Traceability, Biosecurity and Health Management by U.S. Feedlot Operations

2018 Survey Summary

- Survey conducted by Kansas State University.
- Survey distributed by BEEF Magazine.
- Data collected October 22, 2018 to January 31, 2019.

Kansas State University
Extension and Outreach

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Objective

This study was conducted to understand beef industry characteristics, traceability adoption and perceptions, biosecurity adoption and perceptions, and how management and marketing factors influence producer traceability and biosecurity decision making. This survey focused on collecting information from feedlot, stocker, and backgrounder operations.

Survey and Sample Design

This survey was developed by James Mitchell, assistant professor of agricultural economics and agribusiness at the University of Arkansas (formerly Kansas State University Ph.D. student), Glynn Tonsor, professor of agricultural economics at Kansas State University, and Lee Schulz, associate professor and extension livestock economist at Iowa State University. The survey questionnaire was vetted internally. Informa Engage formatted and printed the final survey questionnaire

BEEF Magazine developed an eligible mail distribution list of 1,500 United States cattle producers based on the requirement that the operation has sold at least 50 head of fed cattle in the last 12 months. In an effort to increase survey response, a $1 bill, cover letter, and postage-paid return envelope were included in each invitation packet.

Data Collection and Survey Response

Survey procedures were approved by the Kansas State University Committee on Research Involving Human Subjects and Institutional Review Board (Proposal Number 9434). Informa Engage provided data collection and processing. Printed survey invitation packets were mailed on October 22, 2018, with no follow-up solicitation. Survey responses were accepted until January 31, 2019.

Data for 152 partially complete or complete responses were received on December 21, 2018. Data for an additional 43 partially complete or complete responses were received on February 20, 2019. The final response rate was 13%, and data included 195 partially complete or complete responses.

Acknowledgements

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2018 Survey Summary

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Which operation type best describes your cattle operation?

	Number reporting	Percent reporting
Feedlot	45	23.2%
Feedlot and stocker/backgrounder	25	12.9%
Stocker/backgrounder	50	25.8%
Other	74	38.1%
Total	**194**	**100.0%**

Which marketing method do you most frequently use in marketing your operation's cattle?

	Number reporting	Percent reporting
Sale barn/auction	88	49.2%
Direct-Video/Internet auction	2	1.1%
Direct-private treaty	40	22.3%
Consignment	4	2.2%
Forward contact	2	1.1%
Carcass basis	2	1.1%
Other	41	22.9%
Total	**179**	**100.0%**

When procuring feeder cattle, do sourcing producers usually provide you with information about their operation's health programs?

	Number reporting	Percent reporting
No	99	59.3%
Yes	68	40.7%
Total	**167**	**100.0%**

How is this information most frequently shared with you?

	Number reporting	Percent reporting
Written documentation	23	34.3%
Electronic documentation	2	3.0%
Tell buyer orally	39	58.2%
Other	3	4.5%
Total	**67**	**100.0%**

For cattle placed on feed over the past 12 months, what percent were given these vaccines?

Bovine Viral Diarrhea / Bovine Respiratory Syncytial Virus

	Number reporting	Percent reporting	Number reporting	Percent reporting
100%	116	87.9%	112	88.9%
75%-99%	6	4.5%	6	4.8%
50%-74%	4	3.0%	2	1.6%
25%-49%	0	0.0%	0	0.0%
0%-24%	6	4.5%	6	4.8%
Total	**132**	**100.0%**	**126**	**100.0%**

Pasteurella / Leptospira spp.

	Number reporting	Percent reporting	Number reporting	Percent reporting
100%	92	80.7%	56	74.7%
75%-99%	7	6.1%	3	4.0%
50%-74%	8	7.0%	6	8.0%
25%-49%	0	0.0%	0	0.0%
0%-24%	7	6.1%	10	13.3%
Total	**114**	**100.0%**	**75**	**100.0%**

Parainfluenza 3 / Injectable IBR

	Number reporting	Percent reporting	Number reporting	Percent reporting
100%	86	84.3%	96	84.2%
75%-99%	5	4.9%	4	3.5%
50%-74%	4	3.9%	4	3.5%
25%-49%	0	0.0%	0	0.0%
0%-24%	7	6.9%	10	8.8%
Total	**102**	**100.0%**	**114**	**100.0%**

Intranasal IBR

	Number reporting	Percent reporting
100%	45	62.5%
75%-99%	0	0.0%
50%-74%	9	12.5%
25%-49%	1	1.4%
0%-24%	17	23.6%
Total	**72**	**100.0%**

For cattle placed on feed in the past 12 months, what percentage were mass treated with an antibiotic to prevent or reduce an outbreak of shipping fever?

Cattle less than 700 lbs when placed:

	Number reporting	Percent reporting
0 percent	29	29.9%
1 to 24 percent	17	17.5%
25 to 49 percent	3	3.1%
50 to 74 percent	8	8.2%
75 to 99 percent	4	4.1%
100 percent	36	37.1%
Total	**97**	**100.0%**

Cattle between 700-899 lbs when places

	Number reporting	Percent reporting
0 percent	35	68.6%
1 to 24 percent	4	7.8%
25 to 49 percent	2	3.9%
50 to 74 percent	2	3.9%
75 to 99 percent	0	0.0%
100 percent	8	15.7%
Total	**51**	**100.0%**

Cattle greater than 900 lbs when placed

	Number reporting	Percent reporting
0 percent	34	85.0%
1 to 24 percent	3	7.5%
25 to 49 percent	1	2.5%
50 to 74 percent	1	2.5%
75 to 99 percent	0	0.0%
100 percent	1	2.5%
Total	**40**	**100.0%**

Approximately, what percent of your total financial expenditure for cattle production is annually spent on biosecurity?

	Number reporting	Percent reporting
0 percent	35	19.7%
0 < percent ≤ 1	19	10.7%
1 < percent ≤ 2	10	5.6%
2 < percent ≤ 3	6	3.4%
3 < percent ≤ 4	0	0.0%
4 < percent ≤ 5	31	17.4%
5 < percent ≤ 10	23	12.9%
10 < percent ≤ 15	12	6.7%
15 < percent ≤ 20	15	8.4%
20 < percent ≤ 25	10	5.6%
25 < percent ≤ 50	12	6.7%
Greater than 50 percent	5	2.8%
Total	**178**	**100.0%**

During the last 12 months, did your operation consult a veterinarian for:

	Yes		No	
	Number reporting	Percent reporting	Number reporting	Percent reporting
Disease diagnosis or treatment?	123	36.7%	46	10.5%
Disease prevention?	114	34.0%	48	10.9%
Livestock deaths?	58	17.3%	95	21.6%
Information on biosecurity prevention?	30	9.0%	114	26.0%
Information on foreign animal diseases?	10	3.0%	136	31.0%
Total	**335**	**100.0%**	**439**	**100.0%**

For the biosecurity practices listed below, please check the left column for those used on your operation. Also please indicate by circling a number, how feasible you believe implementation of each would be if an FMD outbreak occurred in the U.S.

There is a designated biosecurity manager for the operation

	Number reporting	Percent reporting
Used	27	21.6%
Highly Infeasible	19	15.2%
Infeasible	12	9.6%
Neutral	31	24.8%
Feasible	23	18.4%

Highly Feasible	13	10.4%
Total	**125**	**100.0%**

An operation-specific, written, enhanced biosecurity plan has been developed

	Number reporting	Percent reporting
Used	12	12.0%
Highly Infeasible	16	16.0%
Infeasible	14	14.0%
Neutral	32	32.0%
Feasible	19	19.0%
Highly Feasible	7	7.0%
Total	**100**	**100.0%**

Animals come only from sources with documented enhanced biosecurity practices

	Number reporting	Percent reporting
Used	29	23.4%
Highly Infeasible	14	11.3%
Infeasible	10	8.1%
Neutral	26	21.0%
Feasible	34	27.4%
Highly Feasible	11	8.9%
Total	**124**	**100.0%**

A plan exists to manage animals in a biosecure manner on-site in the event animal movement is stopped for several weeks

	Number reporting	Percent reporting
Used	36	27.7%
Highly Infeasible	13	10.0%
Infeasible	6	4.6%
Neutral	23	17.7%
Feasible	38	29.2%
Highly Feasible	14	10.8%
Total	**130**	**100.0%**

Feedstuffs are delivered, stored, mixed, and fed in a manner that minimizes contamination, and feed spills are cleaned promptly

	Number reporting	Percent reporting
Used	89	42.2%
Highly Infeasible	8	3.8%
Infeasible	6	2.8%
Neutral	20	9.5%
Feasible	54	25.6%
Highly Feasible	34	16.1%
Total	**211**	**100.0%**

A Line of Separation (LOS) is an outer control boundary around, or within, the premises to limit movement of virus into areas where animals can be exposed. Please check the left column for those used on your operation. Also please indicate by circling a number, how feasible you believe implementation of each would be if an FMD outbreak occurred in the U.S.

A line of separation is clearly defined and marked in the operation

	Number reporting	Percent reporting
Used	27	21.4%
Highly Infeasible	15	11.9%
Infeasible	15	11.9%
Neutral	26	20.6%
Feasible	31	24.6%
Highly Feasible	12	9.5%
Total	**126**	**100.0%**

Entry to the operation is restricted to a limited number of access points

	Number reporting	Percent reporting
Used	64	36.8%
Highly Infeasible	12	6.9%
Infeasible	8	4.6%
Neutral	21	12.1%
Feasible	47	27.0%
Highly Feasible	22	12.6%
Total	**174**	**100.0%**

Access is limited to individuals who are essential to the operation

	Number reporting	Percent reporting
Used	59	35.8%
Highly Infeasible	8	4.8%
Infeasible	10	6.1%
Neutral	28	17.0%
Feasible	39	23.6%
Highly Feasible	21	12.7%
Total	**165**	**100.0%**

Vehicles, trailers, and equipment that cross the LOS are properly cleaned at an Access Point

	Number reporting	Percent reporting
Used	26	21.8%
Highly Infeasible	13	10.9%
Infeasible	16	13.4%
Neutral	29	24.4%
Feasible	22	18.5%
Highly Feasible	13	10.9%
Total	**119**	**100.0%**

Animals leaving the operation only move in one direction across the LOS at an Access Point

	Number reporting	Percent reporting
Used	51	32.5%
Highly Infeasible	12	7.6%
Infeasible	11	7.0%
Neutral	32	20.4%
Feasible	34	21.7%
Highly Feasible	17	10.8%
Total	**157**	**100.0%**

The area designated for loading/unloading animals is not a people entry point

	Number reporting	Percent reporting
Used	39	27.7%
Highly Infeasible	15	10.6%
Infeasible	15	10.6%
Neutral	30	21.3%

Feasible	28	19.9%
Highly Feasible	14	9.9%
Total	**141**	**100.0%**

Areas contaminated by personnel or animals after unloading are properly cleaned and disinfected

Column1	Number reporting	Percent reporting
Used	24	20.3%
Highly Infeasible	13	11.0%
Infeasible	18	15.3%
Neutral	31	26.3%
Feasible	26	22.0%
Highly Feasible	6	5.1%
Total	**118**	**100.0%**

Please indicate your level of agreement with the following statements

I am willing to take animal health risks in order to make more money

	Number reporting	Percent reporting
Strongly disagree	60	37.0%
Disagree	49	30.2%
Neutral	32	19.8%
Agree	16	9.9%
Strongly agree	5	3.1%
Total	**162**	**100.0%**

With respect to the conduct of my business, I prefer certainty to uncertainty

	Number reporting	Percent reporting
Strongly disagree	5	3.1%
Disagree	7	4.3%
Neutral	34	21.1%
Agree	82	50.9%
Strongly agree	33	20.5%
Total	**161**	**100.0%**

I am willing to take financial risks in order to realize higher average returns

	Number reporting	Percent reporting
Strongly disagree	23	14.2%
Disagree	28	17.3%
Neutral	54	33.3%
Agree	49	30.2%
Strongly agree	8	4.9%
Total	**162**	**100.0%**

My cattle operation is protected from financial risks

	Number reporting	Percent reporting
Strongly disagree	18	11.5%
Disagree	35	22.3%
Neutral	69	43.9%
Agree	29	18.5%
Strongly agree	6	3.8%
Total	**157**	**100.0%**

For cattle placed on feed over the past 12 months, what percent of cattle arrived with the following methods animal identification?

	Number reporting	Percent Reporting
Plastic ear tag	121	28.7%
Metal ("Bright") tag	42	10.0%
Brand	62	14.7%
Tattoo	38	9.0%
Brucellosis tag	53	12.6%
Electronic ear tag (RFID)	47	11.1%
None	50	11.8%
Other	9	2.1%
Total	**422**	**100.0%**

What would you be willing to pay to receive cattle that are already participating in a Visual Traceability program that includes "traditional ear tags" that are read manually upon human inspection?

	Number reporting	Percent reporting
Less than $1/head	59	39.6%
$1 to $4/head	63	42.3%
$5 to $8/head	19	12.8%
$9 to $12/head	8	5.4%
$13 to $16/head	0	0.0%
More than $16/head	0	0.0%
Total	**149**	**100.0%**

What would you be willing to pay to receive cattle that are already participating in a Electronic Traceability program that includes "button-like" radio frequency identification (RFID) tags readable by electronic readers?

	Number reporting	Percent reporting
Less than $1/head	68	45.0%
$1 to $4/head	53	35.1%
$5 to $8/head	20	13.2%
$9 to $12/head	8	5.3%
$13 to $16/head	1	0.7%
More than $16/head	1	0.7%
Total	**151**	**100.0%**

In designing a national, individual animal traceability system how important are the following issues in the U.S. beef industry?

Monitoring/managing disease

	Number reporting	Percent reporting
Entirely Unimportant	5	3.0%
Unimportant	4	2.4%
Neutral	19	11.4%
Important	84	50.3%
Very Important	55	32.9%
Total	**167**	**100.0%**

Increasing consumer confidence

	Number reporting	Percent reporting
Entirely Unimportant	5	3.0%
Unimportant	4	2.4%
Neutral	18	10.7%
Important	68	40.5%
Very Important	73	43.5%
Total	**168**	**100.0%**

Enhancing marketability

	Number reporting	Percent reporting
Entirely Unimportant	5	3.0%
Unimportant	1	0.6%
Neutral	21	12.7%
Important	85	51.2%
Very Important	54	32.5%
Total	**166**	**100.0%**

Maintaining current foreign markets

	Number reporting	Percent reporting
Entirely Unimportant	6	3.6%
Unimportant	3	1.8%
Neutral	20	12.0%
Important	75	44.9%
Very Important	63	37.7%
Total	**167**	**100.0%**

Accessing foreign markets

	Number reporting	Percent reporting
Entirely Unimportant	5	3.0%
Unimportant	3	1.8%
Neutral	23	13.9%
Important	69	41.6%
Very Important	66	39.8%
Total	**166**	**100.0%**

Improving on-farm management

	Number reporting	Percent reporting
Entirely Unimportant	2	1.2%
Unimportant	5	3.0%
Neutral	38	22.8%
Important	86	51.5%
Very Important	36	21.6%
Total	**167**	**100.0%**

Managing the supply chain

	Number reporting	Percent reporting
Entirely Unimportant	6	3.6%
Unimportant	6	3.6%
Neutral	44	26.2%
Important	73	43.5%
Very Important	39	23.2%
Total	**168**	**100.0%**

Enhancing food safety

	Number reporting	Percent reporting
Entirely Unimportant	4	2.4%
Unimportant	2	1.2%
Neutral	21	12.5%
Important	66	39.3%
Very Important	75	44.6%
Total	**168**	**100.0%**

In designing a national, individual animal traceability system how concerned are you regarding the following issues in the U.S. beef industry?

Cost to participating producer

	Number reporting	Percent reporting
Entirely Unconcerned	5	3.0%
Unconcerned	6	3.6%
Neutral	32	18.9%
Concerned	79	46.7%
Very Concerned	47	27.8%
Total	**169**	**100.0%**

Confidentiality of information

	Number reporting	Percent reporting
Entirely Unconcerned	6	3.6%
Unconcerned	8	4.8%
Neutral	38	22.6%
Concerned	65	38.7%
Very Concerned	51	30.4%
Total	168	100.0%

Reliability of technology

	Number reporting	Percent reporting
Entirely Unconcerned	4	2.4%
Unconcerned	7	4.2%
Neutral	45	26.8%
Concerned	70	41.7%
Very Concerned	42	25.0%
Total	**168**	**100.0%**

Liability to participating producer

	Number reporting	Percent reporting
Entirely Unconcerned	2	1.2%
Unconcerned	8	4.8%
Neutral	22	13.3%
Concerned	75	45.2%
Very Concerned	59	35.5%
Total	**166**	**100.0%**

Non-participating firms benefiting

	Number reporting	Percent reporting
Entirely Unconcerned	3	1.8%
Unconcerned	7	4.2%
Neutral	49	29.5%
Concerned	53	31.9%
Very Concerned	54	32.5%
Total	**166**	**100.0%**

Failure of system to meet stated goals

	Number reporting	Percent reporting
Entirely Unconcerned	4	2.4%
Unconcerned	5	3.0%
Neutral	39	23.4%
Concerned	66	39.5%
Very Concerned	53	31.7%
Total	167	100.0%

Implementing individual traceability systems:

"is more cost effective for larger feedlot operations."

	Number reporting	Percent reporting
Strongly disagree	6	3.7%
Disagree	14	8.5%
Neutral	62	37.8%
Agree	68	41.5%
Strongly agree	14	8.5%
Total	**164**	**100.0%**

"results in more liability for feedlot producers than cattle owners at other stages of production."

	Number reporting	Percent reporting
Strongly disagree	6	3.7%
Disagree	22	13.7%
Neutral	60	37.3%
Agree	64	39.8%
Strongly agree	9	5.6%
Total	**161**	**100.0%**

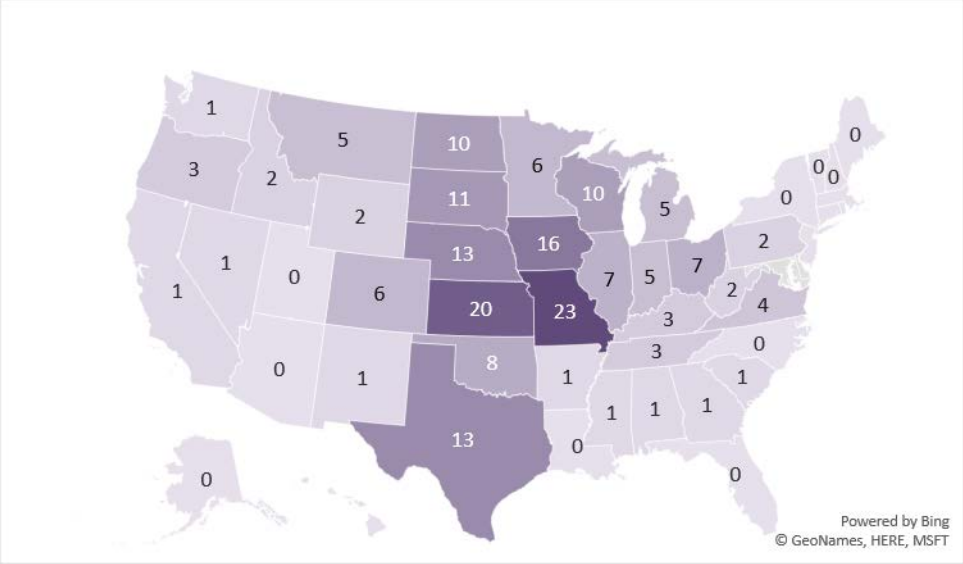
"is unnecessary if COOL (country-of-Origin Labeling) was implemented nationally."

	Number reporting	Percent reporting
Strongly disagree	17	10.4%
Disagree	39	23.9%
Neutral	66	40.5%
Agree	26	16.0%
Strongly agree	15	9.2%
Total	**163**	**100.0%**

"as a mandated system is exaggerated in need."

	Number reporting	Percent reporting
Strongly disagree	10	6.3%
Disagree	25	15.7%
Neutral	83	52.2%
Agree	32	20.1%
Strongly agree	9	5.7%
Total	**159**	**100.0%**

In which state is your cattle operation?



What is your age?

	Number reporting	Percent reporting
21-30 years	0	0.0%
31-40 years	6	3.6%
41-50 years	8	4.8%
51-60 years	19	11.4%
61-70 years	29	17.4%
71-80 years	64	38.3%
81 years or more	41	24.6%
Total	**167**	**100.0%**

What is your gender?

	Number reporting	Percent reporting
Male	171	94.5%
Female	10	5.5%
Total	**181**	**100.0%**

What is the highest level of education that you earned?

	Number reporting	Percent reporting
High school graduate/GED	63	34.2%
Some college or 2-year college/technical degree	56	30.4%
4-year college degree	48	26.1%
Graduate degree (MS, PhD, DVM, etc.)	13	7.1%
Other	4	2.2%
Total	**184**	**100.0%**

What was your average cost of gain for fed cattle sold over the past 12 months on your operation?

	Number reporting	Percent reporting
Less than $60/cwt	33	22.9%
$60 to $64.99/cwt	20	13.9%
$65 to $69.99/cwt	30	20.8%
$70 to $74.99/cwt	29	20.1%
$75 to $79.99/cwt	15	10.4%
$80 to $84.99/cwt	12	8.3%
$85 to $89.99/cwt	3	2.1%
Over $90/cwt	2	1.4%
Total	**144**	**100.0%**

What is the one-time capacity of your feedlot?

	Number reporting	Percent reporting
Less than 1,000 head	127	87.0%
1,000 to 1,999 head	7	4.8%
2,000 to 3,999 head	3	2.1%
4,000 to 7,999 head	5	3.4%
8,000 to 15,999 head	1	0.7%

16,000 to 23,999 head	1	0.7%
24,000 to 31,999 head	0	0.0%
32,000 to 49,999 head	2	1.4%
More than 50,000 head	0	0.0%
Total	**146**	**100.0%**

How many fed cattle were sold on your operation in the last 12 months?

	Number reporting	Percent reporting
Less than 1,000 head	126	83.4%
1,000 to 1,999 head	11	7.3%
2,000 to 3,999 head	5	3.3%
4,000 to 7,999 head	3	2.0%
8,000 to 15,999 head	3	2.0%
16,000 to 23,999 head	0	0.0%
24,000 to 31,999 head	1	0.7%
32,000 to 49,999 head	1	0.7%
More than 50,000 head	1	0.7%
Total	**151**	**100.0%**

How many years experience in cattle production do you have?

	Number reporting	Percent reporting
5 years or less	1	0.6%
6 to 10 years	4	2.3%
11 to 15 years	6	3.4%
16 to 20 years	9	5.2%
21 to 25 years	12	6.9%
26 to 30 years	17	9.8%
31 to 35 years	6	3.4%
36 to 40 years	24	13.8%
41 to 45 years	22	12.6%
46 to 50 years	33	19.0%
51 years or more	40	23.0%
Total	**174**	**100.0%**

How many more years do you expect to be in cattle production?

	Number reporting	Percent reporting
5 years or less	33	20.8%
6 to 10 years	52	32.7%
11 to 15 years	19	11.9%
16 to 20 years	19	11.9%
21 to 25 years	9	5.7%
26 to 30 years	7	4.4%
31 to 35 years	2	1.3%
36 to 40 years	7	4.4%
41 to 45 years	1	0.6%
46 to 50 years	6	3.8%
51 years or more	4	2.5%
Total	**159**	**100.0%**

Version 1

Scenario #1

	Number Reporting	Percent Reporting
Visual Traceability	25	50.0%
Electronic Traceability	20	40.0%
No Traceability	5	10.0%
Total	50	100.0%

Scenario #2

	Number Reporting	Percent Reporting
Visual Traceability	16	33.3%
Electronic Traceability	26	54.2%
No Traceability	6	12.5%
Total	48	100.0%

Scenario #3

	Number Reporting	Percent Reporting
Visual Traceability	33	68.8%
Electronic Traceability	7	14.6%
No Traceability	8	16.7%
Total	**48**	**100.0%**

Scenario #4

	Number Reporting	Percent Reporting
Visual Traceability	20	41.7%
Electronic Traceability	19	39.6%
No Traceability	9	18.8%
Total	48	100.0%

Scenario #5

	Number Reporting	Percent Reporting
Visual Traceability	16	34.0%
Electronic Traceability	26	55.3%
No Traceability	5	10.6%
Total	**47**	**100.0%**

Scenario #6

	Number Reporting	Percent Reporting
Visual Traceability	15	31.9%
Electronic Traceability	19	40.4%
No Traceability	13	27.7%
Total	**47**	**100.0%**

Version 2

Scenario #1

	Number Reporting	Percent Reporting
Visual Traceability	16	47.1%
Electronic Traceability	15	44.1%
No Traceability	3	8.8%
Total	**34**	**100.0%**

Scenario #2

	Number Reporting	Percent Reporting
Visual Traceability	13	37.1%
Electronic Traceability	20	57.1%
No Traceability	2	5.7%
Total	**35**	**100.0%**

Scenario #3

	Number Reporting	Percent Reporting
Visual Traceability	20	57.1%
Electronic Traceability	12	34.3%
No Traceability	3	8.6%
Total	**35**	**100.0%**

Scenario #4

	Number Reporting	Percent Reporting
Visual Traceability	25	73.5%
Electronic Traceability	6	17.6%
No Traceability	3	8.8%
Total	**34**	**100.0%**

Scenario #5

	Number Reporting	Percent Reporting
Visual Traceability	21	61.8%
Electronic Traceability	11	32.4%
No Traceability	2	5.9%
Total	**34**	**100.0%**

Scenario #6

	Number Reporting	Percent Reporting
Visual Traceability	20	58.8%
Electronic Traceability	8	23.5%
No Traceability	6	17.6%
Total	**34**	**100.0%**

Version 3

Scenario #1

	Number Reporting	Percent Reporting
Visual Traceability	22	47.8%
Electronic Traceability	18	39.1%
No Traceability	6	13.0%
Total	**46**	**100.0%**

Scenario #2

	Number Reporting	Percent Reporting
Visual Traceability	19	39.6%
Electronic Traceability	24	50.0%
No Traceability	5	10.4%
Total	**48**	**100.0%**

Scenario #3

	Number Reporting	Percent Reporting
Visual Traceability	24	52.2%
Electronic Traceability	17	37.0%
No Traceability	5	10.9%
Total	**46**	**100.0%**

Scenario #4

	Number Reporting	Percent Reporting
Visual Traceability	24	55.8%
Electronic Traceability	16	37.2%
No Traceability	3	7.0%
Total	43	100.0%

Scenario #5

	Number Reporting	Percent Reporting
Visual Traceability	17	39.5%
Electronic Traceability	23	53.5%
No Traceability	3	7.0%
Total	**43**	**100.0%**

Biosecurity and Health Management by U.S. Cattle Producers

2018 Survey Summary

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