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Attitudes: Survey Summary**

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Staff Paper 2015-04

July 2015

MICHIGAN STATE

U N I V E R S I T Y



Department of Agricultural, Food, and
Resource Economics
MICHIGAN STATE UNIVERSITY
East Lansing, Michigan 48824

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

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U.S. Dairy Farmer Cattle Welfare Practices and Perceptions: Survey Summary

The U.S. dairy industry is facing pressure to adjust production practices in response to societal concerns. A particular area of concern surrounds how production practices impact the welfare of farm animals. In response to the increased scrutiny of dairy farm management practices related to cow welfare, the dairy farm organizations created a voluntary program, Farmers Assuring Responsible Management (FARM), to establish and verify farm practices and assure the public at large. Recognizing these new programs and the broader background discussions and interest in animal welfare on U.S. dairy farms, this research has the following objectives: to determine the percent of U.S. dairy farms currently performing important animal welfare related practices and to determine what practices would be widely supplied for a milk price premium. This research was funded by a U.S. Department of Agriculture grant.¹ This report summarizes the results of dairy cattle welfare practices and perceptions. Separate reports summarize the responses to parallel surveys of the public perception of dairy cattle welfare as well as public and producer perceptions of beef cow-calf welfare.

Survey and Summary Statistics

This research utilizes a survey of U.S. dairy farms (n=656) conducted in March and April 2014 to examine application of animal welfare related production practices. Dairy producers were randomly drawn from producer lists acquired from Departments of Agriculture in seven states including California, Florida, Indiana, Michigan, New Mexico, Vermont, and Wisconsin. Together, these states accounted for 47 percent of U.S. milk production in 2014 (96.9 billion of 206 billion pounds) (USDA-NASS, 2015). These states are also from regions across the country including the Upper Midwest (WI, MI, IN), the Northeast (VT), Southeast (FL), Southwest (NM), and Pacific (CA).

Table 1 displays summary statistics of respondents. On average the herds had 346 milk cows which is larger than the average U.S. operation with milk cows according to USDA but is in line with typical commercial dairy farm operations. Operator characteristics, income, and other demographic variables assured that this was a representative sample.

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

Table 1. Summary Statistics US Dairy Producer Survey (n=656)

Variable	Mean	St Dev
Milk cows (head)	346	946
Milk/cow (pounds)	24,478	8,489
Operator age (years)	51.9	12.8
Operator experience (years)	31.4	15.3
Operator Education	% respondents	
< High School	17.8	
High School	41.3	
Technical School	20.3	
Bachelor's Degree	16.7	
Grad or Prof Degree	3.8	
Household Income	% respondents	
Less than \$25,000	13.3	
\$25,000-\$49,999	26.1	
\$50,000-\$74,999	22.1	
\$75,000-\$99,999	13.2	
\$100,000-\$124,999	5.3	
\$125,000 or more	20.2	
Income from Dairy Enterprise	% respondents	
Less than 25%	7.7	
26%-50%	13.3	
51%-75%	17.7	
Over 75%	61.3	

Figure 1 displays a histogram of milking herd size comparing the survey sample to the U.S. herd size. The figure indicates that our sample under-sampled the smallest herd category, less than 100 cows. This is not surprising as the USDA figures include “operations with milk cows” some of which are not commercial dairy farms and we focused on commercial dairy farms in this research.

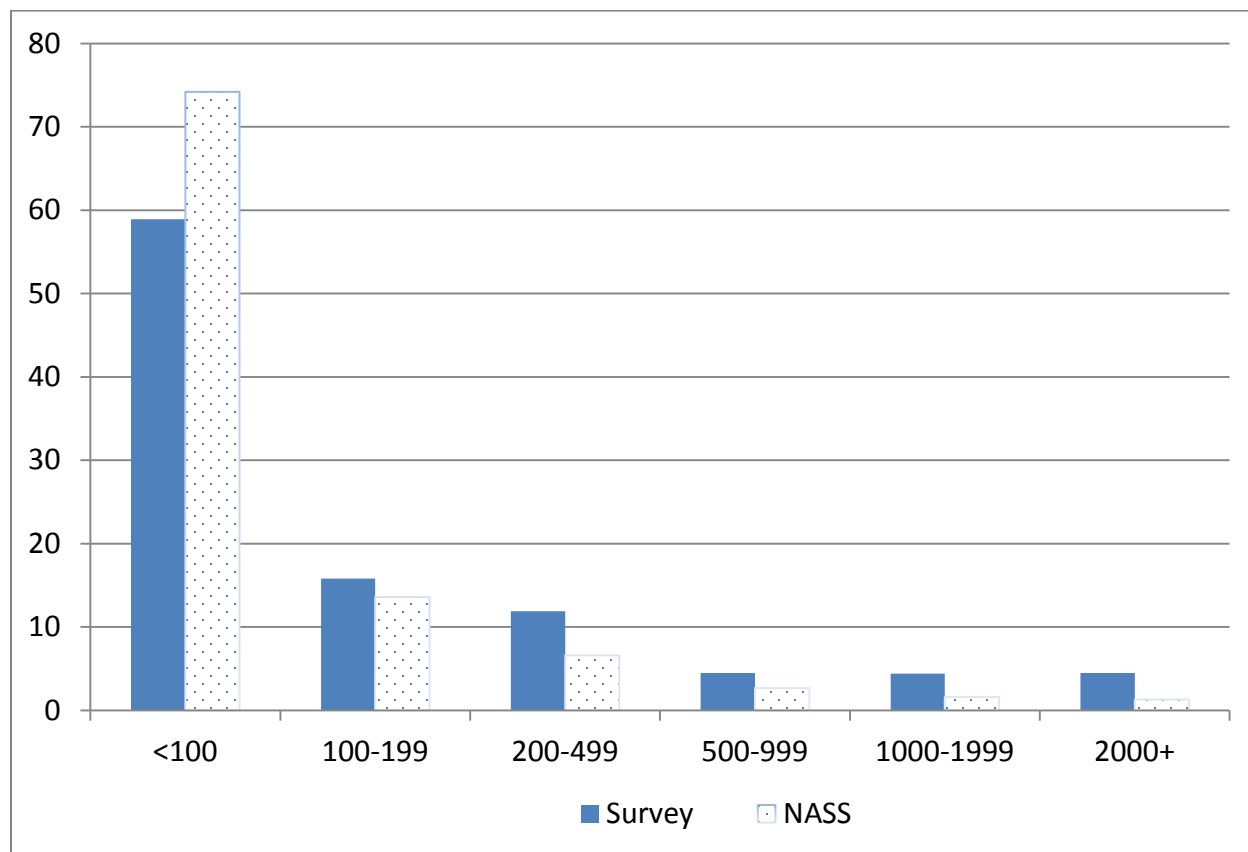


Figure 1. Survey and NASS Herd Size Distribution

In order to examine dairy cow welfare, potential farm production and management practices related to cow and calf welfare were obtained from a combination of sources including: the Farmers Assuring Responsible Management (FARM) program Farm Animal Care Reference Manual (NMPF, 2013), Humane Farm Animal Care (2013), and expert opinion from animal behavior and welfare specialists. The practices chosen were also informed by recent undercover videos that showed downer cattle being drug and employees striking cattle with objects. The list of potential actions included providing basics like clean feed and water to employee training or eliminating production practices such as tail-docking. The list of practices included as they were

presented to survey respondents is displayed in Table 2 along with the shorter practice description labels used in the tables.

Table 2. Dairy Cattle Welfare Related Practices in Survey

Survey Label	Practice Label
Provide access to fresh, clean feed and water appropriate for the cow's physiological state	Access to fresh feed and water
Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle	Assure clean, dry, sanitary conditions
Consistent training program for owner and employees focusing on principles of cow care and handling	Consistent cow care and handling training
All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting	Outdoor access for at least 4 hrs/day
Third party verification that appropriate cow care and facilities are provided on farm	Third party verification
Maintain foot health in order to reduce lameness	Maintain foot health
Promptly treat or euthanize all injured or sick cows	Promptly treat or euthanize injured or sick cows
Sticks and flags may be used as benign handling aids but must not be used for hitting cattle	Sticks and flags must not be used for hitting cattle
Tail docking (removing bottom part of tail) is prohibited	Tail docking prohibited

The list of practices was limited to nine to keep the survey feasible for producers and to mitigate survey fatigue. We also used Maximum Difference (i.e., best-worst) techniques to put cardinal weights on the importance (or perceived importance) of the practices. Using the practices listed above, in the survey dairy farmers were asked: which practices they currently supplied; which they felt were important to consumers; which they felt would result in the largest increase in

production costs; and, which they would supply for a given (random) premium per hundredweight of milk sold.

Dairy Cattle Welfare Practices, Production, and Perceptions

To benchmark perceptions, we asked respondents what share of U.S. milk production was from cattle with a set of production practices (Table 3). When asked directly, respondents thought that most cows were provided appropriate care but still thought that a fairly significant share may not.

Table 3. Perceived Share of U.S. Milk Production by Production Practice

	Percent
Cattle treated with rbST	30.0
Cattle fed only organic feed	17.3
Cattle with tails docked	36.1
Cattle provided access to pasture	32.7
Farms with less than 100 milk cows	33.7
Farms providing appropriate care for cattle well-being	79.4

Respondents were asked to indicate any production practice claims that were used in marketing their milk—whether by cooperatives or processors. As Figure 2 displays, the most common cited practice was “rbST-free.” Some states and regions have been asked to discontinue use (e.g., Michigan) so perhaps it is not surprising that this claim was common. About thirty percent was marketed with no production practice claims.

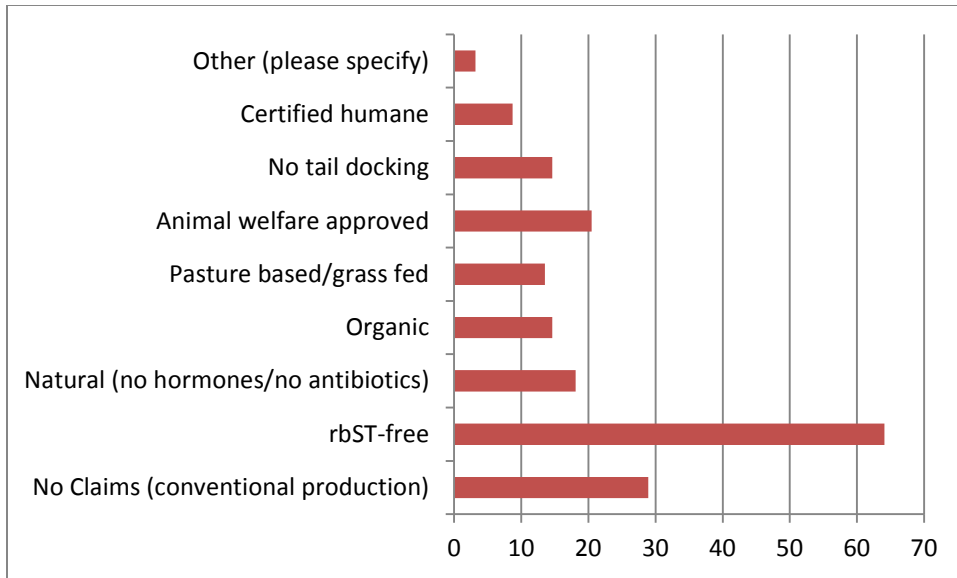


Figure 2. Production Claims Associated with your milk production

Dairy farmer respondents were asked to score the ability of farmers, consumers, government, industry and welfare related groups’ to influence dairy cattle welfare. Table 4 reveals that they thought that they had by far the most influence on dairy cattle welfare—and presumably the most responsibility as well. In second place were University Scientists which may explain producer groups desire that science be the guiding force behind animal welfare related rules and regulations. Consumers, restaurants, and local veterinarians were thought to have the least influence.

Table 4. Perceived Ability to Influence Dairy Cattle Welfare

1=Very Low Ability, ..., 5= Very High Ability	Average Score
Dairy farmer	4.60
Processor/Cooperative	3.82
Retail Grocer	3.50
Food Service Restaurant	2.99
Consumer - Dairy Purchaser	2.86
Resident - Likely Voter	3.57
People for the Ethical Treatment of Animals (PETA)	3.13
Local Veterinarian	2.98
University Scientists/Researchers	4.02
National Milk Producer's Federation (NMPF)	3.32
The Humane Society of the United States (HSUS)	3.25
United States Department of Agriculture (USDA)	3.14
American Farm Bureau (AFB)	3.56
International Dairy Foods Association (IDFA)	3.16
American Veterinary Medical Association (AVMA)	3.50

Respondents were asked to indicate all the practices that were currently implemented on their operation but--in accordance with University research practice standards--had the option to skip questions at their discretion. As such, a non-response could indicate that the practice was not supplied or that the question was skipped. We can therefore interpret these responses as having a downward bias. For example, 96.9 percent of respondents indicated that they gave cattle access to fresh, clean feed and water (Table 5). We would expect that except in extraordinary circumstances that all farms provide these basics so the 3.1 percent that did not indicate it were likely respondents that skipped the question. The story is similar with assuring clean, dry

conditions for cattle. On the other hand, third party verification of animal welfare is not common on U.S. dairy farms at the current time so it is unsurprising that a minority indicated that practice.

Table 5. Dairy Farm Animal Welfare Related Production Attributes

Practice	Current Practice	Consumers Want	Most Expensive
	% Respondents*		
Access to fresh feed and water	95.9	38.3	13.3
Assure clean, dry, sanitary conditions	94.8	41.5	15.5
Consistent cow care and handling training	54.4	16.9	20.0
Outdoor access for at least 4 hrs/day	60.2	24.5	42.7
Third party verification	42.6	28.4	28.7
Maintain foot health	86.0	21.6	11.3
Promptly treat or euthanize injured or sick cows	91.3	25.2	7.0
Sticks and flags must not be used for hitting cattle	52.6	14.0	3.8
Tail docking prohibited	50.6	17.7	4.6

* Respondents could check more than one practice thus responses total more than 100 percent.

Farmer respondents thought that fresh feed and water and clean living conditions would be most important to consumers (Table 5). Respondents also thought promptly treating or euthanizing sick cattle and third party verification would be important to consumers. With respect to what would be the most expensive practices to implement, respondents indicated that access to outdoor exercise areas would be the most expensive. Given the prevalence of free-stall facilities and the relative high cost of land that limits the use of pasture in the U.S. dairy farm industry today, it would potentially be quite expensive to provide this outdoor access. The second most expensive practice was thought to be third party verification of animal welfare related practices.

Table 6 displays the practices that respondents said they would be “willing to supply” for a \$0.50/cwt or \$1.00/cwt premium. As expected, the willingness to supply of every practice increased with premium level. The largest percentage change indicated was having a consistent training program on cow care and handling for employees and managers which was currently provided on 54 percent of respondent operations but increased to over 90 percent with the premium. Third party verification also increased greatly with the premiums from the current level of 43 percent to 69 percent with a \$1/cwt premium. Access to outdoor exercise areas also increased but to a much lesser extent (60 to 68 or 75 percent) reflecting the fact that many operations would require significant investments in facility and land changes to make this a feasible practice.

Table 6. Practices Dairy Farmers Currently Supply and Would Supply for Premiums

Practice	Current Practice	For \$0.50/cwt	For \$1.00/cwt
	% Respondents		
Access to fresh feed and water	96.0	97.1	97.1
Assure clean, dry, sanitary conditions	94.8	95.9	96.0
Consistent cow care and handling training	54.4	90.2	90.2
Outdoor access for at least 4 hrs/day	60.2	68.8	74.8
Third party verification	42.6	65.4	68.8
Maintain foot health	86.0	90.7	91.0
Promptly treat or euthanize injured or sick cows	91.3	93.0	93.0
Sticks and flags must not be used for hitting cattle	52.6	68.6	71.1
Tail docking prohibited	50.6	63.9	70.3

Implications and Conclusions

The practices analyzed here represent practices that have been the subject of under-cover videos from dairy operations in recent years that have shocked much of the U.S. public. Often these videos show filthy dairy cattle that are being struck, drug on the ground or otherwise physically abused. The trust that the U.S. public places in dairy farmers may be shaken by these videos. Farmer organizations have reacted to these incidents with programs to assure and verify appropriate cow care which represents several of the practices we examined.

Our results reveal that the majority of dairy farms currently provide most of the practices they believe are most desired by consumers. The most expensive practices to implement would be outdoor access and third party verification. Premiums would result in an increase in any and all practices.

Dairy farms today must increasingly consider the role of consumer demand for animal welfare related production attributes. This survey summary supplies the first comprehensive look at what practices are common on U.S. dairy farms, how they relate to farm characteristics (e.g., herd size) and what these farmers would provide for a premium.

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Appendix A. Survey Instrument

2014 U.S. Dairy Farm Survey

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

1. Your operation is located in which state? _____

2. How many milk cows were on hand in your operation on January 1, 2014? _____ head

3. What is your herd's rolling average of milk production (rha)? _____ lbs/cow/year

4. The age of the primary operator is: _____ years

5. The best description of the primary operator's educational background is:
 - Did not obtain High School diploma
 - High School diploma
 - Technical training (Certificate or Assoc. Degree)
 - Bachelor's (B.S. or B.A.) College Degree
 - Grad. or Professional Degree (e.g., MS, PhD, DVM)

6. How many years have you been milking cows? _____ years

7. How many more years do you plan to milk cows? _____ 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 dairy operation?
 - Less than 25%
 - 26%-50%
 - 51%-75%
 - Over 75%

10. Please check any of the following claims that your cooperative or processor bases their milk marketing upon (check all that apply):
 - No Claims (conventional production)
 - rbST-free
 - Natural (no hormones/no antibiotics)
 - Organic
 - Other (specify): _____
 - Pasture based/grass fed
 - Animal welfare approved
 - No tail docking
 - Certified humane

11. What percentage of U.S. milk comes from:

	0-25%	26-50%	51-75%	76-100%	Don't Know
Cattle treated with rbST.					
Cattle fed only organic feed.					
Cattle with tails docked (bottom of tail removed).					
Cattle provided access to pasture.					
Farms with less than 100 milk cows.					
Farms providing appropriate care for cattle well-being.					

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

Potential Action	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 the use of pain control.					
Vote to ban tail docking in cattle.					
Pay a premium for milk produced without rbST.					
Vote to ban the use of rbST.					

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

	Very Low Ability		Neutral		Very High Ability	Don't Know
	1	2	3	4	5	--
Dairy Farmers						
Dairy Cooperatives						
Dairy Processors						
Retail Grocers						
Food Service Restaurants						
Consumers– dairy product purchasers						
Likely voters						
People for the Ethical Treatment of Animals (PETA)						
Local veterinarians						
University Scientists/Researchers						
National Milk Producers Federation (NMPF)						
The Humane Society of the United States (HSUS)						
United States Department of Agriculture (USDA)						
American Farm Bureau Federation (AFB)						
American Veterinary Medical Association (AVMA)						

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

- Provide access to fresh, clean feed and water appropriate for the cow's physiological state.
- Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.
- Consistent training program for owner and employees focusing on principles of cow care and handling.
- All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.
- Third party verification that appropriate cow care and facilities are provided on farm.
- Maintain foot health in order to reduce lameness.
- Promptly treat or euthanize all injured or sick cows.
- Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.
- Tail docking (removing bottom part of tail) is prohibited.

15. Which of the following actions would you implement on your operation if you received a \$0.50/cwt premium for milk sold (check all that apply including those you already do)?

- Provide access to fresh, clean feed and water appropriate for the cow's physiological state.
- Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.
- Consistent training program for owner and employees focusing on principles of cow care and handling.
- All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.
- Third party verification that appropriate cow care and facilities are provided on farm.
- Maintain foot health in order to reduce lameness.
- Promptly treat or euthanize all injured or sick cows.
- Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.
- Tail docking (removing bottom part of tail) is prohibited.

16. Which of the following actions would you implement on your operation if you received a \$1.00/cwt premium for milk sold (check all that apply including those that you already do)?

- Provide access to fresh, clean feed and water appropriate for the cow's physiological state.
- Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.
- Consistent training program for owner and employees focusing on principles of cow care and handling.

- All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.
- Third party verification that appropriate cow care and facilities are provided on farm.
- Maintain foot health in order to reduce lameness.
- Promptly treat or euthanize all injured or sick cows.
- Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.
- Tail docking (removing bottom part of tail) is prohibited.

17. How effective would each of these dairy cattle management practices, if implemented throughout the entire U.S. dairy industry, be in improving the welfare of dairy cattle? (circle or mark one in each row)

	Very Ineffective		Neutral		Very Effective
	1	2	3	4	5
Provide access to fresh, clean feed and water appropriate for the cow's physiological state.					
Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.					
Consistent training program for owner and employees focusing on principles of cow care and handling.					
All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.					
Third party verification that appropriate cow care and facilities are provided on farm.					
Maintain foot health in order to reduce lameness.					
Promptly treat or euthanize all injured or sick cows.					
Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.					
Tail docking (removing bottom part of tail) is prohibited.					

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

Which of the following actions, if implemented throughout the entire U.S. dairy industry, is the most effective and least effective to improve the welfare of dairy cattle? (**check only one as the most and one least**)

Most Effective		Least Effective
<input type="checkbox"/>	Maintain foot health in order to reduce lameness	<input type="checkbox"/>
<input type="checkbox"/>	Tail docking (removing bottom part of tail) is prohibited	<input type="checkbox"/>
<input type="checkbox"/>	Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.	<input type="checkbox"/>
<input type="checkbox"/>	All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.	<input type="checkbox"/>
<input type="checkbox"/>	Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle	<input type="checkbox"/>
<input type="checkbox"/>	Third party verification that appropriate cow care and facilities are provided on farm.	<input type="checkbox"/>

18. Which of the following actions, if implemented throughout the entire U.S. dairy industry, is the most effective and least effective to improve the welfare of dairy cattle? (**check only one as most and one least**)

Most Effective		Least Effective
<input type="checkbox"/>	Consistent training program for owner and employees focusing on principles of cow care and handling.	<input type="checkbox"/>
<input type="checkbox"/>	All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.	<input type="checkbox"/>
<input type="checkbox"/>	Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.	<input type="checkbox"/>
<input type="checkbox"/>	Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.	<input type="checkbox"/>
<input type="checkbox"/>	Maintain foot health in order to reduce lameness.	<input type="checkbox"/>
<input type="checkbox"/>	Provide access to fresh, clean feed and water appropriate for the cow's physiological state.	<input type="checkbox"/>

19. Which of the following actions, if implemented throughout the entire U.S. dairy industry, is the most effective and least effective to improve the welfare of dairy cattle? (**check only one as most and one least**)

Most Effective		Least Effective
<input type="checkbox"/>	Tail docking (removing bottom part of tail) is prohibited.	<input type="checkbox"/>
<input type="checkbox"/>	Consistent training program for owner and employees focusing on principles of cow care and handling.	<input type="checkbox"/>
<input type="checkbox"/>	Provide access to fresh, clean feed and water appropriate for the cow's physiological state.	<input type="checkbox"/>
<input type="checkbox"/>	Maintain foot health in order to reduce lameness.	<input type="checkbox"/>
<input type="checkbox"/>	Third party verification that appropriate cow care and facilities are provided on farm.	<input type="checkbox"/>
<input type="checkbox"/>	Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.	<input type="checkbox"/>

20. Which of the following actions, if implemented throughout the entire U.S. dairy industry, is the most effective and least effective to improve the welfare of dairy cattle? (**check only one as most and one least**)

Most Effective		Least Effective
<input type="checkbox"/>	All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.	<input type="checkbox"/>
<input type="checkbox"/>	Maintain foot health in order to reduce lameness.	<input type="checkbox"/>
<input type="checkbox"/>	Third party verification that appropriate cow care and facilities are provided on farm.	<input type="checkbox"/>
<input type="checkbox"/>	Provide access to fresh, clean feed and water appropriate for the cow's physiological state.	<input type="checkbox"/>
<input type="checkbox"/>	Tail docking (removing bottom part of tail) is prohibited.	<input type="checkbox"/>
<input type="checkbox"/>	Promptly treat or euthanize all injured or sick cows.	<input type="checkbox"/>

21. Which of the following actions, if implemented throughout the entire U.S. dairy industry, is the most effective and least effective to improve the welfare of dairy cattle? (**check only one as most and one least**)

Most Effective		Least Effective
<input type="checkbox"/>	Tail docking (removing bottom part of tail) is prohibited.	<input type="checkbox"/>
<input type="checkbox"/>	Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.	<input type="checkbox"/>
<input type="checkbox"/>	Consistent training program for owner and employees focusing on principles of cow care and handling.	<input type="checkbox"/>
<input type="checkbox"/>	Promptly treat or euthanize all injured or sick cows.	<input type="checkbox"/>
<input type="checkbox"/>	All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.	<input type="checkbox"/>
<input type="checkbox"/>	Maintain foot health in order to reduce lameness.	<input type="checkbox"/>

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

Most Effective		Least Effective
<input type="checkbox"/>	Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.	<input type="checkbox"/>
<input type="checkbox"/>	All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.	<input type="checkbox"/>
<input type="checkbox"/>	Promptly treat or euthanize all injured or sick cows.	<input type="checkbox"/>
<input type="checkbox"/>	Third party verification that appropriate cow care and facilities are provided on farm.	<input type="checkbox"/>
<input type="checkbox"/>	Provide access to fresh, clean feed and water appropriate for the cow's physiological state.	<input type="checkbox"/>
<input type="checkbox"/>	Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.	<input type="checkbox"/>

23. Which of the following actions, if implemented throughout the entire U.S. dairy farm industry, do you believe would result in the largest, most positive consumer response?
- Provide access to fresh, clean feed and water appropriate for the cow's physiological state.
 - Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.
 - Consistent training program for owner and employees focusing on principles of cow care and handling.
 - All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.
 - Third party verification that appropriate cow care and facilities are provided on farm.
 - Maintain foot health in order to reduce lameness.
 - Promptly treat or euthanize all injured or sick cows.
 - Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.
 - Tail docking (removing bottom part of tail) is prohibited.
24. Which of the following actions, if implemented throughout the entire U.S. dairy farm industry, do you believe would result in the largest increase in production costs?
- Provide access to fresh, clean feed and water appropriate for the cow's physiological state.
 - Provide adequate comfort by assuring clean, dry, sanitary environmental conditions for cattle.
 - Consistent training program for owner and employees focusing on principles of cow care and handling.
 - All cattle must have access to outdoor exercise areas for at least 4 hours per day, weather permitting.
 - Third party verification that appropriate cow care and facilities are provided on farm.
 - Maintain foot health in order to reduce lameness.
 - Promptly treat or euthanize all injured or sick cows.
 - Sticks and flags may be used as benign handling aids but must not be used for hitting cattle.
 - Tail docking (removing bottom part of tail) is prohibited.

Thank you for your time in completing this survey. Please mail us your completed survey using the enclosed, postage-paid envelope. If you have any additional comments please provide them here: