# U.S. Cow-Calf Producer Viewpoints of Animal Welfare in the Beef Industry: Survey Summary

July 30, 2015

**Melissa G.S. McKendree (Kansas State University),**
**Glynn T. Tonsor (Kansas State University),**
**Christopher A. Wolf (Michigan State University),**
**Daniel U. Thomson (Kansas State University), and**
**Janice C. Swanson (Michigan State University)**

*** The views expressed here are those of the authors and may not be attributed to the U.S. Department of Agriculture which the authors acknowledge for providing partial funding support for this research (National Institute of Food and Agriculture Grant No. 2012-68006-30178).**

KANSAS STATE UNIVERSITY | Department of Agricultural Economics

# U.S Cow-Calf Producers Viewpoints of Animal Welfare in the Beef Industry: Survey Summary

Melissa G.S. McKendree, Glynn T. Tonsor, Christopher A. Wolf, Daniel U. Thomson, and Janice C. Swanson

July 2015

## Introduction

The U.S. livestock industry is increasingly faced with pressure to adjust practices in response to societal concerns. A specific area of growing concern surrounds how production practices impact the welfare of farm animals. Although consumers' concerns and attention to animal welfare have increased recently, corresponding research and outreach efforts have not kept pace. It is important to understand the social and economic implications for the beef industry of animal welfare concerns. This understanding starts with a benchmarking of existing awareness and perceptions of both producers and the public. A research and extension project funded by a U.S. Department of Agriculture (USDA) grant [1] provides this benchmarking information by identifying U.S. consumer and producer perceptions of animal welfare in the beef and dairy industries. This report specifically summarizes the responses to survey questions assessing cow-calf producers' perceptions of animal welfare in the beef industry. Separate reports will summarize responses to parallel surveys examining views of dairy cattle producers as well as public perceptions of animal welfare in the beef and dairy industries.

## Research Design

Both mail and online surveys were administered in December 2013 to collect information about U.S. cow-calf producers' current production practices, perceptions of the cow-calf sector of the beef industry and demographic characteristics. The survey was written by a team of Kansas State University and Michigan State University researchers. Respondents were randomly assigned to one of eight versions of the survey. A full survey version and description of survey versions is available in Appendix A. Fifteen-hundred surveys were mailed using Beef Magazine mailing lists and 433 surveys were returned (response rate of 28.9%). Of the 15,202 online survey requests, there were 290 responses (response rate of 1.9%). Where appropriate, online survey questions were presented with the answers varying randomly in the order shown to respondents. Observations which were missing more than 90% of the responses were removed resulting in a total of 686 usable surveys. Additional best-worst sampling assessments included in the survey are presented in Appendix B.

[1] National Institute of Food and Agriculture Grant No. 2012-68006-30178.

## Survey Respondents and Farm Demographic Information

Summary statistics of survey respondents are detailed in Table 1. The majority of survey respondents were males with the average age being 46 years. Respondents' education levels were varied with the majority having received at least a high school diploma. Fifty percent of respondent households' had annual incomes of $75,000 or more. The median annual U.S. household income is $53,046 (U.S. Census Bureau, 2015).[2] Thus, the households surveyed have higher than average annual incomes. Sixty-three percent of respondents indicated that 50% or less of their household income came from their beef cattle operation.

The majority of respondents reported having raised beef cattle for over 30 years. Fifty-two percent expect to their operations to continue raising cattle for less than twenty years.

Table 2 details summary statistics related to the respondents' operations. Three-fourths of the sample have cow-calf operations in the South or Midwestern regions of the U.S. The average farm in the sample sold 103 calves, 88 yearlings and 69 finished calves in 2012. The majority of cow-calf operations in the sample stated they had less than 200 beef cows on their farm as of January 1st, 2013. Nearly one-third of the sample did not use any claims when marketing their cattle. Conversely, nearly half used a pre-conditioned claim, and 30% a humanely raised claim. Only 1% made an organic claim when marketing their cattle. Local auctions were the most commonly used outlet to market cattle.

*Table 1. Demographic summary statistics of respondents (n=686)*

| Demographic Variable | Percent |
|---|---|
| **Gender** | |
| Male | 89% |
| Female | 10% |
| No Answer | 1% |
| **Age** | |
| 18-24 | 7% |
| 25-34 | 12% |
| 35-44 | 24% |
| 45-54 | 25% |
| 55 and over | 22% |
| No Answer | 10% |
| Average Age (mean) | 46 |
| **Education Level** | |
| Did not obtain a high school diploma | 3% |
| High School diploma | 36% |
| Technical training (Certification or Associates Degree) | 14% |
| Bachelor's (B.S. or B.A.) College Degree | 31% |
| Graduate or Professional Degree (M.S., Ph.D., D.V.M., Law School) earned | 11% |
| Other | 0% |
| No answer | 6% |
| **Income** | |
| Less than $25,000 | 4% |
| $25,000-$49,999 | 18% |
| $50,000-$74,999 | 18% |
| $75,000-$99,999 | 15% |
| $100,000-$124,999 | 12% |
| $125,000 or more | 23% |
| No Answer | 10% |
| **Portion of household income from beef cattle operation** | |
| Less than 25% | 34% |
| 26% to 50% | 29% |
| 51% to 75% | 15% |
| Over 75% | 18% |
| No Answer | 3% |
| **Years raising beef cattle** | |
| Less than 10 years | 8% |
| 11-20 years | 11% |
| 21-30 years | 13% |
| Over 30 years | 67% |
| No answer | 1% |
| **Years expected for operation to be raising beef cattle** | |
| Less than 10 years | 23% |
| 11-20 years | 29% |
| 21-30 years | 14% |
| Over 30 years | 32% |
| No answer | 2% |

[2] U.S. Census Bureau. (2015). www.census.gov. Accessed February 12, 2015.

*Table 2. Summary statistics of farm demographic characteristics*

| Farm Demographic Variable | Percent |
|---|---|
| **Geographic region** | |
| South | 36% |
| West | 18% |
| Midwest | 39% |
| Northeast | 1% |
| Did not answer | 6% |
| **Total sold in 2012** | |
| Calves (mean) | 103 |
| Yearlings (mean) | 88 |
| Finished cattle (mean) | 69 |
| **Beef cows on operation January 1st, 2013** | |
| None | 8% |
| 1-49 cows | 19% |
| 50-99 cows | 20% |
| 100-199 cows | 25% |
| 200-299 cows | 9% |
| 300-499 cows | 9% |
| 500-999 cows | 5% |
| 1000 or more cows | 2% |
| Did not answer | 3% |
| **Claims used to most frequently market cattle** | |
| None (Conventional production) | 32% |
| Age and source verified (ASV/SAV) | 21% |
| Natural (no hormones/no antibiotics) | 15% |
| Organic | 1% |
| Humanely raised | 29% |
| NHTC (Non-hormone treated) | 14% |
| Pre-Conditioned (weaning or vaccination claims) | 47% |
| Other | 3% |
| **Most frequent cattle marketing outlets** | |
| Local auction | 62% |
| Direct to packing plant/processor | 5% |
| Video/Internet auction | 6% |
| Direct to consumers | 3% |
| Direct to background/stocker operation | 4% |
| Direct to feedlot operation | 9% |
| Other | 7% |
| Did not answer | 4% |

**Perceptions of the Beef Industry**

Given this project's main focus on animal welfare issues, the survey also included a series of questions to broadly assess perceptions of beef cattle welfare. In order to gauge respondents' perceptions of beef cattle production, they were asked about their belief in the percentage of U.S. beef product which comes from cattle produced under certain practices and conditions (Table 3). Respondents could select 25% increments from 0%-25%, 26-50%, 51-75%, 76-100% or *don't know*. On average *don't know* was selected 15% of the time, with the most respondents selecting *don't know* for farms/ranches with third party verification that appropriate animal care and facilities are provided, and cattle dehorned/disbudded with pain control. Using the conditional weighted average[3], for seven of the 11 practices investigated, the respondents believed that over 50% of typical U.S. beef product comes from farms with such practices. The practices which the respondents thought were most commonly in place throughout the beef industry were cattle provided access to fresh, clean feed and water, and farms/ranches providing appropriate overall care for the well-being of their cattle. The practices that respondents thought were less typically implemented were cattle older than three months of age castrated with pain control,

[3] This was calculated using the midpoints of the four 25% increments multiplied by the frequency of response, omitting the "don't know" responses

*Table 3. Respondents' belief in the percentage chance that typical U.S. beef comes from cattle which are produced with certain production practices or conditions (Question 15)*

| | 0%-25% | 26%-50% | 51%-75% | 76%-100% | Conditional weighted average | Don't know |
|---|---|---|---|---|---|---|
| **Cattle provided access to fresh, clean feed and water (n=632)** | 3% | 4% | 14% | 72% | 80% | 7% |
| **Cattle provided antibiotics to prevent illness and disease (n=624)** | 10% | 14% | 29% | 38% | 64% | 8% |
| **Cattle provided shade, windbreaks, and ventilation (n=608)** | 4% | 13% | 29% | 43% | 69% | 10% |
| **Cattle dehorned/disbudded with pain control (n=609)** | 45% | 15% | 9% | 8% | 32% | 22% |
| **Cattle older than three months of age castrated with pain control (n=610)** | 51% | 13% | 9% | 8% | 29% | 19% |
| **Farms/ranches with consistent training program for employees focusing on principles of animal care and handling (n=616)** | 26% | 22% | 20% | 12% | 44% | 19% |
| **Farms/ranches with third party verification that appropriate animal care and facilities are provided (n=611)** | 44% | 15% | 10% | 6% | 30% | 25% |
| **Farms/ranches where injured or sick animals are treated or euthanized promptly (n=624)** | 10% | 8% | 22% | 46% | 68% | 14% |
| **Farms/ranches with a herd health plan, developed with the help of a veterinarian (n=615)** | 12% | 19% | 32% | 23% | 57% | 13% |
| **Farms/ranches with less than 100 beef cows (n=616)** | 11% | 22% | 31% | 24% | 57% | 13% |
| **Farms/ranches providing appropriate overall care for the well-being of their cattle (n=624)** | 2% | 4% | 19% | 68% | 80% | 8% |

farms/ranches with third party verification that appropriate animal care and facilities are provided, and cattle dehorned/disbudded with pain control.

Respondents were shown a list of nine supporting principles and asked if each should be a supporting principle of the U.S. beef industry (Table 4). Responses were on a scale from *strongly agree* to *strongly disagree* and included a *don't know* option. At least 80% of respondents *strongly agreed* or *agreed* that each principle should be a guiding principle of the U.S. beef industry. The strongest support was engendered by generating a safe supply of beef products with 92% of the respondents *strongly agreeing* or *agreeing* that this should be a supporting principle of the U.S. beef industry.

Some have stated they believe there is a tradeoff between lower cost production and animal well-being. Accordingly, respondents were asked their level of agreement with four statements regarding beef prices and animal well-being (Table 5). When asked about their level of agreement with "lower beef prices are more important than the well-being of cattle," 81% of respondents *disagreed* or *strongly disagreed*. However, when asked what the average American thinks about the same statement, the story changed as 43% of respondents *strongly disagreed* or *disagreed* with this statement. "I believe that cattle producers face a trade-off between profitability and animal welfare" and "the average American believes that cattle producers face a trade-off between profitability and animal welfare" were not as divergent with 60% and 37% of respondents *disagreeing* or *strongly disagreeing* agreeing with the statement, respectively.

**Table 4.** *Respondents's agreement that the following should be supporting principles of the U.S. beef industry (Question 17)*

| | Strongly Agree 1 | 2 | 3 | 4 | Strongly Disagree 5 | Don't know |
|---|---|---|---|---|---|---|
| **Being competitive in the global beef marketplace. (n=627)** | 60% | 22% | 9% | 1% | 3% | 4% |
| **Conserve and protect the welfare of beef cattle. (n=625)** | 60% | 28% | 6% | 1% | 3% | 2% |
| **Generating a reliable supply of beef products. (n=623)** | 66% | 23% | 5% | 1% | 2% | 3% |
| **Generating new research and innovation for beef. (n=618)** | 52% | 30% | 9% | 3% | 2% | 3% |
| **Generating an affordable supply of beef products. (n=624)** | 52% | 32% | 8% | 2% | 3% | 3% |
| **Economically efficient beef production. (n=616)** | 58% | 27% | 7% | 2% | 2% | 3% |
| **Assuring sufficient farm income for cattle producers. (n=626)** | 61% | 19% | 10% | 4% | 3% | 3% |
| **Generating a safe supply of beef products. (n=625)** | 72% | 20% | 2% | 1% | 2% | 2% |
| **Conserve and protect land and water resources. (n=632)** | 63% | 25% | 5% | 2% | 2% | 2% |

Many sources are available to collect information about beef cattle welfare. This survey inquired about the accuracy of 16 potential sources for beef cattle welfare information (Table 6). The question asked respondents to rate the accuracy of each source on a scale from 1, *very inaccurate*, to 5, *very accurate*, and also gave a *don't know* option. On average, 15% of respondents indicated they did not know the accuracy of beef cattle welfare information provided by the party. The sources most frequently noted by respondents as being one they did not know accuracy of were food service restaurant (21%) and retail grocer (20%). Respondents viewed local veterinarians (70%) and cow-calf producers (69%) as *very accurate* or *accurate* sources for beef cattle welfare information. People for the Ethical Treatment of Animals (PETA) and The Humane Society of the United States (HSUS) had the most respondents rate them as *very inaccurate* or *inaccurate* sources for beef cattle welfare information.

**Table 5.** *Agreement with statements regarding cattle well-being (Question 20)*

| | Strongly Agree 1 | 2 | 3 | 4 | Strongly Disagree 5 | Don't Know |
|---|---|---|---|---|---|---|
| **"Low beef prices are more important than the well-being of cattle." (n=612)** | 2% | 2% | 12% | 27% | 54% | 4% |
| **"The average American thinks low beef prices are more important than the well-being of cattle." (n=608)** | 7% | 18% | 26% | 27% | 16% | 6% |
| **"I believe that cattle producers face a trade-off between profitability and animal welfare." (n=604)** | 5% | 12% | 17% | 25% | 35% | 5% |
| **"The average American believes that cattle producers face a trade-off between profitability and animal welfare." (n=601)** | 7% | 18% | 26% | 23% | 14% | 13% |

**Table 6.** *Respondents' views on the accuracy of beef cattle welfare information from select parties (Question 19)*

| | Very Inaccurate 1 | 2 | 3 | 4 | Very Accurate 5 | Don't know |
|---|---|---|---|---|---|---|
| **Cow-Calf Producer (n=606)** | 2% | 4% | 15% | 38% | 31% | 10% |
| **Feedlot Producer (n=604)** | 3% | 4% | 16% | 40% | 25% | 13% |
| **Processor/Packing Plant (n=599)** | 4% | 6% | 24% | 36% | 16% | 15% |
| **Retail Grocer (n=597)** | 8% | 13% | 35% | 19% | 6% | 20% |
| **Food Service Restaurant (n=598)** | 8% | 16% | 34% | 16% | 5% | 21% |
| **Consumer - Beef Purchaser (n=595)** | 9% | 22% | 30% | 16% | 5% | 18% |
| **Resident - Likely Voter (n=589)** | 15% | 24% | 30% | 8% | 3% | 19% |
| **People for the Ethical Treatment of Animals (PETA) (n=593)** | 59% | 15% | 8% | 4% | 3% | 12% |
| **Local Veterinarian (n=597)** | 2% | 4% | 14% | 37% | 33% | 10% |
| **University Scientists/Researchers (n=592)** | 3% | 4% | 21% | 38% | 22% | 12% |
| **National Cattlemen's Beef Association (NCBA) (n=590)** | 4% | 5% | 18% | 39% | 24% | 11% |
| **The Humane Society of the United States (HSUS) (n=592)** | 47% | 17% | 13% | 7% | 4% | 12% |
| **United States Department of Agriculture (USDA) (n=596)** | 4% | 9% | 32% | 30% | 12% | 12% |
| **American Farm Bureau (AFB) (n=592)** | 4% | 8% | 28% | 30% | 18% | 14% |
| **Ranchers-Cattlemen Action Legal Fund (R-CALF) (n=590)** | 5% | 6% | 25% | 29% | 16% | 19% |
| **American Veterinary Medical Association (AVMA) (n=597)** | 3% | 5% | 20% | 34% | 24% | 15% |

**Table 7.** *Respondents' views on the ability of selected parties to influence beef cattle welfare information (Question18)*

| | Very Low Ability 1 | 2 | 3 | 4 | Very High Ability 5 | Don't know |
|---|---|---|---|---|---|---|
| **Cow-Calf Producer (n=626)** | 4% | 5% | 11% | 29% | 48% | 4% |
| **Feedlot Producer (n=624)** | 2% | 4% | 10% | 30% | 47% | 7% |
| **Processor/Packing Plant (n=611)** | 4% | 6% | 16% | 28% | 37% | 8% |
| **Retail Grocer (n=616)** | 18% | 17% | 23% | 20% | 14% | 9% |
| **Food Service Restaurant (n=613)** | 17% | 19% | 23% | 18% | 14% | 8% |
| **Consumer - Beef Purchaser (n=609)** | 11% | 13% | 21% | 26% | 21% | 8% |
| **Resident - Likely Voter (n=606)** | 13% | 17% | 28% | 20% | 11% | 11% |
| **People for the Ethical Treatment of Animals (PETA) (n=603)** | 23% | 14% | 19% | 18% | 14% | 11% |
| **Local Veterinarian (n=611)** | 4% | 8% | 17% | 32% | 34% | 6% |
| **University Scientists/Researchers (n=608)** | 4% | 10% | 24% | 34% | 21% | 8% |
| **National Cattlemen's Beef Association (NCBA) (n=606)** | 5% | 7% | 21% | 35% | 24% | 7% |
| **The Humane Society of the United States (HSUS) (n=604)** | 21% | 13% | 20% | 23% | 14% | 9% |
| **United States Department of Agriculture (USDA) (n=610)** | 7% | 11% | 25% | 29% | 21% | 6% |
| **American Farm Bureau (AFB) (n=605)** | 7% | 15% | 25% | 29% | 15% | 9% |
| **Ranchers-Cattlemen Action Legal Fund (R-CALF) (n=606)** | 8% | 13% | 26% | 26% | 14% | 14% |
| **American Veterinary Medical Association (AVMA) (n=610)** | 5% | 10% | 23% | 30% | 21% | 11% |

Table 7 describes respondents' views on the ability of parties to influence beef cattle welfare. Over three-fourths of respondents rated feedlot producers and cow-calf producers as having *high ability* or *very high ability* to influence beef cattle welfare. Over one-third of respondents viewed PETA, food service restaurant, retail grocer and HSUS as having *low ability* or *very low ability* to influence beef cattle welfare.

Table 8 details respondents' membership in farm/ranch organizations. This membership percentage should be treated as a lower bound because not checking could mean a true non-member or that the question was not answered on the survey. Thirty-seven percent of respondents' stated they were members of state cattleman's groups or American Farm Bureau. Conversely, 27% of respondents reported they were not a member of any farm/ranch organization. Three of the organizations, American Farm Bureau (AFB), National Cattleman's Beef Association (NCBA), and Rancher-Cattlemen Action Legal Fund (R-CALF), were also

**Table 8.** *Survey respondents' reported membership in farm/ranch organizations (n=686) (Question 4)*

| Farm/Ranch Organization Member | |
|---|---|
| Breed Association | 18% |
| State cattleman's group | 37% |
| American Farm Bureau | 37% |
| National Cattleman's Beef Association (NCBA) | 19% |
| Ranchers-Cattlemen Action Legal Fund (R-CALF) | 4% |
| National Farmers Union (NFU) | 2% |
| Other | 0.1% |
| None | 27% |

**Table 9.** *Respondents' recollection of media stories regarding the welfare of beef cattle from selected media types (n=686) (Question 14)**

| | Yes | No |
|---|---|---|
| **Television** | 66% | 34% |
| **Internet** | 36% | 64% |
| **Printed Newspaper** | 43% | 57% |
| **Magazines** | 69% | 31% |
| **Books** | 6% | 94% |
| **I have not seen any media stories regarding beef cattle welfare** | 8% | 92% |

*Table 9 Note: The yes responses should be treated as a lower bound. No could mean a true no or that the question was not answered on the survey

investigated in Tables 6 and 7 regarding beef cattle welfare information accuracy and ability to influence beef cattle welfare. Of these three organizations, NCBA was viewed as having the highest ability to influence beef cattle welfare and as a more accurate source for beef cattle welfare information. However, only 19% of respondents were self-reported members of NCBA.

Since cattle welfare is often discussed in the media, respondents' recollections of media stories regarding the welfare of beef cattle from selected media types were examined (Table 9). Respondents were asked to indicate if they recall seeing stories about beef cattle welfare on/in the television, internet, printed newspaper, magazines and books or if they had not seen any media stories regarding beef cattle welfare. Over two-thirds of respondents recalled seeing media stories about beef cattle welfare in magazines or on television. Books were the least common source for recollection of beef cattle welfare stories. Only 8% responded they could not recall seeing any media stories about beef cattle welfare.

**Voting Versus Buying Behavior**

Beef production is not only affected by buying behavior, but also voting behavior and legislation. Recently divergences between voting on animal welfare initiatives and buying behaviors have emerged. In order to further investigate this divergence, respondents were asked what percentage of the U.S. public they believed would support hypothetical ballot initiatives and their willingness to pay a premium for products with corresponding attributes (Table 10). For all vote-buy pairs, respondents believed that more of the U.S. public would be willing to vote for the production attribute change than would be willing to pay a premium for it (based upon conditional averages).

**Production Practices: Current and Future Implementation**

Table 11 describes the current actions/practices that are implemented on respondents' operations. Respondents were asked to select all of the 13 actions/practices investigated that were currently implemented on their operation, or that they did not implement any of these practices. Note that not checking an action/practice could indicate that the action/practice truly was not implemented on the operation or that the respondent skipped the question. Thus, the percentages in Table 11, should be considered lower bounds.

The practices which are reportedly implemented by the most respondents are provide access to fresh, clean feed and water appropriate for the animal's physiological state, provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions and promptly treat or euthanize all injured or sick animals. Overall, it appears that the responses in Table 3 and Table 11 are consistent.

Half the respondents were asked to select all of the 13 actions/practices they would implement if they received a $5/cwt premium on each animal sold, while the other half were asked which they would implement to avoid a $5/cwt discount on each animal sold (Table 12). The two practices which the most cow-calf producers were willing to implement to receive the $5/cwt premium or avoid a $5/cwt discount were provide access to fresh, clean feed and water appropriate for the animal's physiological state, and provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions. The practice which the fewest cow-calf producers were willing to implement was third party verification that appropriate animal care and facilities are provided on farm. Fewer respondents selected that they were not willing to implement any of the practices to avoid the discount (10%) than to receive the premium (16%).

**Table 10.** *Participants' views on the percentage of the U.S. public that would vote or pay a premium for production attributes (Question 16)*

| | 0%-25% | 26%-50% | 51%-75% | 76%-100% | Don't Know | Conditional Average |
|---|---|---|---|---|---|---|
| **Vote to limit antibiotic use for cattle to only disease treatment (n=635)** | 9% | 17% | 33% | 31% | 10% | 62% |
| **Pay a premium for beef from cattle with limited antibiotic use (n=630)** | 32% | 26% | 18% | 10% | 13% | 40% |
| **Vote to ban cattle castration without use of pain control (n=627)** | 17% | 19% | 26% | 21% | 16% | 53% |
| **Pay a premium for beef from cattle castrated with pain control (n=621)** | 54% | 16% | 7% | 5% | 18% | 26% |
| **Vote to ban use of sow gestation stalls in the swine industry (n=624)** | 20% | 22% | 21% | 16% | 21% | 48% |
| **Pay a premium for pork not produced using sow gestation stalls (n=621)** | 40% | 22% | 14% | 5% | 20% | 33% |
| **Vote to ban use of laying hen cages in the egg industry (n=630)** | 25% | 22% | 19% | 16% | 18% | 46% |
| **Pay a premium for eggs not produced using laying hen cages (n=631)** | 46% | 20% | 11% | 6% | 17% | 31% |

## Conclusion

Some of the key take-home messages of this survey of U.S. cow-calf producers regarding beef cattle welfare include:

- Respondents viewed cow-calf producers (themselves and fellow producers) as one of the most accurate sources for beef cattle welfare information and as having a high ability to influence animal beef cattle welfare.
- Consistency was found between those practices most commonly believed to be in place (Table 3) and those which were reported as being implemented on respondents' operations (Table 11).
- The majority of producers believe U.S. beef products have a high tendency of coming from farms/ranches providing appropriate overall care for the well-being of cattle.
- Compared to awareness on the provision of appropriate feed, water, shade, and overall care for the well-being of cattle, producers are more likely to indicate not knowing if cattle are dehorned/disbudded or castrated with pain control or enrolled in third party verification or regular employee training programs focused on animal care.

The main points of this report regarding U.S. cow-calf producer perceptions will be compared to results from a parallel survey of the U.S. public to highlight similarities and differences between producers and the public.

**Table 11.** *Actions/practices currently implemented on respondents' operations (Question 21)*

| | Checked | Not Checked |
|---|---|---|
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 87% | 13% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 84% | 16% |
| **Owner/operator assessment that appropriate animal care and facilities are provided on farm with animals monitored daily for illness and injury.** | 77% | 23% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 39% | 61% |
| **Develop a herd health plan with the help of a veterinarian.** | 58% | 42% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 9% | 91% |
| **Restrict use of antibiotics to only disease treatment** | 66% | 34% |
| **Promptly treat or euthanize all injured or sick animals** | 80% | 20% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 33% | 67% |
| **Castrate male calves either within the first three months of age or with pain control.** | 55% | 45% |
| **Properly move cattle that are unable to walk on their own, do not try to market cattle if there is a reasonable chance they will not be able to walk on their own, and never drag cattle.** | 76% | 24% |
| **Plan the timing of transport to minimize traveling and waiting time for the cattle.** | 77% | 23% |
| **Handlers strive to move cattle at a comfortable pace, refrain from using loud noises, and use an electric prod on less than 10% of cattle. Sticks and flags can be used as extensions of the handler's arm but must not be used to hit cattle.** | 72% | 28% |
| **None** | 1% | 99% |

**Table 12.** *Respondents ' stated willingness to implement actions/practices to receive $5/cwt premium or avoid $5/cwt discount*

| | Receive $5/cwt Premium (n=333) | Avoid $5/cwt Discount (n=353) |
|---|---|---|
| | Checked | Checked |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 55% | 64% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 53% | 61% |
| **Owner/operator assessment that appropriate animal care and facilities are provided on farm with animals monitored daily for illness and injury.** | 50% | 56% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 40% | 42% |
| **Develop a herd health plan with the help of a veterinarian.** | 49% | 48% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 27% | 27% |
| **Restrict use of antibiotics to only disease treatment** | 45% | 51% |
| **Promptly treat or euthanize all injured or sick animals** | 50% | 57% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 37% | 39% |
| **Castrate male calves either within the first three months of age or with pain control.** | 44% | 50% |
| **Properly move cattle that are unable to walk on their own, do not try to market cattle if there is a reasonable chance they will not be able to walk on their own, and never drag cattle.** | 49% | 58% |
| **Plan the timing of transport to minimize traveling and waiting time for the cattle.** | 51% | 57% |
| **Handlers strive to move cattle at a comfortable pace, refrain from using loud noises, and use an electric prod on less than 10% of cattle. Sticks and flags can be used as extensions of the handler's arm but must not be used to hit cattle.** | 47% | 55% |
| **None** | 16% | 10% |

## Appendix A- Mail Survey Instrument Version 1

**Confidential Survey – For Research Purposes Only**

This survey is designed to be completed by the primary manager and decision maker on your operation.

1. I am: Male _____ Female _____

2. I am _____ years old.

3. Your operation is located in which state? (if in multiple states, select primary state): _____

4. Please check any farm/ranch organizations in which you are a member:
   - ☐ Breed Association
   - ☐ State cattlemen's group
   - ☐ American Farm Bureau
   - ☐ None
   - ☐ National Cattlemen's Beef Association (NCBA)
   - ☐ Ranchers-Cattlemen Action Legal Fund (R-CALF)
   - ☐ National Farmers Union (NFU)
   - ☐ Other (please describe): _____

5. The best description of my educational background is:
   - ☐ Did not obtain High School diploma
   - ☐ High School diploma
   - ☐ Technical training (Certification or Associates Degree)
   - ☐ Bachelor's (B.S. or B.A.) College Degree
   - ☐ Graduate or Professional Degree (M.S., Ph.D., D.V.M., Law School)
   - ☐ Other: _____

6. How many years have you been raising beef cattle?
   - ☐ Less than 10 years
   - ☐ 11-20 years
   - ☐ 21-30 years
   - ☐ Over 30 years

7. How many more years do you expect your operation to be raising beef cattle?
   - ☐ Less than 10 years
   - ☐ 11-20 years
   - ☐ 21-30 years
   - ☐ Over 30 years

8. Please estimate your annual pre-tax household income:
   - ☐ Less than $25,000
   - ☐ $25,000-$49,999
   - ☐ $50,000-$74,999
   - ☐ $75,000-$99,999
   - ☐ $100,000-$124,999
   - ☐ $125,000 or more

9. Approximately what portion of your household income is from the beef cattle operation?
   - ☐ Less than 25%
   - ☐ 26%-50%
   - ☐ 51%-75%
   - ☐ Over 75%

10. Please check any of the following claims that you most frequently base your market cattle upon:
   - ☐ None (conventional production)
   - ☐ Age and source verified (ASV/SAV)
   - ☐ Natural (no hormones/no antibiotics)
   - ☐ Organic
   - ☐ Humanely raised
   - ☐ NHTC (Non-hormone treated)
   - ☐ Pre-Conditioned (weaning or vaccination claims)
   - ☐ Other:_____

11. How many head of cattle did your operation sell at the following production stages in 2012?
Calves _____ (# head) Yearlings _____ (# head) Finished Cattle _____ (# head)

12. In total, how many beef cows (i.e. lactating, gestating, replacement) were on hand in your operation on January 1st, 2013:

- ☐ None
- ☐ 1-49 cows
- ☐ 50-99 cows
- ☐ 100-199 cows
- ☐ 200-299 cows
- ☐ 300-499 cows
- ☐ 500-999 cows
- ☐ 1,000 or more cows

13. Which one of the following methods/outlets do you use most frequently to market cattle?

- ☐ Local auction
- ☐ Video/Internet auction
- ☐ Direct to background/stocker operation
- ☐ Direct to feedlot operation
- ☐ Direct to packing plant/processor
- ☐ Direct to consumers
- ☐ Other: _____

14. Have you seen media stories regarding the welfare of beef cattle on/in the following (check all that apply)?

- ☐ Television
- ☐ Internet
- ☐ Printed Newspaper
- ☐ Magazines
- ☐ Books
- ☐ I have not seen any media stories regarding beef cattle welfare

15. What percentage chance do you believe the typical U.S. beef product comes from:

| | 0%-25% | 26%-50% | 51%-75% | 76%-100% | Don't know |
|---|---|---|---|---|---|
| Cattle provided access to fresh, clean feed and water | * | * | * | * | * |
| Cattle provided antibiotics to prevent illness and disease | * | * | * | * | * |
| Cattle provided shade, windbreaks, and ventilation | * | * | * | * | * |
| Cattle dehorned/disbudded with pain control | * | * | * | * | * |
| Cattle older than three months of age castrated with pain control | * | * | * | * | * |
| | | | | | |
| Farm/ranches with consistent training program for employees focusing on principles of animal care and handling. | * | * | * | * | * |
| Farms/ranches with third party verification that appropriate animal care and facilities are provided. | * | * | * | * | * |
| Farms/ranches where injured or sick animals are treated or euthanized promptly. | * | * | * | * | * |
| Farms/ranches with a herd health plan, developed with the help of a veterinarian. | * | * | * | * | * |
| Farms/ranches with less than 100 beef cows | * | * | * | * | * |
| Farms/ranches providing appropriate overall care for the well-being of their cattle. | * | * | * | * | * |

16. What percentage of the U.S. public do you believe would:

| | 0%-25% | 26%-50% | 51%-75% | 76%-100% | Don't Know |
|---|---|---|---|---|---|
| vote to limit antibiotic use for cattle to only disease treatment | * | * | * | * | * |
| vote to ban cattle castration without use of pain control | * | * | * | * | * |
| pay a premium for pork not produced using sow gestation stalls | * | * | * | * | * |
| vote to ban use of sow gestation stalls in the swine industry | * | * | * | * | * |
| | | | | | |
| pay a premium for beef from cattle castrated with pain control | * | * | * | * | * |
| pay a premium for eggs not produced using laying hen cages | * | * | * | * | * |
| pay a premium for beef from cattle with limited antibiotic use | * | * | * | * | * |
| vote to ban use of laying hen cages in the egg industry | * | * | * | * | * |

17. In your opinion, should the following be *supporting principles* of the U.S. beef industry?

| | Strongly Agree | | | | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| Being competitive in the global beef marketplace. | 1 | 2 | 3 | 4 | 5 | * |
| Conserve and protect the welfare of beef cattle. | 1 | 2 | 3 | 4 | 5 | * |
| Generating a reliable supply of beef products. | 1 | 2 | 3 | 4 | 5 | * |
| Generating new research and innovation for beef. | 1 | 2 | 3 | 4 | 5 | * |
| Generating an affordable supply of beef products. | 1 | 2 | 3 | 4 | 5 | * |
| Economically efficient beef production. | 1 | 2 | 3 | 4 | 5 | * |
| Assuring sufficient farm income for cattle producers. | 1 | 2 | 3 | 4 | 5 | * |
| Generating a safe supply of beef products. | 1 | 2 | 3 | 4 | 5 | * |
| Conserve and protect land and water resources. | 1 | 2 | 3 | 4 | 5 | * |

18. How much ability do the following parties have to influence and assure beef cattle welfare?

| | Very Low Ability | | | | Very High Ability | Don't Know |
|---|---|---|---|---|---|---|
| Cow-Calf Producer | 1 | 2 | 3 | 4 | 5 | * |
| Feedlot Producer | 1 | 2 | 3 | 4 | 5 | * |
| Processor/Packing Plant | 1 | 2 | 3 | 4 | 5 | * |
| Retail Grocer | 1 | 2 | 3 | 4 | 5 | * |
| Food Service Restaurant | 1 | 2 | 3 | 4 | 5 | * |
| Consumer - Beef Purchaser | 1 | 2 | 3 | 4 | 5 | * |
| Resident - Likely Voter | 1 | 2 | 3 | 4 | 5 | * |
| People for the Ethical Treatment of Animals (PETA) | 1 | 2 | 3 | 4 | 5 | * |
| Local Veterinarian | 1 | 2 | 3 | 4 | 5 | * |
| University Scientists/Researchers | 1 | 2 | 3 | 4 | 5 | * |
| National Cattlemen's Beef Association (NCBA) | 1 | 2 | 3 | 4 | 5 | * |
| The Humane Society of the United States (HSUS) | 1 | 2 | 3 | 4 | 5 | * |
| United States Department of Agriculture (USDA) | 1 | 2 | 3 | 4 | 5 | * |
| American Farm Bureau (AFB) | 1 | 2 | 3 | 4 | 5 | * |
| Ranchers-Cattlemen Action Legal Fund (R-CALF) | 1 | 2 | 3 | 4 | 5 | * |
| American Veterinary Medical Association (AVMA) | 1 | 2 | 3 | 4 | 5 | * |

19. How accurate is the beef cattle welfare information provided by the following parties:

| | Very Inaccurate | | | | Very Accurate | Don't Know |
|---|---|---|---|---|---|---|
| Cow-Calf Producer | 1 | 2 | 3 | 4 | 5 | * |
| Feedlot Producer | 1 | 2 | 3 | 4 | 5 | * |
| Processor/Packing Plant | 1 | 2 | 3 | 4 | 5 | * |
| Retail Grocer | 1 | 2 | 3 | 4 | 5 | * |
| Food Service Restaurant | 1 | 2 | 3 | 4 | 5 | * |
| Consumer - Beef Purchaser | 1 | 2 | 3 | 4 | 5 | * |
| Resident - Likely Voter | 1 | 2 | 3 | 4 | 5 | * |
| People for the Ethical Treatment of Animals (PETA) | 1 | 2 | 3 | 4 | 5 | * |
| Local Veterinarian | 1 | 2 | 3 | 4 | 5 | * |
| University Scientists/Researchers | 1 | 2 | 3 | 4 | 5 | * |
| National Cattlemen's Beef Association (NCBA) | 1 | 2 | 3 | 4 | 5 | * |
| The Humane Society of the United States (HSUS) | 1 | 2 | 3 | 4 | 5 | * |
| United States Department of Agriculture (USDA) | 1 | 2 | 3 | 4 | 5 | * |
| American Farm Bureau (AFB) | 1 | 2 | 3 | 4 | 5 | * |
| Ranchers-Cattlemen Action Legal Fund (R-CALF) | 1 | 2 | 3 | 4 | 5 | * |
| American Veterinary Medical Association (AVMA) | 1 | 2 | 3 | 4 | 5 | * |

20. Please rate your agreement with these statements (circle one number for each statement):

| | Strongly Agree | | | | Strongly Disagree | Don't Know |
|---|---|---|---|---|---|---|
| "Low beef prices are more important than the well-being of cattle." | 1 | 2 | 3 | 4 | 5 | * |
| "The average American thinks low beef prices are more important than the well-being of cattle." | 1 | 2 | 3 | 4 | 5 | * |
| "I believe that cattle producers face a trade-off between profitability and animal welfare." | 1 | 2 | 3 | 4 | 5 | * |
| "The average American believes that cattle producers face a trade-off between profitability and animal welfare." | 1 | 2 | 3 | 4 | 5 | * |

21. Which of the following actions/practices are currently implemented on your operation (check all that apply)?

- ☐ Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).
- ☐ Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.
- ☐ Owner/operator assessment that appropriate animal care and facilities are provided on farm with animals monitored daily for illness and injury.
- ☐ Consistent training program for owner and employees focusing on principles of animal care and handling.
- ☐ Develop a herd health plan with the help of a veterinarian.
- ☐ Third party verification that appropriate animal care and facilities are provided on farm.
- ☐ Restrict use of antibiotics to only disease treatment
- ☐ Promptly treat or euthanize all injured or sick animals
- ☐ Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.
- ☐ Castrate male calves either within the first three months of age or with pain control.
- ☐ Properly move cattle that are unable to walk on their own, do not try to market cattle if there is a reasonable chance they will not be able to walk on their own, and never drag cattle.
- ☐ Plan the timing of transport to minimize traveling and waiting time for the cattle.
- ☐ Handlers strive to move cattle at a comfortable pace, refrain from using loud noises, and use an electric prod on less than 10% of cattle. Sticks and flags can be used as extensions of the handler's arm but must not be used to hit cattle.
- ☐ None

22. Which of the following actions would you implement on your operation if you received $5/cwt premiums on each animal sold (check all that apply)?

- ☐ Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).
- ☐ Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.
- ☐ Owner/operator assessment that appropriate animal care and facilities are provided on farm with animals monitored daily for illness and injury.
- ☐ Consistent training program for owner and employees focusing on principles of animal care and handling.
- ☐ Develop a herd health plan with the help of a veterinarian.
- ☐ Third party verification that appropriate animal care and facilities are provided on farm.
- ☐ Restrict use of antibiotics to only disease treatment
- ☐ Promptly treat or euthanize all injured or sick animals
- ☐ Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.
- ☐ Castrate male calves either within the first three months of age or with pain control.
- ☐ Properly move cattle that are unable to walk on their own, do not try to market cattle if there is a reasonable chance they will not be able to walk on their own, and never drag cattle.
- ☐ Plan the timing of transport to minimize traveling and waiting time for the cattle.
- ☐ Handlers strive to move cattle at a comfortable pace, refrain from using loud noises, and use an electric prod on less than 10% of cattle. Sticks and flags can be used as extensions of the handler's arm but must not be used to hit cattle.
- ☐ None

There are many different options being discussed for the U.S. beef industry to adopt in response to growing animal welfare discussions. Please consider the following six sets of actions and your ranking of the action which would be most effective and least effective to improve welfare of beef cattle in the U.S.

23. Which of the following actions, if implemented throughout the entire U.S. beef industry, is the most effective and which is the least effective to improve the welfare of beef cattle?
(Check only one issue as the most and only one as the least effective)

| Most Effective | Action | Least Effective |
|---|---|---|
| | *Restrict use of antibiotics to only disease treatment.* | |
| | *Castrate male calves either within the first three months of age or with pain control.* | |
| | *Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.* | |
| | *Develop a herd health plan with the help of a veterinarian.* | |
| | *Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.* | |
| | *Third party verification that appropriate animal care and facilities are provided on farm.* | |

24. Which of the following actions, if implemented throughout the entire U.S. beef industry, is the most effective and which is the least effective to improve the welfare of beef cattle?
(Check only one issue as the most and only one as the least effective)

| Most Effective | Action | Least Effective |
|---|---|---|
| | *Consistent training program for owner and employees focusing on principles of animal care and handling.* | |
| | *Develop a herd health plan with the help of a veterinarian.* | |
| | *Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.* | |
| | *Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.* | |
| | *Restrict use of antibiotics to only disease treatment.* | |
| | *Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).* | |

25. Which of the following actions, if implemented throughout the entire U.S. beef industry, is the most effective and which is the least effective to improve the welfare of beef cattle?
(Check only one issue as the most and only one as the least effective)

| Most Effective | Action | Least Effective |
|---|---|---|
| | *Castrate male calves either within the first three months of age or with pain control.* | |
| | *Consistent training program for owner and employees focusing on principles of animal care and handling.* | |
| | *Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).* | |
| | *Restrict use of antibiotics to only disease treatment.* | |
| | *Third party verification that appropriate animal care and facilities are provided on farm.* | |
| | *Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.* | |

26. Which of the following actions, if implemented throughout the entire U.S. beef industry, is the most effective and which is the least effective to improve the welfare of beef cattle?
(Check only one issue as the most and only one as the least effective)

| Most Effective | Action | Least Effective |
|---|---|---|
| | *Develop a herd health plan with the help of a veterinarian.* | |
| | *Restrict use of antibiotics to only disease treatment.* | |
| | *Third party verification that appropriate animal care and facilities are provided on farm.* | |
| | *Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).* | |
| | *Castrate male calves either within the first three months of age or with pain control.* | |
| | *Promptly treat or euthanize all injured or sick animals.* | |

27. Which of the following actions, if implemented throughout the entire U.S. beef industry, is the most effective and which is the least effective to improve the welfare of beef cattle?
(Check only one issue as the most and only one as the least effective)

| Most Effective | Action | Least Effective |
|---|---|---|
| | *Castrate male calves either within the first three months of age or with pain control.* | |
| | *Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.* | |
| | *Consistent training program for owner and employees focusing on principles of animal care and handling.* | |
| | *Promptly treat or euthanize all injured or sick animals.* | |
| | *Develop a herd health plan with the help of a veterinarian.* | |
| | *Restrict use of antibiotics to only disease treatment.* | |

28. Which of the following actions, if implemented throughout the entire U.S. beef industry, is the most effective and which is the least effective to improve the welfare of beef cattle?
(Check only one issue as the most and only one as the least effective)

| Most Effective | Action | Least Effective |
|---|---|---|
| | *Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.* | |
| | *Develop a herd health plan with the help of a veterinarian.* | |
| | *Promptly treat or euthanize all injured or sick animals.* | |
| | *Third party verification that appropriate animal care and facilities are provided on farm.* | |
| | *Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).* | |
| | *Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.* | |

Thank you for your time in completing this survey. **Please mail us your completed survey using the enclosed, postage-paid envelope**. Your input will strengthen our research and help obtain more accurate conclusions. Results will be posted online (including to *www.agmanager.info*) and distributed widely. If you would like to directly receive results of this study please email Melissa McKendree (*mgsm@ksu.edu*) or Glynn Tonsor (*gtonsor@ksu.edu*). If you wish to provide any comments, please feel free to add them here or include additional paper as needed in the return envelope.

## Survey Version Summary

| Survey Version | Question 22- Premium or Discount | Best-worst experiment- Effective or Practical |
|---|---|---|
| 1 | Premium | Effective Block A |
| 2 | Premium | Effective Block B |
| 3 | Premium | Effective Block A |
| 4 | Premium | Effective Block B |
| 5 | Discount | Practical Block A |
| 6 | Discount | Practical Block B |
| 7 | Discount | Practical Block A |
| 8 | Discount | Practical Block B |

**Appendix B-Best Worst Assessment**

A best worst analysis was conducted to determine which of the nine production practices evaluated U.S. cow-calf producers believe would be the most and least effective and most and least practical for improving the welfare of beef cattle in the U.S. This best-worst (more commonly called maximum difference) approach provides much more information than simplified survey questions as respondents are forced to weigh the presented practices and indicate relative effectiveness and practicality by their question responses.

The production practices evaluated were:

- Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).
- Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.
- Consistent training program for owner and employees focusing on principles of animal care and handling.
- Develop a herd health plan with the help of a veterinarian.
- Third party verification that appropriate animal care and facilities are provided on farm.
- Restrict use of antibiotics to only disease treatment.
- Promptly treat or euthanize all injured or sick animals.
- Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.
- Castrate male calves either within the first three months of age or with pain control.

To mitigate survey fatigue yet meet the project's goals, there were four versions of the best-worst sequence where each respondent randomly received one version. Versions Eff A and Eff B asked respondents about effectiveness of the production practice to improve cattle welfare while versions Pra A and Pra B asked about the practicality of the production practice to improve cattle welfare. Each version presented six scenarios with six production practices in each scenario. Respondents could only choose one practice which they believed was the most practical/effective and one practice they believed was the least effective/practical to improve the welfare of beef cattle in the U.S. The frequency of each practice being selected as most or least is presented below. A more complete statistical analysis will be available in a separate document.

## VERSION EFFECTIVE A (MOST/LEAST EFFECTIVE)

Version Eff A-Scenario 1

| Action | Most Effective | Least Effective |
|---|---|---|
| Restrict use of antibiotics to only disease treatment. | 12% | 22% |
| Castrate male calves either within the first three months of age or with pain control. | 5% | 11% |
| Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control. | 0% | 11% |
| Develop a herd health plan with the help of a veterinarian. | 42% | 3% |
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 37% | 1% |
| Third party verification that appropriate animal care and facilities are provided on farm. | 4% | 52% |

Version Eff A -Scenario 2

| Action | Most Effective | Least Effective |
|---|---|---|
| Consistent training program for owner and employees focusing on principles of animal care and handling. | 18% | 17% |
| Develop a herd health plan with the help of a veterinarian. | 24% | 10% |
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 12% | 1% |
| Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control. | 1% | 38% |
| Restrict use of antibiotics to only disease treatment. | 5% | 34% |
| Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain). | 40% | 0% |

Version Eff A -Scenario 3

| Action | Most Effective | Least Effective |
|---|---|---|
| Castrate male calves either within the first three months of age or with pain control. | 4% | 21% |
| Consistent training program for owner and employees focusing on principles of animal care and handling. | 27% | 6% |
| Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain). | 42% | 0% |
| Restrict use of antibiotics to only disease treatment. | 5% | 26% |
| Third party verification that appropriate animal care and facilities are provided on farm. | 2% | 46% |
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 20% | 1% |

Version Eff A -Scenario 4

| Action | Most Effective | Least Effective |
|---|---|---|
| Develop a herd health plan with the help of a veterinarian. | 35% | 8% |
| Restrict use of antibiotics to only disease treatment. | 6% | 24% |
| Third party verification that appropriate animal care and facilities are provided on farm. | 2% | 45% |
| Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain). | 36% | 2% |
| Castrate male calves either within the first three months of age or with pain control. | 1% | 18% |
| Promptly treat or euthanize all injured or sick animals. | 20% | 3% |

Version Eff A -Scenario 5

| Action | Most Effective | Least Effective |
|---|---|---|
| Castrate male calves either within the first three months of age or with pain control. | 8% | 16% |
| Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control. | 3% | 23% |
| Consistent training program for owner and employees focusing on principles of animal care and handling. | 25% | 15% |
| Promptly treat or euthanize all injured or sick animals. | 22% | 2% |
| Develop a herd health plan with the help of a veterinarian. | 34% | 8% |
| Restrict use of antibiotics to only disease treatment. | 8% | 36% |

Version Eff A -Scenario 6

| Action | Most Effective | Least Effective |
|---|---|---|
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 24% | 2% |
| Develop a herd health plan with the help of a veterinarian. | 31% | 10% |
| Promptly treat or euthanize all injured or sick animals. | 10% | 3% |
| Third party verification that appropriate animal care and facilities are provided on farm. | 2% | 46% |
| Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain). | 32% | 4% |
| Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control. | 1% | 35% |

## VERSION EFFECTIVE B (MOST/LEAST EFFECTIVE)

Version Eff B-Scenario 1

| Action | Most Effective | Least Effective |
|---|---|---|
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 72% | 3% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 6% | 7% |
| **Restrict use of antibiotics to only disease treatment.** | 9% | 29% |
| **Promptly treat or euthanize all injured or sick animals.** | 10% | 3% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 0% | 24% |
| **Castrate male calves either within the first three months of age or with pain control.** | 3% | 34% |

Version Eff B -Scenario 2

| Action | Most Effective | Least Effective |
|---|---|---|
| **Promptly treat or euthanize all injured or sick animals.** | 18% | 0% |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 66% | 3% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 3% | 51% |
| **Restrict use of antibiotics to only disease treatment.** | 1% | 6% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 10% | 4% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 1% | 35% |

Version Eff B -Scenario 3

| Action | Most Effective | Least Effective |
|---|---|---|
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 1% | 24% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 1% | 62% |
| **Castrate male calves either within the first three months of age or with pain control.** | 0% | 6% |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 62% | 0% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 10% | 1% |
| **Develop a herd health plan with the help of a veterinarian.** | 25% | 7% |

Version Eff B -Scenario 4

| Action | Most Effective | Least Effective |
|---|---|---|
| Consistent training program for owner and employees focusing on principles of animal care and handling. | 18% | 4% |
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 62% | 3% |
| Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control. | 3% | 16% |
| Castrate male calves either within the first three months of age or with pain control. | 1% | 10% |
| Promptly treat or euthanize all injured or sick animals. | 16% | 0% |
| Third party verification that appropriate animal care and facilities are provided on farm. | 0% | 66% |

Version Eff B -Scenario 5

| Action | Most Effective | Least Effective |
|---|---|---|
| Third party verification that appropriate animal care and facilities are provided on farm. | 3% | 74% |
| Restrict use of antibiotics to only disease treatment. | 4% | 12% |
| Develop a herd health plan with the help of a veterinarian. | 18% | 7% |
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 50% | 0% |
| Promptly treat or euthanize all injured or sick animals. | 15% | 3% |
| Consistent training program for owner and employees focusing on principles of animal care and handling. | 10% | 4% |

Version Eff B -Scenario 6

| Action | Most Effective | Least Effective |
|---|---|---|
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 18% | 1% |
| Promptly treat or euthanize all injured or sick animals. | 13% | 9% |
| Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain). | 56% | 0% |
| Consistent training program for owner and employees focusing on principles of animal care and handling. | 4% | 29% |
| Castrate male calves either within the first three months of age or with pain control. | 1% | 44% |
| Develop a herd health plan with the help of a veterinarian. | 7% | 16% |

## VERSION PRACTICAL A (MOST/LEAST PRACTICAL)

Version Pra A-Scenario 1

| Action | Most Practical | Least Practical |
|---|---|---|
| **Restrict use of antibiotics to only disease treatment.** | 14% | 20% |
| **Castrate male calves either within the first three months of age or with pain control.** | 4% | 13% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 4% | 8% |
| **Develop a herd health plan with the help of a veterinarian.** | 35% | 1% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 38% | 6% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 4% | 52% |

Version Pra A -Scenario 2

| Action | Most Practical | Least Practical |
|---|---|---|
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 14% | 21% |
| **Develop a herd health plan with the help of a veterinarian.** | 18% | 7% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 24% | 7% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 1% | 34% |
| **Restrict use of antibiotics to only disease treatment.** | 6% | 30% |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 37% | 1% |

Version Pra A -Scenario 3

| Action | Most Practical | Least Practical |
|---|---|---|
| **Castrate male calves either within the first three months of age or with pain control.** | 14% | 20% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 15% | 8% |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 48% | 1% |
| **Restrict use of antibiotics to only disease treatment.** | 3% | 15% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 4% | 51% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 15% | 4% |

Version Pra A -Scenario 4

| Action | Most Practical | Least Practical |
|---|---|---|
| Develop a herd health plan with the help of a veterinarian. | 18% | 13% |
| Restrict use of antibiotics to only disease treatment. | 6% | 20% |
| Third party verification that appropriate animal care and facilities are provided on farm. | 1% | 49% |
| Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain). | 42% | 1% |
| Castrate male calves either within the first three months of age or with pain control. | 1% | 15% |
| Promptly treat or euthanize all injured or sick animals. | 31% | 1% |

Version Pra A -Scenario 5

| Action | Most Practical | Least Practical |
|---|---|---|
| Castrate male calves either within the first three months of age or with pain control. | 8% | 15% |
| Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control. | 4% | 17% |
| Consistent training program for owner and employees focusing on principles of animal care and handling. | 17% | 18% |
| Promptly treat or euthanize all injured or sick animals. | 31% | 7% |
| Develop a herd health plan with the help of a veterinarian. | 32% | 11% |
| Restrict use of antibiotics to only disease treatment. | 7% | 31% |

Version Pra A -Scenario 6

| Action | Most Practical | Least Practical |
|---|---|---|
| Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle. | 35% | 4% |
| Develop a herd health plan with the help of a veterinarian. | 17% | 8% |
| Promptly treat or euthanize all injured or sick animals. | 17% | 4% |
| Third party verification that appropriate animal care and facilities are provided on farm. | 3% | 61% |
| Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain). | 28% | 3% |
| Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control. | 0% | 20% |

## VERSION PRACTICAL B (MOST/LEAST PRACTICAL)

Version Pra B-Scenario 1

| Action | Most Practical | Least Practical |
|---|---|---|
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 81% | 1% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 2% | 10% |
| **Restrict use of antibiotics to only disease treatment.** | 4% | 25% |
| **Promptly treat or euthanize all injured or sick animals.** | 7% | 6% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 0% | 23% |
| **Castrate male calves either within the first three months of age or with pain control.** | 4% | 36% |

Version Pra B -Scenario 2

| Action | Most Practical | Least Practical |
|---|---|---|
| **Promptly treat or euthanize all injured or sick animals.** | 17% | 1% |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 71% | 1% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 1% | 50% |
| **Restrict use of antibiotics to only disease treatment.** | 5% | 14% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 4% | 12% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 2% | 21% |

Version Pra B -Scenario 3

| Action | Most Practical | Least Practical |
|---|---|---|
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 1% | 19% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 2% | 64% |
| **Castrate male calves either within the first three months of age or with pain control.** | 4% | 7% |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 67% | 1% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 4% | 5% |
| **Develop a herd health plan with the help of a veterinarian.** | 22% | 4% |

Version Pra B -Scenario 4

| Action | Most Practical | Least Practical |
|---|---|---|
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 14% | 5% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 53% | 4% |
| **Dehorn (remove horns)/disbud calves either before horn tissue adheres to skull or with pain control.** | 1% | 13% |
| **Castrate male calves either within the first three months of age or with pain control.** | 4% | 9% |
| **Promptly treat or euthanize all injured or sick animals.** | 26% | 1% |
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 2% | 68% |

Version Pra B -Scenario 5

| Action | Most Practical | Least Practical |
|---|---|---|
| **Third party verification that appropriate animal care and facilities are provided on farm.** | 1% | 69% |
| **Restrict use of antibiotics to only disease treatment.** | 12% | 12% |
| **Develop a herd health plan with the help of a veterinarian.** | 22% | 3% |
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 45% | 1% |
| **Promptly treat or euthanize all injured or sick animals.** | 13% | 3% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 6% | 12% |

Version Pra B -Scenario 6

| Action | Most Practical | Least Practical |
|---|---|---|
| **Provide adequate comfort through the use of shade, windbreaks, and ventilation assuring clean, dry, sanitary environmental conditions (housing, pasture, or dry lots) for cattle.** | 13% | 7% |
| **Promptly treat or euthanize all injured or sick animals.** | 8% | 4% |
| **Provide access to fresh, clean feed and water appropriate for the animal's physiological state (appropriate energy for milk production, pregnancy, or weight gain).** | 64% | 2% |
| **Consistent training program for owner and employees focusing on principles of animal care and handling.** | 2% | 38% |
| **Castrate male calves either within the first three months of age or with pain control.** | 2% | 41% |
| **Develop a herd health plan with the help of a veterinarian.** | 10% | 9% |