agree	9%	21%
Agree	12%	
Neither Agree Nor Disagree	5%	5%
Disagree	30%	
Strongly Disagree	41%	71%
Don't Know	2%	2%

1006 Responses

Results: Responsibility for Farm Animal Welfare

The results thus far illustrate that survey respondents believe increased animal well-being will lead to higher meat prices, and some individuals are willing to accept these consequences. Some portion of consumers also allow animal welfare considerations to influence their purchasing decisions. Thus, some consumers are willing to accept some responsibility for the life of farm animals. Attention is now given to measuring the perceived responsibility of food companies, farmers, and government for ensuring adequate animal care.

Livestock industry organizations contend that the treatment of farm animals should be driven by market forces, not government regulation. They believe that if some individuals wish to pay higher prices for enhanced animal welfare that markets will meet this demand, but those individuals should not impose their preferences on others. Many consumers also favor the market solution, as polls find 84% of consumers believe they should have the right to choose what they eat, and should not be dictated

by a small minority of activists (Market Directions).² Indeed, the introduction of private labels reflecting animal treatment, such as Whole Foods’ Animal Compassionate Label, suggests that such niche markets might adequately address farm animal welfare concerns without government intervention. For food markets to adequately address the farm animal welfare question, consumers must feel that their food purchasing patterns do indeed impact farm animal welfare. Otherwise, if one consumer feels their sole purchases are too insignificant to make a real impact, they will likely prefer government regulation of entire livestock industries.

The survey revealed that most consumers believe their food choices do matter. Roughly half of survey respondents believe they can provide farm animals with adequate treatment if they make the appropriate food choices, and pay the required premium. Further, consumers believe food companies do indeed understand consumer preferences for animal welfare, and will provide animal-friendly products if people request such products. Tables 15 and 16 show that, whatever preferences people have for animal treatment, most people believe the private market can adequately meet those preferences without government regulation.

Table 15. Do you agree with the following statement?
My personal food choices have a large impact on the well-being of farm animals.

Strongly Agree	25%	
Agree	27%	52%
Neither Agree Nor Disagree	9%	9%
Disagree	19%	
Strongly Disagree	17%	36%
Don’t Know	4%	2%
<i>1002 Responses</i>		

Table 16. Do you agree with the following statement?
Food companies would voluntarily improve animal welfare, and would advertise as such, if people really wanted it.

Strongly Agree	32%	
Agree	36%	68%
Neither Agree Nor Disagree	6%	6%
Disagree	12%	
Strongly Disagree	11%	23%
Don’t Know	3%	3%
<i>1003 Responses</i>		

² The wording of the question by Market Directions should be noted. In a nationwide poll, 86% of respondents agreed with the statement “consumers should have the right to choose what they eat and not be dictated to by a small minority of activists.” The phrasing of this question was sure to elicit a large proportion of subjects agreeing.

That said, individuals still desire some government involvement. Government should promote animal welfare, a majority of respondents say, and three-fourths would vote for a law requiring animals to be treated more humanely. As always, readers are free to interpret these results however they like. However, one could reasonably make the following conclusion regarding Tables 17 and 18. Individuals feel farm animal welfare is important, that society should pay it some attention. Government reflects society's values, so if society values animal welfare, this value should be coded into law. One should also bear in mind that Table 18 may be subject to social desirability bias. Agreeing with the statement makes one appear compassionate, and disagreeing with it crude. It would be interesting to learn what percent of these individuals would vote for a real law if it resulted in financial distress to the farm sector and/or higher farm prices.

Table 17. Do you agree with the following statement? <i>The government should take an active role in promoting farm animal welfare.</i>		
Strongly Agree	42%	68%
Agree	26%	6%
Neither Agree Nor Disagree	6%	6%
Disagree	10%	24%
Strongly Disagree	14%	2%
Don't Know	2%	2%
<i>1006 Responses</i>		

Table 18. Do you agree with the following statement? <i>I would vote for a law in my state that would require farmers to treat their animals more humanely.</i>		
Strongly Agree	55%	75%
Agree	20%	8%
Neither Agree Nor Disagree	8%	8%
Disagree	7%	16%
Strongly Disagree	9%	2%
Don't Know	2%	2%
<i>1004 Responses</i>		

It is the farmers who raise the live animal and food companies that process the animal. Does this imply that food companies are not responsible for the treatment of food animals (besides the manner in which they are slaughtered)? The answer is no. Consumers believe that food companies should restrict farmers' freedom and impose rules on how the animals are raised. A large majority believe that food companies should require farmers to treat animals better. However, this imposition should be made with costs in mind, as support for the statement in Table 20 falls when the statement includes the phrase "*no matter what it costs farmers.*"

Table 19. Do you agree with the following statement?
Food companies that require farmers to treat their animals better are doing the right thing.

Strongly Agree	66%	89%
Agree	23%	
Neither Agree Nor Disagree	4%	4%
Disagree	3%	
Strongly Disagree	3%	6%
Don't Know	1%	1%

521 Responses

Table 20. Do you agree with the following statement?
Food companies that require farmers to treat their animals better, no matter what it costs farmers, are doing the right thing.

Strongly Agree	42%	
Agree	28%	70%
Neither Agree Nor Disagree	9%	9%
Disagree	13%	
Strongly Disagree	8%	21%
Don't Know	1%	1%

490 Responses

Returning to the question of who bears responsibility for animal welfare, the answer appears to be everyone. Consumers believe their food purchases matter—consumers are responsible. Consumers believe food companies should place pressure on farmers to treat animals better—food companies are responsible. Consumers believe markets will reflect preferences for farm animal welfare—markets are responsible. Consumers also believe some degree of government regulation is warranted—government is responsible. People believe farm animal welfare is the responsibility of everyone.

Results: Responsibility for Higher Production Costs

Previous results illustrated that some consumers are willing to pay higher meat prices if it improves the lives of farm animals. This does not imply consumers are willing to pay all the cost, nor does it indicate the amount of financial distress they are willing to place on U.S. farmers for enhanced animal welfare. Table 2 showed that consumers are more concerned with the financial well-being of U.S. farmers than farm animal welfare. The contrast between the results in Tables 19 and 20 illustrated that food company requirements of farms should take into consideration the costs imposed on the farm.

Indeed, most Americans believe farmers should be compensated if forced to comply with higher farm animal welfare standards, whether the force comes from

government regulation or food companies. This wording of the statement in Table 21 does not imply that farmers would be compensated *all* the added costs, just at least some portion.

Table 21. Do you agree with the following statement?		
<i>Farmers should be compensated if forced to comply with higher farm animal welfare standards.</i>		
Strongly Agree	37%	69%
Agree	33%	
Neither Agree Nor Disagree	6%	6%
Disagree	12%	
Strongly Disagree	10%	22%
Don't Know	2%	2%
<i>1005 Responses</i>		

Overall, farm animal welfare is the responsibility of farmers, food companies, consumers, and government. If farm animal welfare is enhanced, production costs are expected to rise, and no one group should pay the entire additional cost. Farmers should be compensated, at least somewhat, for higher production costs, and some consumers are willing to pay higher meat prices. While consumers feel farm animal welfare is the partial responsibility of farmers and food companies, they also feel these two groups will only improve animal welfare if it is profitable or mandated by government. A total of 64% of survey respondents agree with the statement, *“farmers and food companies put their own profits ahead of treating farm animal humanely.”* This stands somewhat in contrast to another survey that found 81% of consumers believe farmers and ranchers are concerned about the well being of their animals (Market Directions). The discrepancy might be due to the inclusion of the group *“food companies.”* Also, the result need not imply that farmers do not care about their animals, only that most people believe farmers care more about profits than the animals.

Table 22. Do you agree with the following statement?		
<i>Farmers and food companies put their own profits ahead of treating farm animals humanely.</i>		
Strongly Agree	36%	64%
Agree	28%	
Neither Agree Nor Disagree	9%	9%
Disagree	12%	
Strongly Disagree	9%	21%
Don't Know	5%	5%
<i>1002 Responses</i>		

Perceptions of Crates, Cages, Large Farms, and Corporate Farms

Not surprisingly, housing chickens in cages and pregnant sows in crates is deemed inhumane by a majority of individuals. However, when told that the crates are used to protect hogs from one another, those who feel crates are inhumane drops from 64% to 32%. While cages and crates have a negative impression by the general public, the public can be more accepting the crates have adequate justification.

Table 23. Do you agree with the following statement?
Housing chickens in cages is humane.

Strongly Agree	13%	31%
Agree	18%	
Neither Agree Nor Disagree	10%	10%
Disagree	18%	
Strongly Disagree	37%	55%
Don't Know	4%	4%
<i>1001 Responses</i>		

Table 24. Do you agree with the following statement?
Housing pregnant sows in crates is humane.

Strongly Agree	10%	18%
Agree	8%	
Neither Agree Nor Disagree	11%	11%
Disagree	19%	
Strongly Disagree	45%	64%
Don't Know	6%	6%
<i>512 Responses</i>		

Table 25. Do you agree with the following statement?
Housing pregnant sows in crates for their protection from other hogs is humane.

Strongly Agree	21%	45%
Agree	24%	
Neither Agree Nor Disagree	12%	12%
Disagree	16%	
Strongly Disagree	16%	32%
Don't Know	11%	11%
<i>490 Responses</i>		

A slight majority (57%) feel farm animals are better off on small than large farms, and this percentage rises to 69% when the term “large farm” is replaced with “corporate

farm.” Not surprisingly, consumers feel large farms and corporate farms place less emphasis on farm animal welfare.

Table 26. Do you agree with the following statement?
Farm animals raised on small farms have a better life than those raised on large farms.

Strongly Agree	34%	
Agree	23%	57%
Neither Agree Nor Disagree	15%	15%
Disagree	10%	
Strongly Disagree	7%	17%
Don't Know	11%	11%
<i>519 Responses</i>		

Table 27. Do you agree with the following statement?
Farm animals raised on small farms have a better life than those raised on corporate farms.

Strongly Agree	41%	
Agree	28%	69%
Neither Agree Nor Disagree	12%	12%
Disagree	8%	
Strongly Disagree	5%	13%
Don't Know	7%	7%
<i>484 Responses</i>		

Relationship Between Animal Welfare and Meat Quality

A previous section illustrated the great importance consumers place on food safety, much more so than farm animal welfare. Yet, the two may be related if consumers feel farms with higher standards of animal care will also produce safer meat. That is, people may indicate that they are concerned about animal welfare, not for the sake of the animal per se, but because they like better tasting, safer meat. Perhaps there is a perception that farmers who pay more attention to the well-being of their animals are more considerate and responsible farmers, and are therefore more attuned to ensuring the safety of their meat. This appears to be the case, as 53% of respondents strongly agreed and 25% agreed with the statement, “*Animals raised under higher standards of care will produce safer and better tasting meat.*”

Table 28. Do you agree with the following statement? <i>Animals raised under higher standards of care will produce safer and better tasting meat.</i>		
Strongly Agree	53%	78%
Agree	25%	
Neither Agree Nor Disagree	8%	8%
Disagree	6%	
Strongly Disagree	4%	10%
Don't Know	4%	4%
<i>1,014 Responses</i>		

Results: The Measurement of Animal Welfare

Animal rights groups consistently contend that modern production practices are immoral, while livestock industry groups argue their methods are scientifically proven to ensure high animal welfare standards. It is understandable why those unfamiliar with modern agriculture feel uncomfortable with practices like the use of gestation crates. To many, it simply feels immoral or unethical. Yet, to what extent will consumers forego this feeling if scientists show, perhaps through measurements of hormone or stress levels, that these crates do not lead to animal suffering?

Alternatively, if it could be proven conclusively that animals have lower stress in crates, would people accept this as a valid reason for the crate or will their ethical belief that crates are wrong trump their decision?

The question in Table 29 provides some insight. This is a difficult question for the average person to understand, much less answer, so the reader should use some caution in interpreting the responses. Overall, the public appears split between whether scientific measures or moral considerations should determine animal well-being. This result provides indication that a significant portion of the population is willing to trust scientific measures of animal happiness. However, it also suggests that a large fraction of people (39%) will be unconvinced by scientific reasoning about the well-being of animals in different production systems.

Table 29. Do you agree with the following statement? <i>Scientific measures of animal well-being should be used to determine how farm animals are treated, not moral or ethical considerations.</i>		
Strongly Agree	22%	
Agree	23%	45%
Neither Agree Nor Disagree	12%	12%
Disagree	18%	
Strongly Disagree	21%	39%
Don't Know	4%	4%
<i>1,001 Responses</i>		

Finally, given the many questions asked in this survey, does the public believe their responses should be used to make decisions about farm animal welfare? Or, do they believe themselves inadequate and would rather rely on experts? According to Table 30, people are split between public opinion and experts. Given that individuals are not told what constitutes an “expert”, interpreting these responses is no easy task. However, one could reasonably conclude that respondents – as a whole–feel animal welfare decisions should involve both public opinion and expert opinion.

Table 30. Do you agree with the following statement? <i>Decisions about animal welfare should be left to experts, and should not be based on public opinion.</i>		
Strongly Agree	31%	
Agree	21%	52%
Neither Agree Nor Disagree	7%	7%
Disagree	16%	
Strongly Disagree	24%	40%
Don't Know	1%	1%
<i>1,003 Responses</i>		

Sensitivity Analysis: Effect of Weighting Responses

As shown in Table 1, females had a higher survey participation rate than males. If females have different preferences than males, then the percentages reported in this study may not be representative of the entire nation. One could weight the responses of males and females to calculate the expected responses if males and females represented exactly half of the survey population. Such weighting has only a negligible effect on the responses though, as illustrated for one question in Table 31. For this reason, weighting of survey responses to provide a more representative picture of preferences is unnecessary.

Table 31. Do you agree with the following statement? <i>I consider the well-being of farm animals when I make decisions about purchasing meat.</i>		
	Raw Survey Responses	Responses Adjusted for Gender
Strongly Agree	29%	27%
Agree	20%	20%
Neither Agree Nor Disagree	10%	10%
Disagree	20%	20%
Strongly Disagree	21%	23%
Don't Know	1%	1%
<i>1,011 Responses</i>		

Summary and Conclusion

The emotional and contentious topic of farm animal welfare has heard arguments from animal rights and livestock industry groups, but very little from American consumers. A nationwide telephone survey of U.S. consumers was undertaken to measure consumer preferences for farm animal welfare. As the respondent profile matches closely with the demographic profile of the U.S. in terms of gender, age, ethnicity, income, and region, the responses provide an accurate picture of nationwide animal welfare attitudes, beliefs, and preferences.

Consisting of 48 total questions, the survey provides an abundance of interesting results, and groups on both sides of the farm animal welfare will undoubtedly find some results consistent with their platform and some that are not. Hopefully, the results will help both industry and animal rights groups understand the views of the general public, and will encourage a better consensus on how farm animals should be raised.

A few key points emerge from the survey. The vast majority of Americans are consumers of meat and dairy products. They rate farm animal welfare low relative to other social issues like food safety and poverty. The financial well-being of U.S. farmers is given greater priority than the well-being of farm animals. Thus, government regulation to improve animal welfare will not be desirable from society's viewpoint unless it has a minor impact on farms. Still, people do care about farm animal well-being. Consumers believe efforts should be made to reduce animal suffering, even in the presence of human suffering. People can make calculated tradeoffs between the welfare of people and farm animals, where the suffering of one person is equivalent to the suffering of 11,500 farm animals.

Respondents understand that enhanced animal care will lead to higher meat prices, and many are willing to pay these higher prices. Consumers appear confident that if they desire food products with greater animal care, food companies will provide and advertise such products. While this confidence in markets would seem to imply government regulation is unnecessary, a majority of people still prefer some government involvement in farm animal welfare.

Livestock industries should pay close attention to the result that 75% of respondents said they would vote for laws requiring more humane treatment of farm animals. Given the recent successes of animal rights groups at the voting booth, future successes seem likely. Respondents associate humane farms as those that provide animals with access to outdoors and generally view cages as inhumane. However, it should be noted that cages are more tolerated when they are used to protect animals from hurting one another. Animal care and food safety are not unrelated. Farms with greater standards of care are thought to produce safer and better tasting meat.

Finally, there is a significant difference in what people say they believe about farm animal welfare and what they think the average American believes. This could be

interpreted to mean that people inflate their concern for farm animals in surveys to create a favorable impression of themselves. Future studies measuring consumers' willingness-to-pay higher meat prices in exchange for enhanced farm animal welfare should enact measures to correct for this bias.

In the coming years, many laws regarding farm animal treatment may be proposed at local, state, and federal governments. Legislation that is passed could have a profound effect on animals, meat and dairy consumers, and those who make their living in the livestock and meat production industries. As well-funded interest groups will no doubt have their say in the desirability of proposed legislation, it is important that policymakers also consider the views of the average American consumer—the views expressed in this survey.

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