



Needs Assessment of the Michigan Beef Industry

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Executive Summary

Introduction

The Michigan State University (MSU) Extension Beef Team conducted a survey during March, April and May 2019 to determine the educational needs of Michigan's beef producers and beef allied industry professionals. The survey was administered online through Qualtrics and can be found at <https://www.canr.msu.edu/resources/needs-assessment-of-michigan-beef-industries>. The link to the survey was sent via the Great Lakes Grazing Newsletter, Mid-Michigan Livestock Network, MSU Extension News Digest beef list, and MSU Extension educators' contact lists. In total, 342 respondents participated in the survey: 253 producers, 25 allied industry members, 38 who were both producers and allied industry members, and 26 neither. The results presented in this report will be used to determine future MSU Extension beef staffing needs and locations as well as programming efforts. The Michigan Cattlemen's Association will likely use the results as part of their strategic plan for the Michigan beef industry.

Methodology

The survey was conducted via an online forum, Qualtrics, and consisted of three question tracks – producer, allied industry member, and neither – based on the participants' self-identified role in the beef industry. Each participant was prompted with a variety of questions related to demographics, operation type, challenges in the industry, and views on MSU Extension's role in helping meet industry challenges. Upon completion of the response collection, the data were analyzed using the statistical software SAS v. 9.2. The qualitative responses to open-ended questions were categorized based on major themes identified for each question. Six members of the MSU Extension Beef Team scored each qualitative response based on defined categories. SAS v. 9.2 was used to determine the reoccurring themes for each response

MSU Engagement

All survey participants were asked to answer questions related to MSU Extension's role in the beef industry and with their operation. Over half of respondents indicated they had received education or training from the MSU Extension Beef Team within the last five years. The most preferred forms of communication were electronic sources (e.g., newsletter, social media), meetings at different locations throughout Michigan, and organizational events (e.g., meetings, field days, field schools, etc.).

Producer Findings

Qualitative questions (open-ended text responses) were administered to identify the producers' perceived issues in the industry as well as their recommendations for how MSU Extension can better assist producers. The qualitative questions provide an unguided response to the quantitative questions asked later in the survey. One producer indicated marketing/market access as a large issue by stating, "Producers are great at production. But marketing and consumer relations is hard to master," while another producer identified prices/profitability as a key issue stating, "slow return on investment buying or raising heifers."

The quantitative responses provided answers to direct questions, prompting the respondent with specified categories to identify problem areas and current practices. Commercial cow calf producers were the largest sector represented (55%), followed by feedlot producers (32%). Natural beef and direct consumer marketing are the largest two categories (> 46%) of marketing currently occurring on beef operations responding. Over 50% of producers are considering finding alternative markets for cattle. The major issues identified by producers were input cost and government regulations, closely followed by animal health, capital availability, and consumer demand. The breakdown among operation type can be found within the summary and in Appendix A. Producers believed that the most important way for MSU Extension to help address the aforementioned issues is producer education.

Allied Industry Findings

The allied industry questions were aligned with the producer questions with a section of qualitative responses and a section of quantitative responses. Allied industry members noted issues such as, "I see a lot of producers struggling with marketing their cattle," and, "From my perspective as a conservationist, I believe there is a need to address overgrazing and access to sensitive areas (wetlands)." The majority agreed that education to producers was the area that MSU Extension could provide the most support in the beef industry.

In terms of marketing, allied industry members identified nearly all listed categories as having a high importance, suggesting that marketing as a whole is a key component of the beef industry. Similarly, over 50% of industry members indicated that each issue listed, such as livestock transportation and animal health, were of some concern on the beef operations they work with.

Conclusion

Michigan beef producers and allied industry members were surveyed about their opinions regarding challenges in the beef industry, the ways MSU Extension can help the beef industry address those challenges, and demographic questions. Seedstock, cow calf, stocker/backgrounder, feedlot and grass finishing operations were all represented. Producers indicated marketing/market access and prices/profitability were challenges in open-ended text responses. Furthermore, producers were concerned about input costs, government regulations, environmental issues, animal health, capital availability, succession of operation, and consumer demand. Respondents stated that MSU Extension can help address these challenges through producer education. Producers identified MSU Extension needed more expertise in general beef knowledge, economics/finance/marketing, nutrition, feedlot management and grazing/forage.

Demographic Questions

All participants in the survey were asked to answer demographic questions. The survey was distributed across Michigan. Of the 342 respondents, 253 identified they were producers, 25 indicated they were an allied industry member, 38 indicated they were both a producer and an allied industry member, and 26 respondents indicated their affiliation as neither. For the remainder of this summary, those who responded “both” are a part of the producer affiliation.

Huron, Osceola, and Mecosta counties had the most respondents, between 10 and 13, as seen in **Figure 1**. The respondents were well distributed among the Lower Peninsula of Michigan. Nearly half of those that responded with their age were 55 years or older, and 80% were male (**Table 1**). All participants in the survey were asked to answer demographic questions. This distribution is consistent with the United States Department of Agriculture’s (USDA) census conducted in 2017, identifying that the largest percentage of producers in Michigan were male and over the age of 55 (USDA, 2017a; 2017b).

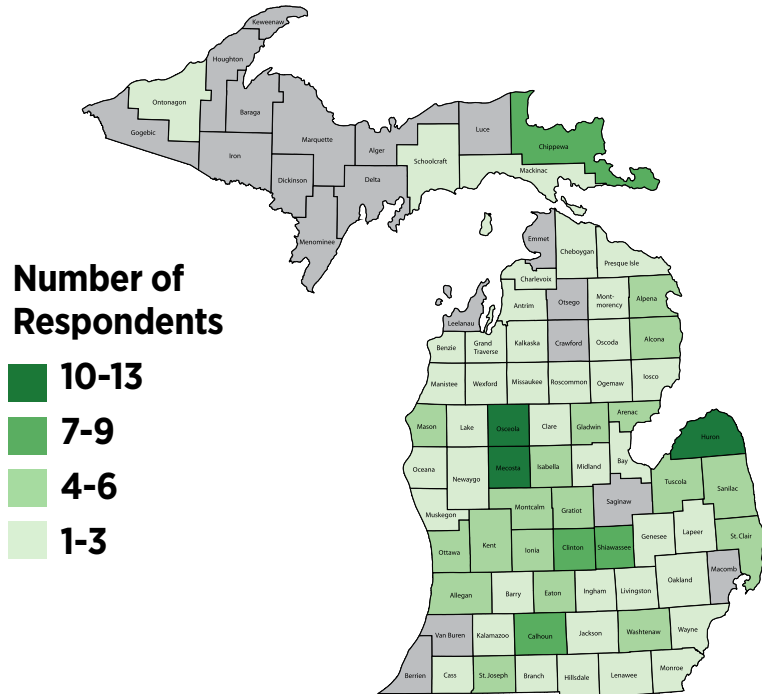


Figure 1. Respondents per county in Michigan (mapchart.net, 2019)

Table 1. Demographic summary statistics of respondents

Demographic Variable	Number Reporting	Percentage
Gender		
Male	198	80%
Female	42	17%
Choose not to provide	8	3%
Total	248	100%
No response	94	
Age		
18 to 24	8	3%
25 to 34	30	12%
35 to 44	41	17%
45 to 54	45	18%
55 to 64	66	27%
65 and older	55	22%
Choose not to provide	3	1%
Total	248	100%
No response	94	
Role in beef industry		
Beef producer	253	74%
Beef allied industry	25	7%
Both	38	11%
Neither	26	8%
Total	342	100%
No response	0	

Engagement With MSU Extension

All participants in the survey were asked to answer the following questions about their interactions with MSU Extension. The majority of respondents (63%) indicated they have received MSU Extension training or education within the last five years, whereas 24% of respondents indicated they have never had training from MSU Extension (**Table 2**). The most preferred forms of communication were electronic, meetings at different locations throughout Michigan, and organizational events, such as meetings, field days, and field schools (**Table 3**).

Table 2. Responses to: “Have you received training or education from the MSU Extension Beef Team?”

	Number Reporting	Percent Reporting
Yes, within last 5 years	157	63%
Yes, more than 5 years ago	23	9%
No	61	24%
Not sure	10	4%
Total	251	100%
No response	91	

Table 3. Responses to: “Which method do you prefer when obtaining information from the MSU Extension Beef Team? Select up to 3 responses.”^a

	Number of Times Selected	Percent of Total Respondents
Personal farm call	68	28%
Electronic source (e.g., electronic newsletter, social media)	150	63%
Meeting at different locations throughout MI	129	54%
Meetings - MSU campus	33	14%
Publication mailings (e.g., paid subscription to hard copy newsletter)	70	29%
Organizational events (e.g., meetings, field days, field schools, etc.)	164	68%
Other	9	4%
Total respondents	247	
No response	95	

^a The number reporting does not sum to total respondents because respondents were able to select all that apply.

Producer Responses

The producer track of questions was answered by those that selected “beef producer” or “both” when asked to specify their current role in the industry (see Table 1). There were 291 respondents that classified themselves as a beef producer or both.

Two hundred and ninety-one producers responded to at least one of the three qualitative open-ended questions reflected in Tables 4, 5, and 6. These open-ended question responses were then classified into multiple categories. Note that one comment may be classified into multiple categories. **Table 4**, **Table 5**, and **Table 6** summarize the opened-ended producer text responses. Producers identified marketing/market access and prices/profitability to be the top two issues facing the beef industry over the next 5–10 years, when asked “*Considering where you want your beef operation to be in the next 5–10 years, what are the largest issues or challenges that need to be addressed to get you there (Table 4)?*” Animal health, land/pasture availability, and input costs were also commonly mentioned where producers indicated they needed a healthy herd to be productive. Producers were also asked how MSU Extension could help address these issues or challenges (**Table 5**). Eighty-six respondents believe that education to producers from MSU Extension is the best way to help address the aforementioned issues. Finally, producers were also asked what type of expertise or specializations are needed within MSU Extension staffing to strengthen the Michigan beef industry (**Table 6**). Producers noted more expertise was needed within MSU Extension as it relates to general beef knowledge and economics/finance/marketing to help better address the current issues facing the industry. Nutrition, feedlot management, and grazing/forage were other commonly cited areas of needed expertise.

Table 4. Responses to: “*Considering where you want your beef operation to be in the next 5–10 years, what are the largest issues or challenges that need to be addressed to get you there?*”^a

Category	Frequency	Response Examples
Marketing/market access	52	<ul style="list-style-type: none"> – “Need to be able to do more direct marketing of beef without more regulations.” – “Advertising - I use mostly FB right now and people I work with buy from me.” – “Producers are great at production. But marketing and consumer relations is hard to master.”
Prices/profitability	52	<ul style="list-style-type: none"> – “Marketing and price” – “Economics, finance, business planning.” – “Slow return on investment buying or raising heifers.”
Animal health	29	<ul style="list-style-type: none"> – “Cattle health of small Holstein calves.” – “Producing a healthy herd with quality animals.” – “Keeping my herd free of disease, i.e. Johne’s, BVD, TB, Tric, FMD, etc. by more positive means than “bio security”. These diseases need to be eradicated in the US, not managed.”

Land/pasture availability	28	<ul style="list-style-type: none"> – “Grazable acreage in close proximity to infrastructure.” – “Competition with crop guys for land.” – “Grow to 40 head of cows. Land will be the greatest challenge”
Input costs	24	<ul style="list-style-type: none"> – “Controlling cost” – “Managing input costs, namely feed and fertilizer.” – “Input costs compared to sale prices up here in MI.”
Capital availability	22	<ul style="list-style-type: none"> – “Capital and land” – “Capital to take the next steps”
Genetics/reproduction	22	<ul style="list-style-type: none"> – “Genomic education for our clients.” – “I am interested in switching to grass fed beef. Timely rebreeding is a problem nobody even a vet seems to have a solution. We use BSE, vaccinate and use feed supplements, bull breed and AI with unacceptable pregnancy rates.” – “Quality replacements”
Government regulations	16	<ul style="list-style-type: none"> – “Government policy that provides similar support to the sustainable agriculture market segment as it provides to conventional agriculture. Current programs are not equitable.” – “Too many regulations that don’t always apply to the small producer and don’t always have a scientific need for them. Big Corporations shouldn’t be putting them on.”
Other	16	<ul style="list-style-type: none"> – “Profitable herd dispersal and sale of capital investments.” – “Developing a better understanding on how to use EPD’s and correlations between different EPD’s”
Facilities/fencing	14	<ul style="list-style-type: none"> – “Improving infrastructure” – “Getting pens, gates, alley way set up. Would like to get a squeeze chute. Started from scratch. – “Facilities to house livestock.”
Ag literacy/communications	14	<ul style="list-style-type: none"> – “There has also been too much negativity in the media in regards to beef production” – “Improve both my own genetics as well as the image of Michigan producers.
Succession of operation	11	<ul style="list-style-type: none"> – “Successful retirement from farming.” – “Succession planning”

Consumer demand	11	<ul style="list-style-type: none"> – “More demand for beef” – “I am not sure how to convince consumers that natural meat products are better than lab grown “fake” meat. Nor how to convince them that vegan and vegetarian is not necessarily more healthy.”
Environmental issues	11	<ul style="list-style-type: none"> – “Continuing to improve our beef cow profitability and addressing environmental concerns” – “Environmental sustainability.”
Business planning	8	<ul style="list-style-type: none"> – “Business Management and Decision Making” – “Documentation of HHP/SOPs and other records, finding cashflow to keep moving forward, succession planning” – “Economics, finance, business planning.”
Forage management	8	<ul style="list-style-type: none"> – “Quality forages for grass fed beef and the price of hay in the future.” – “Expanding and managing land”
Feed availability	8	<ul style="list-style-type: none"> – “I want my beef operation to be larger and with more land to provide more food for them. I will need to buy more land and buy more cattle. Plus get more experienced in what breed to get and what to feed.” – “Feed availability”
Labor	7	<ul style="list-style-type: none"> – “Lack of labor” – “Finding help for balancing hay and workouts by cattle as I work off farm 50 to 60 hrs per week” – “Maybe increase of 24 to 40 % in volume. Assuming I am able to get some help to do the work.”
Nutrition	6	<ul style="list-style-type: none"> – “Becoming more knowledgeable in cattle nutrition requirements.” – “Feed stuff amounts needed.”
Export markets	4	<ul style="list-style-type: none"> – “Trade agreements so there is a profitable market for beef. Better hay varieties and better pasture varieties. How to improve pastures.” – “US beef demand and global markets.”
Watering system	2	<ul style="list-style-type: none"> – “Automating the feed and watering systems. Cattle handling. Proper fencing of graze lands.” – “Infrastructure. To increase herd size I will have to increase fencing, watering system ect.”
Weather/climate changes	2	<ul style="list-style-type: none"> – “Reducing risk of disease, severe weather, and losing critical assets to the farm (e.g. livestock)” – “The difficulty of draining excess water from farmland”

Manure application/storage	2	<ul style="list-style-type: none"> – “Cooperation from local NRC office, my approved dry stack manure storage facility has been on hold because of a “shortage of engineers” with no known date to move forward. Started this endeavor over 5 years ago.”
Livestock transportation	1	<ul style="list-style-type: none"> – “Marketing and transportation. We only have limited amount of buyers and sellers. Making it difficult to source and market fed cattle. Also, we have nobody in our area killing source and age verified cattle. This is a shame as Michigan is the only state with a mandatory id system and the producers can’t even benefit from having this in place since 2003.”

^a Of the 291 producer respondents, 284 responded to the question displayed in **Table 4** and 282 had recordable responses.

Table 5. Responses to: “How could MSU Extension help to address the above issues or challenges?”^a

Category	Frequency	Response Examples
Education to producers	86	<ul style="list-style-type: none"> – “We enjoy going to conferences and listening to successful producers and professionals who are good communicators” – “Face to face workshops, webinars, news articles, etc.” – “Break down succession planning so it’s not so overwhelming. That is a very emotional area for farmers.”
Education to consumers	22	<ul style="list-style-type: none"> – “Data to help educate the public. Continue to educate producers with new technologies. Training for producers to talk to public on issues” – “Education for consumers about benefits beef soil health. Try to appeal to younger potential farmers.” – “Education, public the good beef doses.”
Education to policy makers and working with agencies (USDA, FSA, etc.)	22	<ul style="list-style-type: none"> – “Leverage relationships within the beef industry and government to affect the needed changes.” – “Educate legislator how unfair our taxes are, not based on productive of land, higher then neighbor states”
Other	20	<ul style="list-style-type: none"> – “I plan on contacting people I have met through Extension to market my cattle when I sell off.” – “In this state we need a market alliance of some how to push back against these packers”

Research	16	<ul style="list-style-type: none"> – “Research beef cattle disease” – “2 Research projects that Identify Feed Efficient and Disease Resistant Genetics” – “Keep education on all fronts of the business, non bias information finding of all matters concerning agriculture, do local studies on sustainable agriculture,”
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^a Of the 291 producer respondents, 234 responded to the question displayed in **Table 5** and 224 had recordable responses.

Table 6. Responses to: “What type of expertise or specializations are needed within MSU Extension staffing to strengthen the Michigan beef industry? Please list specific suggestions.”^a

Category	Frequency	Response Examples
General beef knowledge	27	<ul style="list-style-type: none"> – “Information from individuals with hands on training, raise cattle, feed cattle, individuals that have fought the elements that come with living in Michigan and managed a feedlot. Individuals that have calved out cows in January Mud and April Freezes.” – “Experts to visit my operation to provide suggestions and training.” – “Broad knowledge and up to date on current issues”
Economics/finance/marketing	25	<ul style="list-style-type: none"> – “Marketing and Sales” – “More on the economics of growing cattle, more on Markets and sale opportunities” – “How to market, a lower cost examples of marketing flyers etc.”
Nutrition	20	<ul style="list-style-type: none"> – “Nutrition and health” – “Feeding and nutrition assistance, general animal husbandry recommendations” – “Nutrition Specialist”
Feedlot management	18	<ul style="list-style-type: none"> – “Feedlot specialist” – “Cow Calf, and feedlot management.” – “There is a need for increased coverage of the feeding sector. Need an agent with expertise in the feedlot portion of the industry.”
Grazing/forage	17	<ul style="list-style-type: none"> – “Education on soil improvements for hay and pastures with emphasis on organic-type practices” – “More info on nutrition and forage”

Ag literacy/communications	16	<ul style="list-style-type: none"> – “Help with teaching the average “cattle person” how to talk to the public on beef production best practices along with presenting verifiable, scientific information to the non-agricultural public.” – “Feeding, marketing, vet, animal husbandry, animal welfare, public education on agriculture, educating in schools”
Genomics/reproduction	15	<ul style="list-style-type: none"> – “Understanding of ends and genomic testing.” – “EPD knowledge and someone to speak up for cow calf producers n not for MI Cattleman’s Association” – “Improving AI rates”
Animal health	14	<ul style="list-style-type: none"> – “Veterinarian medicine” – “As the beef industry is losing more Veterinarians in our area some assistance is locating help for the small breeders and general guidelines on some medical emergencies will be important.” – “Getting small producers onboard with vaccines , preg checks etc”
Animal welfare/handling	7	<ul style="list-style-type: none"> – “Feeding, marketing, vet, animal husbandry, animal welfare, public education on agriculture, educating in schools”
Other	5	<ul style="list-style-type: none"> – “More people need to go to the Bqa class” – “Networking with other producers. Identifying and possibly facilitating mentors for us guys that could use one.” – “Youth development and improved marketing of genetics and breeding stock within state.
Meats	4	<ul style="list-style-type: none"> – “Improving quality of beef.” – “Everything seems to be pretty well covered. The only addition I can think of is a direct marketing extension educator that helps michigan farmers sell direct to the people in Michigan” – “Work on allowing usda to allow us to graze set a side.”
Environmental	3	<ul style="list-style-type: none"> – “We need to learn how to talk to the public about the positive environmental impact of raising cattle...and be able to illustrate that on our farms.” – “Get information about cattle benefits to the environment in the general news media”

^a Of the 291 producer respondents, 246 responded to the question displayed in **Table 6** and 209 had recordable responses.

Commercial cow calf had the greatest representation among producers with 55% of respondents having a cow calf enterprise, followed by feedlot (32%), seedstock (25%), and grass finisher (25%) (Table 7). Stocker/background was the least represented, making up 10% of producers. The majority of producers only had one enterprise (Figure 2; Table 8). However, over 35% of respondents reported operating two or more cattle enterprises. Of those producers that have a commercial cow calf operation, 32 respondents also had a feedlot operation, 12 also had a stocker/backgrounding operation, and 21 respondents also had a grass finisher operation.

Table 7. Responses to: “Which among the following categories best describes your operation? Check all that apply.”^a

	Number Reporting	Percent Reporting
Seedstock	54	25%
Commercial cow calf	120	55%
Stocker/background	22	10%
Feedlot	70	32%
Grass finisher	54	25%
Total producers	219	
No responses	72	

^a The number reporting does not sum to total producers because respondents were able to select all that apply.

Number of Enterprises

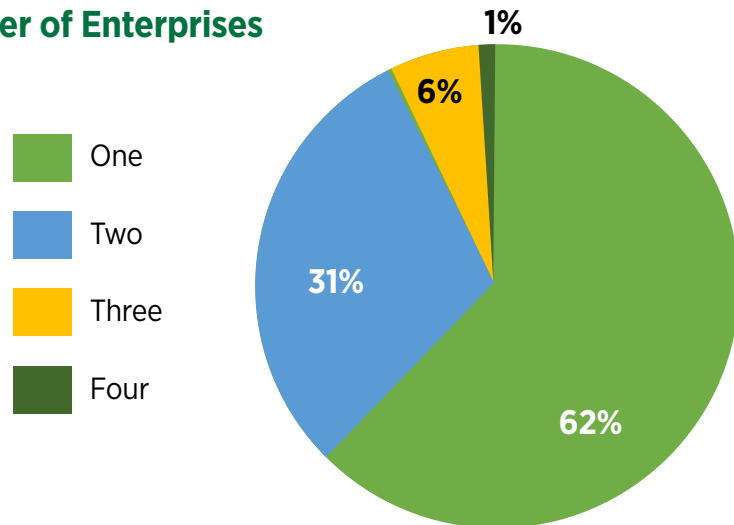


Figure 2. Number of enterprises reported per producer. No Response = 74.

Table 8. Enterprise mixes expressed as number of responses

	Seedstock	Commercial Cow Calf	Stocker/ Background	Feedlot	Grass Finisher
Seedstock	24				
Commercial cow calf	23	50			
Stocker/background	2	12	7		
Feedlot	11	32	6	28	
Grass finisher	3	21	6	5	27

Producers were asked whether they were currently doing, considering, or not considering 11 different production practices (Table 9). Natural beef and direct consumer marketing had the largest percent of producers currently performing this management/marketing practice. Organic beef (USDA certified), grass finished, forward pricing, joining a beef cooperative/alliance, changing to a different calving season, and agritourism had at least 40% of respondents not considering these practices. Over 50% of producers are considering finding alternative markets for cattle.



Table 9. Responses to: “Have you considered the following management and marketing practices?”^a

	Organic Beef (USDA Certified)		Grass Finished		Natural Beef	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently doing	6	3%	51	24%	97	46%
Considering	39	18%	46	22%	34	16%
Not considering	144	68%	96	45%	65	31%
Does not apply to my operation	23	11%	18	9%	13	6%
Total	212	100%	211	100%	209	100%
No response	79		80		82	
	Direct Consumer Marketing		Forward Pricing (Contracts or Hedging)		Joining a Beef Cooperative/Alliance	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently doing	140	64%	24	11%	27	13%
Considering	48	22%	39	19%	75	36%
Not considering	19	9%	113	54%	93	45%
Does not apply to my operation	11	5%	33	16%	12	6%
Total	218	100%	209	100%	207	100%
No response	73		82		84	
	Finding Alternative Markets for Cattle		Changing to Different Calving Season		Starting an Additional Enterprise	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently doing	64	30%	30	14%	42	20%
Considering	110	52%	59	28%	76	36%
Not considering	32	15%	87	41%	78	37%
Does not apply to my operation	7	3%	35	17%	16	8%
Total	213	100%	211	100%	212	100%
No response	78		80		79	

	Agritourism		Other (Please Describe)	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
Currently doing	18	9%	12	9%
Considering	38	18%	5	4%
Not considering	119	57%	28	21%
Does not apply to my operation	35	17%	86	66%
Total	210	100%	131	100%
No response	81		160	

Producers were asked to identify concerning issues on their operations in the past 5 years (**Table 10**). The largest issues identified, with over 80% of producers indicating very or somewhat concerning, were input costs, government regulations, and environmental issues. Animal health, capital availability, succession of operation, and consumer demand were also noted as points of concern, indicated by at least 70% of respondents.

To determine if different types of beef operations were concerned about different issues, the same responses are disaggregated by operation type (**Appendix A, Table A.1**). In this analysis, we find that grass finishers were less concerned with export markets and land availability compared to other producers. Feedlots are more concerned with labor availability than seedstock, cow calf, stocker, and grass finish producers. Stocker operations were more concerned about the succession of their operation than other types of producers.

^a Percent reporting may not visually sum to 100% due to rounding.

Table 10. Responses to: “How concerning have the following issues been on your beef operation in the past five years?”^a

	Watering System		Feed Availability		Labor Availability	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
Not concerning	98	45%	66	30%	81	38%
Somewhat concerning	79	36%	91	42%	63	29%
Very concerning	39	18%	60	28%	58	27%
Does not apply to my operation	4	2%	0	0%	14	6%
Total	220	100%	217	100%	216	100%
No response	71		74		75	
	Labor Cost		Land Availability		Pasture Availability	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
Not concerning	90	42%	56	26%	47	22%
Somewhat concerning	59	27%	70	32%	69	32%
Very concerning	48	22%	83	38%	82	38%
Does not apply to my operation	18	8%	8	4%	19	9%
Total	215	100%	217	100%	217	100%
No response	76		74		74	

Livestock Transportation		Input Costs		Succession of Operation		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	120	56%	19	9%	58	27%
Somewhat concerning	70	32%	79	36%	71	33%
Very concerning	16	7%	119	55%	84	39%
Does not apply to my operation	10	5%	1	0%	5	2%
Total	216	100%	218	100%	218	100%
No response	75		73		73	

Animal Health		Capital Availability		Consumer Demand		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	50	23%	49	23%	52	24%
Somewhat concerning	86	39%	94	43%	99	45%
Very concerning	80	37%	72	33%	65	30%
Does not apply to my operation	2	1%	2	1%	2	1%
Total	218	100%	217	100%	218	100%
No response	73		74		73	

Environmental Issues		Food Safety		Export Markets		
	<i>Number Reporting</i>	<i>Number Reporting</i>	<i>Number Reporting</i>	<i>Number Reporting</i>	<i>Number Reporting</i>	<i>Number Reporting</i>
Not concerning	39	18%	68	31%	70	32%
Somewhat concerning	104	47%	80	37%	61	28%
Very concerning	74	34%	63	29%	61	28%
Does not apply to my operation	2	1%	5	2%	24	11%
Total	219	100%	216	100%	216	100%
No response	72		75		75	

	Government Regulations		Lack of Custom Feeders		Weather/Climate Changes	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	31	14%	106	50%	80	37%
Somewhat concerning	70	32%	48	22%	89	41%
Very concerning	112	51%	23	11%	43	20%
Does not apply to my operation	5	2%	37	17%	4	2%
Total	218	100%	214	100%	216	100%
No response	73		77		75	

Manure Application/Storage		
	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	78	36%
Somewhat concerning	93	43%
Very concerning	39	18%
Does not apply to my operation	6	3%
Total	216	100%
No response	75	

^a Percent reporting may not visually sum to 100% due to rounding.

Producers were asked which herd management techniques are practiced on their operation (**Table 11**). Parasite control and castration were the top reported herd management techniques practiced among producers. Cow calf producers practiced these tasks more than producers with other beef enterprises at 92% and 95%, respectively (**Table 11**). Bull breeding soundness examination was the lowest technique practiced with just 34% of producers. This finding is not surprising given that stockers, feedlots, and grass finishers likely do not have bulls on their operation.



Table 11. Responses to: “Which herd management techniques are practiced with most of your cattle each year? Check all that apply.” Responses disaggregated by operation type.

	Total		Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
Parasite control	186	87%	50	93%	110	92%	19	86%	56	80%	36	67%
Dehorning	92	43%	20	37%	53	44%	14	64%	32	46%	14	26%
Castration	186	87%	48	89%	114	95%	19	86%	55	79%	45	83%
Body condition scoring	100	47%	31	57%	70	58%	10	45%	30	43%	25	46%
Pregnancy checking	108	51%	45	83%	71	59%	5	23%	27	39%	19	35%
Bull breeding soundness examination	72	34%	29	54%	53	44%	7	32%	21	30%	12	22%
Artificial breeding	88	41%	47	87%	56	47%	5	23%	24	34%	9	17%
Total respondents	213	100%	54	100%	120	100%	22	100%	70	100%	54	100%
No Response	78											

Producers were asked which management practices were being used or likely to be used in their operation in the future (**Table 12**). Individual ID, antibiotic treatment of individual animals, and cattle vaccinations were the most used practices, indicated by a percentage greater than 65%. Over 50% of producers are not using genomic (DNA) testing and prediction, ultrasound, embryo transfer, calf implants, carcass data from calves or feed scales. **Appendix A, Table A.2** displays the same information disaggregated by operation type. There we can see genomic and DNA testing, artificial insemination, and ultrasound usage are widely being performed by seedstock producers. Feedlot producers are the largest user of implanting calves. Grass finishers are the lowest user of cattle vaccinations at 51%.



Table 12. Responses to: “Are the following production or management practices being used or likely to be used in your beef farm/operation? Check one box for each practice.”^a

Age and Source Verification		Genomic (DNA) Testing and Prediction		Ultrasound (Reproduction or Carcass)		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently using	55	26%	43	20%	40	18%
Planning to use	21	10%	21	10%	14	6%
Not currently using	106	49%	117	54%	124	57%
Does not apply to my operation	33	15%	35	16%	39	18%
Total	215	100%	216	100%	217	100%
No response	76		75		74	
Embryo Transfer		Implanting Calves		Artificial Insemination		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently using	35	16%	43	20%	91	42%
Planning to use	10	5%	8	4%	21	10%
Not currently using	119	55%	135	62%	68	31%
Does not apply to my operation	53	24%	31	14%	39	18%
Total	217	100%	217	100%	219	100%
No response	74		74		72	

Individual ID (visual, RFID)		Obtain Carcass Data from Calves		Weigh Calves and/or Cows		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently using	195	90%	29	14%	91	42%
Planning to use	5	2%	16	7%	29	13%
Not currently using	15	7%	141	66%	77	35%
Does not apply to my operation	2	1%	28	13%	21	10%
Total	217	100%	214	100%	218	100%
No response	74		77		73	

Nutrient Testing of Feeds		Use Feed Scales		Use Total Mixed Ration		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently using	82	38%	65	30%	69	32%
Planning to use	22	10%	8	4%	15	7%
Not currently using	99	46%	116	54%	100	46%
Does not apply to my operation	13	6%	27	13%	32	15%
Total	216	100%	216	100%	216	99%
No response	75		75		75	

Extending the Grazing Season		Vaccination of Cattle		Antibiotic Treatment of Individual Animals		Antibiotic Treatment of Groups of Animals		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently using	80	37%	176	81%	151	69%	42	19%
Planning to use	53	25%	11	5%	11	5%	6	3%
Not currently using	51	24%	25	12%	42	19%	143	66%
Does not apply to my operation	31	14%	5	2%	15	7%	27	12%
Total	215	100%	217	100%	219	100%	218	100%
No response	76		74		72		73	

^aPercent reporting may not visually sum to 100% due to rounding.

Just under half of producers surveyed have less than 50 cattle in their operation, while the largest operations had over 2,000 head (**Figure 3**). These data are consistent with the USDA 2017 census, describing that most cattle producers in Michigan have less than 99 cattle per operation (USDA, 2017c). The annual gross sales of the farm products were well distributed from less than \$2,500 to \$500,000 or more (**Table 13**). However, \$25,000–\$49,999 of annual gross sales was reported the most frequently (18%).

Producers indicated diversified crop and livestock operation as evidenced by the number of acres dedicated to different enterprise types. Three-fourths of producers surveyed have less than 100 acres of pasture (**Table 14**). Furthermore, the majority of producers report having land for hay, with over 50% having less than 100 acres for hay. Over 50% of the producers also reported having some amount of land for crop production. However, most producers did not have crop land for silage.

Number of Cattle in Operation

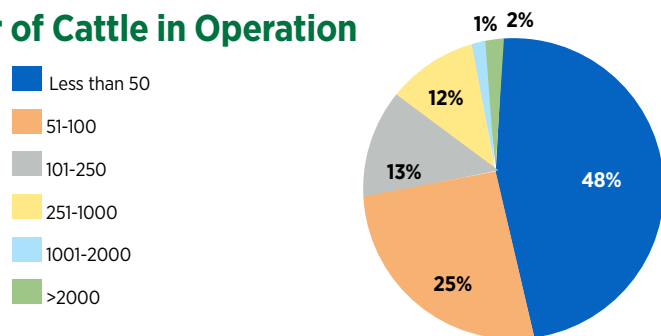


Figure 3. Responses to: “How many cattle do you have in your operation? (total annual inventory, i.e., cows and calves, feedlot annual marketing).” No responses= 73.

	Number Reporting	Percent Reporting
Less than \$2,500	10	5%
\$2,500–\$4,999	25	12%
\$5,000–\$9,999	21	10%
\$10,000–\$24,999	30	14%
\$25,000–\$49,999	38	18%
\$50,000–\$99,999	22	10%
\$100,000–\$249,999	16	7%
\$250,000–\$499,999	19	9%
\$500,000 or more	12	6%
Choose not to provide	22	10%
Total	215	100%
No response	76	

Table 13. Responses to: “What is the value of the annual gross sales of your farm products/dairy/livestock?”



Table 14. Responses to: “How many total acres (owned and leased) are in your farm operation?”

	Hay		Pasture, Rangeland		Crop Land for Grain (Harvested)	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
0	29	15%	18	9%	80	47%
1-100	111	57%	150	75%	47	28%
101-500	50	26%	24	12%	28	16%
501-1000	3	2%	4	2%	9	5%
1001-2000	2	1%	3	2%	6	4%
2000+	0	0%	0	0%	5	3%
Total	195	100%	199	100%	175	100%
No response	96		92		116	

	Crop Land for Silage (Harvested)		Other	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
0	117	68%	85	63%
1-100	46	27%	38	28%
101-500	7	4%	10	7%
501-1000	0	0%	0	0%
1001-2000	1	1%	1	1%
2000+	1	1%	0	0%
Total	172	100%	134	100%
No response	119		157	

Cow calf and seedstock producers were asked about their calving and weaning seasons. The cow calf responses were generated from those that selected “commercial cow calf” when asked their type of operation; there were 120 cow calf producers. The seed stock responses were generated from those that selected “seedstock” when asked their type of operation; there were 54 seedstock operations. The most common calving months were March, April, and May and the most common weaning months were September and October for both cow calf and seedstock producers (**Appendix B, Tables B.1-B.4**).

Allied Industry Responses

The allied industry responses were generated from those that selected “allied industry” when asked their current role in the beef industry. Note, this does not include respondents that selected “both” indicating they were a producer and an allied industry member. There were 25 allied industry only respondents.

Twenty allied industry members responded to at least one of three open-ended questions. These open-ended responses were then classified into multiple categories. Note that one comment may be classified into multiple categories. **Table 15, Table 16, and Table 17** summarize the opened-ended allied industry member text responses. Allied industry members indicated marketing/market access, prices/profitability, and environmental issues were among the greatest issues facing the beef industry in the next 5-10 years (**Table 15**). Allied industry members noted that education to producers from MSU Extension Beef Team would be imperative to addressing the aforementioned issues, when asked “How could MSU Extension help to address the above issues or challenges?” (**Table 16**). Education to consumers and policymakers was also frequently noted. Expertise related to grazing and forage was noted as a need for the MSU Extension Beef Team to strengthen the Michigan beef industry (**Table 17**).

Table 15. Responses to: “Considering the beef industry in Michigan over the next 5-10 years, what are the largest issues or challenges that need to be addressed?”^a

Category	Frequency	Responses Examples
Marketing/ market acces	5	<ul style="list-style-type: none"> – “I see a lot of producer struggling with marketing their cattle. “ – “Access to processing, coordination in value chains, value added to product,” – “Market value, cost of raising beef”
Prices/profitability	5	<ul style="list-style-type: none"> – “Volatility of beef prices” – “Market prices”
Environmental issues	4	<ul style="list-style-type: none"> – “Environment regulation.” – “Conserving and Improving soil health and quality”
Animal health	3	<ul style="list-style-type: none"> – “TB. Producers in the MAZ zone are not able to market cattle competitively due to constant traces and quarantines by the state to producers who purchase MAZ cattle, making them less desirable to own.” – “BRD and bio security”
Other	3	<ul style="list-style-type: none"> – “Better serving small farm holdings as the beef industry is moving toward smaller farms” – “Relevant research by MSU as needed by the industry” – “Promoting small, family beef farms”

Ag literacy/ communications	3	<ul style="list-style-type: none"> – “Beef quality assurance. Profitability. Consumer information. Environment regulation. Farmer (pro) advocates.” – “The largest issue is consumer relations. Understanding and communicating to consumers appropriate farm practices and the environmental impact of them is essential for the longevity of the beef industry.”
Succession of operation	2	<ul style="list-style-type: none"> – “The availability of farms land and resources to our youth to be able to manage a farm successfully.” – “Farm management switching hands to younger generations”
Food safety	2	<ul style="list-style-type: none"> – “Communicating with nonfarmers that beef production is sustainable, safe, and healthy no matter what the production method.”
Small farm support	2	<ul style="list-style-type: none"> – “Better serving small farm holdings as the beef industry is moving toward smaller farms”
Land/pasture availability	2	<ul style="list-style-type: none"> – “Need to improve pasture quality.” – “Associated ag land used for pasture” – “From my perspective as a conservationist, I believe there is a need to address overgrazing and access to sensitive areas (wetlands).”
Forage management	2	<ul style="list-style-type: none"> – “Need to improve pasture quality.” – “Adequate forage base, quality, changes in weather patterns, associated ag land used for pasture”
Feed availability	1	<ul style="list-style-type: none"> – “Adequate forage base, quality, changes in weather patterns, associated ag land used for pasture”
Input costs	1	<ul style="list-style-type: none"> – “Market value, cost of raising beef”
Consumer demand	1	<ul style="list-style-type: none"> – “Access to processing, coordination in value chains, value added to product, information about the regenerative agriculture movement”
Weather/climatic changes	1	<ul style="list-style-type: none"> – “Changes in weather patterns”
Manure application/storage	1	<ul style="list-style-type: none"> – “Sensible manure management perspectives”
Genetics/ reproduction	1	<ul style="list-style-type: none"> – “Beef on dairy influence”

^aOf the 25 allied industry respondents, 20 responded to the question displayed in **Table 15** and **19** had recordable responses.

Table 16. Responses to: “How could MSU Extension help to address the above issues or challenges?”^a

Category	Frequency	Examples
Education to producers	13	<ul style="list-style-type: none"> – “Educational opportunities in marketing cattle. Work with producer on pasture management” – “Provide workshops, seminars, and participatory research projects to producers” – “Continue with educational information for our young farmers”
Education to consumers	6	<ul style="list-style-type: none"> – “Educate the public. Help communication.” – “MSU Extension needs to engage more with consumers to connect them with farmers. Breakfast on the Farm has targeted mainly dairies, and while the MSU Beef Farm visit was great last year, it’s still a research farm and is a disconnect between reality. Consumer education is essential.”
Education to policy makers and working with agencies (USDA, FSA, etc.)	6	<ul style="list-style-type: none"> – “Identify how small holdings can get USDA certified slaughter, engage with CSA’s and farm markets” – “Relay information from national/ international groups through trainings/ programs”
Research	5	<ul style="list-style-type: none"> – “Provide workshops, seminars, and participatory research projects to producers” – “Research on how to keep production costs down” – “Showing with the continued unbiased research that beef production is indeed sustainable, safe, and healthy no matter the production method.”
Other	1	<ul style="list-style-type: none"> – “Promote the legacy and history of the Holstein.”

^aOf the 25 allied industry respondents, 23 responded to the question displayed in **Table 16.**

Table 17. Responses to: “What type of expertise or specializations are needed within MSU Extension staffing to strengthen the Michigan beef industry? Please list specific suggestions.”^a

Category	Frequency	Examples
Grazing/ forage	7	<ul style="list-style-type: none"> – “Beef specialist, pasture/feed expertise and marketing expertise.” – “Consider the brix and sap pH of the forage. In The Organic Broadcaster an article stated that if the brix is 15 or more it is possible for cattle to gain 3 pounds per day on just grass.” – “Rotational Grazing, including improved water systems.”
Ag literacy/ communications	3	<ul style="list-style-type: none"> – “Education of youth in high schools” – “Consumer relations for farmers. Either online or holding classes around the state.”
Other	3	<ul style="list-style-type: none"> – “Reinvest in actual land grant university research. Hands on education center for young people.” – “Bolster focus on livestock. University leadership needs to be re aware of the importance of agriculture in Michigan. I’m not sure the MSU leadership cares anymore.” – “Somebody available to producers and identifiable by producers. Issues regarding cattle movement and transportation regulations are currently very important topics.”
Economics/ finance/ marketing	2	<ul style="list-style-type: none"> – “Beef specialist, pasture/feed expertise and marketing expertise.” – “Grass finishing, land management within the context of raising livestock, marketing, infrastructure, environmental monitoring”
Nutrition	1	<ul style="list-style-type: none"> – “Beef cattle nutrition, feedlot & cow/calf”
Animal welfare/ handling	1	<ul style="list-style-type: none"> – “Somebody available to producers and identifiable by producers. Issues regarding cattle movement and transportation regulations are currently very important topics.”
Animal health	1	<ul style="list-style-type: none"> – “Disease verification”
Meats	1	<ul style="list-style-type: none"> – “USDA certified and organic processors. Direction/ training for farmers seeking to transition to pasture and organic”
Environmental	1	<ul style="list-style-type: none"> – “Environmental monitoring”
Feedlot management	1	<ul style="list-style-type: none"> – “Beef cattle nutrition, feedlot & cow/calf”

^aOf the 25 allied industry respondents, 24 responded to the question displayed in **Table 17.**

Allied industry members indicated nearly all management practices listed (organic beef, grass finished, natural beef, direct consumer marketing, forward pricing, joining a beef cooperative/alliance, finding alternative markets for cattle, changing to different calving season, starting an additional enterprise, and agritourism) were important for beef producers to consider (**Table 18**). Of the practices indicated, starting an additional enterprise and changing to a different calving season were identified as being the least important. Over 50% of industry members also identified each of the 19 listed issues on a beef operation being somewhat or very concerning (**Table 19**).

Table 18. Responses to: “How important are the following management and marketing practices for beef producers to consider?”

	Organic Beef (USDA Certified)		Grass Finished		Natural Beef	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Important to consider	17	85%	17	89%	18	95%
Not important to consider	2	10%	2	11%	1	5%
Not familiar with this practice	1	5%	0	0%	0	0%
Total	20	100%	19	100%	19	100%
No response	5		6		6	
	Direct Consumer Marketing		Forward Pricing (Contracts or Hedging)		Joining a Beef Cooperative/Alliance	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Important to consider	16	84%	14	70%	17	85%
Not important to consider	1	5%	3	15%	1	5%
Not familiar with this practice	2	11%	3	15%	2	10%
Total	19	100%	20	100%	20	100%
No response	6		5		5	

	Finding Alternative Markets for Cattle		Changing to Different Calving Season		Starting an Additional Enterprise	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Important to consider	18	90%	13	65%	12	63%
Not important to consider	1	5%	5	25%	4	21%
Not familiar with this practice	1	5%	2	10%	3	16%
Total	20	100%	20	100%	19	100%
No response	5		5		6	

Agritourism		
	<i>Number Reporting</i>	<i>Percent Reporting</i>
Important to consider	16	84%
Not important to consider	2	11%
Not familiar with this practice	1	5%
Total	19	100%
No response	6	

Table 19. Responses to: “How concerning have the following issues been to beef operations you work with in the past five years?”

	Watering System		Feed Availability		Labor Availability	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	2	50%	4	21%	0	0%
Somewhat concerning	7	21%	7	37%	7	35%
Very concerning	10	29%	8	42%	11	55%
Does not apply to operations I work with	0	0%	0	0%	2	10%
Total	19	100%	19	100%	20	100%
No response	6		6		5	
	Labor Cost		Land Availability		Pasture Availability	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	1	5%	2	11%	3	16%
Somewhat concerning	5	25%	6	32%	6	32%
Very concerning	12	60%	11	58%	10	53%
Does not apply to operations I work with	2	10%	0	0%	0	0%
Total	20	100%	19	100%	19	100%
No response	5		6		6	

Livestock Transportation		Input Costs		Succession of Operation		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	4	21%	0	0%	2	11%
Somewhat concerning	7	37%	6	30%	9	50%
Very concerning	6	32%	13	65%	7	39%
Does not apply to operations I work with	2	11%	1	5%	1	6%
Total	19	100%	20	100%	19	100%
No response	6		5		6	
Animal Health		Capital Availability		Consumer Demand		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	1	5%	1	6%	1	5%
Somewhat concerning	9	45%	7	39%	6	32%
Very concerning	9	45%	9	50%	12	63%
Does not apply to operations I work with	1	5%	1	6%	0	0%
Total	20	100%	18	100%	19	100%
No response	5		7		6	
Environmental Issues		Food Safety		Export Markets		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	0	0%	5	25%	1	5%
Somewhat concerning	8	40%	6	30%	6	30%
Very concerning	12	60%	8	40%	11	55%
Does not apply to operations I work with	0	0%	1	5%	2	10%
Total	20	100%	20	100%	20	100%
No response	5		5		5	

Government Relations			Lack of Custom Feeders		Weather/Climate Changes	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Not concerning	3	15%	4	20%	4	20%
Somewhat concerning	7	35%	9	45%	7	35%
Very concerning	10	50%	4	20%	9	45%
Does not apply to operations I work with	0	0%	3	15%	0	0%
Total	20	100%	20	100%	20	100%
No response	5		5		5	
Manure Application/Storage						
	<i>Number Reporting</i>	<i>Percent Reporting</i>				
Not concerning	0	0%				
Somewhat concerning	8	40%				
Very concerning	12	60%				
Does not apply to operations I work with	0	0%				
Total	20	100%				
No response	5					

Over 60% of allied industry members indicated individual ID, weigh calves and/or cows, extending the grazing season, vaccination of cattle, artificial insemination, and antibiotic treatment of individual animals were occurring on the operations they work with (**Table 20**). However, 37% indicated operations they work with were not implanting calves.

Table 20. Responses to: “Are the following production or management practices being used or likely to be used in beef farm/operations you work with? Check one box for each practice.”

	Age and Source Verification		Genomic (DNA) Testing and Prediction		Ultrasound (Reproduction or Carcass)	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
Currently being used	5	29%	5	28%	7	39%
Likely to be used in future	4	24%	3	17%	4	22%
Not using	4	24%	5	28%	4	22%
Does not apply to operations I work with	4	24%	5	28%	3	17%
Total	17	100%	18	100%	18	100%
No response	8		7		7	
	Embryo Transfer		Implanting Calves		Artificial Insemination	
	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting	Number Reporting	Percent Reporting
Currently being used	6	33%	6	32%	13	68%
Likely to be used in future	4	22%	2	11%	3	16%
Not using	4	22%	7	37%	0	0%
Does not apply to operations I work with	4	22%	4	21%	3	16%
Total	18	100%	19	100%	19	100%
No response	7		6		6	

Individual ID (Visual, RFID)		Obtain Carcass Data from Calves		Weigh Calves and/or Cows		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently being used	15	75%	7	39%	11	61%
Likely to be used in future	2	10%	5	28%	2	11%
Not using	0	0%	3	17%	2	11%
Does not apply to operations I work with	3	15%	3	17%	3	17%
Total	20	100%	18	100%	18	100%
No response	5		7		7	

Nutrient Testing of Feeds		Use Feed Scales		Use Total Mixed Ration		
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently being used	11	58%	8	42%	11	58%
Likely to be used in future	4	21%	3	16%	1	5%
Not using	1	5%	5	26%	4	21%
Does not apply to operations I work with	3	16%	3	16%	3	16%
Total	19	100%	19	100%	19	100%
No response	6		6		6	



	Extending the Grazing Season		Vaccination of Cattle		Antibiotic Treatment of Individual Animals	
	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently being used	12	63%	14	74%	13	68%
Likely to be used in future	2	11%	1	5%	0	0%
Not using	2	11%	1	5%	3	16%
Does not apply to operations I work with	3	16%	3	16%	3	16%
Total	19	100%	19	100%	19	100%
No response	6		6		6	

Antibiotic Treatment of Groups of Animals		
	<i>Number Reporting</i>	<i>Percent Reporting</i>
Currently being used	8	42%
Likely to be used in future	2	11%
Not using	5	26%
Does not apply to operations I work with	4	21%
Total	19	100%
No response	6	



Neither Responses

The neither responses were generated from those that selected “neither” when asked their current role in the beef industry. If neither was selected, the respondents were asked to answer the demographic questions, which are summarized in **Table 1**, and the areas of expertise needed within MSU Extension. There were 26 respondents for this category. Of those that responded neither, meats was identified as a needed area of expertise within MSU Extension staff (**Table 21**).

Table 21. Responses to: “What type of expertise or specializations are needed within MSU Extension staffing to strengthen the Michigan beef industry? Please list specific suggestions.”^a

Category	Frequency	Response Examples
Other	7	<ul style="list-style-type: none"> – “Guidance for small farms” – “The current staff are doing an excellent job. However, they are really over loaded with additional responsibilities. In the manufacturing sector we called it “too much job enrichment.””
Meats	3	<ul style="list-style-type: none"> – “Understand non-GMO issues and consequences.” – “As we have done with the Michigan Meat Network, it would be helpful to continue supporting beef producers with the networking within the beef value chain. Educational opportunities at processing facilities, “meet the buyers” and with regulatory officials have all been successful opportunities for beef producers to extend their markets.” – “Better knowledge of fresh and frozen local beef. A tutorial of beef breeds.”
Economics/finance/marketing	2	<ul style="list-style-type: none"> – “Marketing and processing impacts on beef quality and small herd sustainability.” – “Management issues. Marketing pitfalls.”
Genetics/reproduction	2	<ul style="list-style-type: none"> – “Significant findings fro feed and breeding studies. Management issues. Marketing pitfalls.” – “A tutorial of beef breeds.”
Grazing/forage	1	<ul style="list-style-type: none"> – “Grazing efficiency for quality small scale production.”
Nutrition	1	<ul style="list-style-type: none"> – “Significant findings from feed and breeding studies.”
Animal health	1	<ul style="list-style-type: none"> – “Updates on health and industry concerns”

Ag literacy/communications	1	– “I would like to see more information for the eater of beef, and the retailer who had to find/buy beef to sell to the ultimate customer.”
Feedlot management	1	– “Significant findings fro feed and breeding studies. Management issues. Marketing pitfalls.”

^a Of the 26 neither respondents, 11 responded to the question represented in **Table 21**.

Conclusion

MSU Extension surveyed Michigan beef producers and allied industry members about their opinions regarding challenges in the beef industry and the ways MSU Extension can help the beef industry address those challenges. They also answered demographic questions. Seedstock, commercial cow calf, stocker/backgrounder, feedlot and grass finisher operations were all represented. Producers indicated marketing/market access and prices/profitability were challenges in open-ended text responses. Furthermore, producers were concerned about input costs, government regulations, environmental issues, animal health, capital availability, succession of operation, and consumer demand. Respondents stated that MSU Extension can help address these challenges through producer education. Producers identified MSU Extension needed more expertise in general beef knowledge, economics/finance/marketing, nutrition, feedlot management and grazing/forage. This report outlines the current needs of the Michigan beef industry.

Send questions regarding this survey or analysis to Melissa McKendree (mckend14@msu.edu) or Jeannine Schwehofer (grobbej@msu.edu).

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Appendix A

Table A.1. Responses to: “How concerning have the following issues been on your beef operation in the past five years?” Responses are displayed by enterprise type shown as number (No.) and percent (Pct.) reporting. ^{a,b}

Water System

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	27	50%	48	40%	9	41%	33	48%	20	37%	98	45%
Somewhat concerning	20	37%	42	35%	6	27%	19	28%	26	48%	79	36%
Very concerning	7	13%	27	23%	6	27%	13	19%	8	15%	39	18%
Does not apply to my operation	0	0%	2	2%	1	5%	4	6%	0	0%	4	2%
Total	54	100%	119	100%	22	100%	69	100%	54	100%	220	100%

Feed Availability

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	14	26%	30	25%	8	36%	26	38%	15	28%	66	30%
Somewhat concerning	25	46%	58	49%	11	50%	26	38%	22	42%	91	42%
Very concerning	15	28%	31	26%	3	14%	16	24%	16	30%	60	28%
Does not apply to my operation	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	54	100%	119	100%	22	100%	68	100%	53	100%	217	100%

Labor Availability

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	21	40%	43	36%	8	36%	15	22%	24	45%	81	38%
Somewhat concerning	15	28%	36	30%	6	27%	22	32%	15	28%	63	29%
Very concerning	13	25%	33	28%	6	27%	28	41%	7	13%	58	27%
Does not apply to my operation	4	8%	7	6%	2	9%	3	4%	7	13%	14	6%
Total	53	100%	119	100%	22	100%	68	100%	53	100%	216	100%

Labor Cost

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	18	33%	50	43%	9	41%	15	22%	33	62%	125	40%
Somewhat concerning	16	30%	34	29%	4	18%	25	37%	7	13%	86	27%
Very concerning	13	24%	26	22%	5	23%	25	37%	6	11%	75	24%
Does not apply to my operation	7	13%	7	6%	4	18%	3	4%	7	13%	28	9%
Total	54	100%	117	100%	22	100%	68	100%	53	100%	314	100%

Land Availability

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	8	15%	27	23%	6	27%	14	21%	19	36%	56	26%
Somewhat concerning	25	46%	44	37%	6	27%	25	37%	9	17%	70	32%
Very concerning	19	35%	47	39%	9	41%	29	43%	21	40%	83	38%
Does not apply to my operation	2	4%	1	1%	1	5%	0	0%	4	8%	8	4%
Total	54	100%	119	100%	22	100%	68	100%	53	100%	217	100%

Pasture Availability

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	8	15%	23	19%	6	27%	15	22%	12	23%	47	22%
Somewhat concerning	21	39%	50	42%	5	23%	18	26%	12	23%	69	32%
Very concerning	23	43%	44	37%	9	41%	22	32%	26	49%	82	38%
Does not apply to my operation	2	4%	2	2%	2	9%	13	19%	3	6%	19	9%
Total	54	100%	119	100%	22	100%	68	100%	53	100%	217	100%

Livestock Transportation

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	33	61%	72	61%	14	64%	34	50%	24	45%	119	56%
Somewhat concerning	15	28%	36	31%	6	27%	23	34%	22	42%	70	33%
Very concerning	4	7%	6	5%	2	9%	8	12%	3	6%	15	7%
Does not apply to my operation	2	4%	4	3%	0	0%	3	4%	4	8%	10	5%
Total	54	100%	118	100%	22	100%	68	100%	53	100%	214	100%

Input Costs

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	4	7%	10	8%	1	5%	1	1%	7	13%	19	9%
Somewhat concerning	19	35%	37	31%	5	23%	25	37%	21	39%	79	36%
Very concerning	31	57%	72	61%	16	73%	42	62%	25	46%	119	55%
Does not apply to my operation	0	0%	0	0%	0	0%	0	0%	1	2%	1	0%
Total	54	100%	119	100%	22	100%	68	100%	54	100%	218	100%

Succession of Operation

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	13	24%	33	28%	3	14%	17	25%	16	30%	58	27%
Somewhat concerning	18	33%	34	29%	10	45%	17	25%	21	40%	71	33%
Very concerning	19	35%	51	43%	9	41%	33	49%	15	28%	84	39%
Does not apply to my operation	4	7%	1	1%	0	0%	1	1%	1	2%	5	2%
Total	54	100%	119	100%	22	100%	68	100%	53	100%	218	100%

Animal Health

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	5	9%	28	24%	4	18%	11	16%	16	30%	50	23%
Somewhat concerning	28	52%	51	43%	6	27%	26	38%	24	45%	86	39%
Very concerning	19	35%	39	33%	12	55%	31	46%	13	25%	80	37%
Does not apply to my operation	2	4%	1	1%	0	0%	0	0%	0	0%	2	1%
Total	54	100%	119	100%	22	100%	68	100%	53	100%	218	100%

Capital Availability

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	5	9%	28	24%	4	18%	11	16%	16	30%	50	23%
Somewhat concerning	28	52%	51	43%	6	27%	26	38%	24	45%	86	39%
Very concerning	19	35%	39	33%	12	55%	31	46%	13	25%	80	37%
Does not apply to my operation	2	4%	1	1%	0	0%	0	0%	0	0%	2	1%
Total	54	100%	119	100%	22	100%	68	100%	53	100%	218	100%

Consumer Demand

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	8	15%	29	24%	7	32%	12	18%	15	28%	52	24%
Somewhat concerning	28	52%	53	45%	11	50%	26	38%	22	41%	99	45%
Very concerning	17	31%	37	31%	4	18%	30	44%	16	30%	65	30%
Does not apply to my operation	1	2%	0	0%	0	0%	0	0%	1	2%	2	1%
Total	54	100%	119	100%	22	100%	68	100%	54	100%	218	100%

Environmental Issues

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	7	13%	20	17%	0	0%	6	9%	17	31%	39	18%
Somewhat concerning	28	52%	58	48%	13	59%	30	44%	24	44%	104	47%
Very concerning	17	31%	41	34%	9	41%	32	47%	13	24%	74	34%
Does not apply to my operation	2	4%	1	1%	0	0%	0	0%	0	0%	2	1%
Total	54	100%	120	100%	22	100%	68	100%	54	100%	219	100%

Food Safety

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	18	33%	34	29%	6	27%	18	27%	22	42%	68	31%
Somewhat concerning	17	31%	49	42%	7	32%	25	37%	19	36%	80	37%
Very concerning	15	28%	33	28%	7	32%	24	36%	12	23%	63	29%
Does not apply to my operation	4	7%	2	2%	2	9%	0	0%	0	0%	5	2%
Total	54	100%	118	100%	22	100%	67	100%	53	100%	216	100%

Export Markets

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	17	31%	43	36%	5	23%	15	22%	27	51%	70	32%
Somewhat concerning	18	33%	37	31%	7	32%	17	25%	10	19%	61	28%
Very concerning	12	22%	33	28%	7	32%	34	51%	4	8%	61	28%
Does not apply to my operation	7	13%	5	4%	3	14%	1	1%	12	23%	24	11%
Total	54	100%	118	100%	22	100%	67	100%	53	100%	216	100%

Government Regulations

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	5	9%	17	14%	2	9%	5	7%	13	25%	31	14%
Somewhat concerning	15	28%	38	32%	9	41%	18	26%	19	36%	70	32%
Very concerning	32	59%	63	53%	11	50%	44	65%	19	36%	112	51%
Does not apply to my operation	2	4%	2	2%	0	0%	1	1%	2	4%	5	2%
Total	54	100%	120	100%	22	100%	68	100%	53	100%	218	100%

Lack of Custom Feeders

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	26	48%	60	52%	8	36%	33	49%	28	53%	106	50%
Somewhat concerning	10	19%	28	24%	8	36%	17	25%	8	15%	48	22%
Very concerning	5	9%	15	13%	3	14%	8	12%	7	13%	23	11%
Does not apply to my operation	13	24%	13	11%	3	14%	9	13%	10	19%	37	17%
Total	54	100%	116	100%	22	100%	67	100%	53	100%	214	100%

Weather/Climate Changes

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	21	39%	45	38%	9	41%	25	37%	20	38%	80	37%
Somewhat concerning	24	44%	47	40%	7	32%	32	47%	20	38%	89	41%
Very concerning	6	11%	26	22%	6	27%	11	16%	11	21%	43	20%
Does not apply to my operation	3	6%	0	0%	0	0%	0	0%	2	4%	4	2%
Total	54	100%	118	100%	22	100%	68	100%	53	100%	216	100%

Manure Application/Storage

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Not concerning	19	35%	40	34%	10	45%	13	19%	32	60%	78	36%
Somewhat concerning	27	50%	58	49%	8	36%	30	45%	14	26%	93	43%
Very concerning	7	13%	19	16%	4	18%	24	36%	2	4%	39	18%
Does not apply to my operation	1	2%	1	1%	0	0%	0	0%	5	9%	6	3%
Total	54	100%	118	100%	22	100%	67	100%	53	100%	216	100%

^a Total percent reporting may not visually sum to 100% due to rounding.

^b Row totals are higher than that represented in **Table 10** due to the ability to select more than one operation. For example, if a respondent indicated they had both a cow calf and feedlot enterprise then their responses will be counted in both the cow calf and feedlot sector analyses.



Table A.2. Responses to: “Are the following production or management practices being used or likely to be used in your beef farm/operation? Check one box for each practice.” Responses are displayed by enterprise type shown as number (No.) and percent (Pct.) reporting.^{a,b}

Age and Source Verification

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	19	35%	33	28%	5	23%	11	16%	9	17%	55	26%
Planning to use	3	6%	10	9%	3	14%	9	13%	7	13%	21	10%
Not currently using	23	43%	64	55%	12	55%	39	58%	25	47%	106	49%
Does not apply to my operation	9	17%	10	9%	2	9%	8	12%	12	23%	33	15%
Total	54	100%	117	100%	22	100%	67	100%	53	100%	215	100%

Genomic (DNA) Testing and Prediction

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	27	50%	23	19%	2	9%	12	18%	2	4%	43	20%
Planning to use	11	20%	12	10%	2	9%	7	11%	5	9%	21	10%
Not currently using	13	24%	75	64%	11	50%	32	48%	32	60%	117	54%
Does not apply to my operation	3	6%	8	7%	7	32%	15	23%	14	26%	35	16%
Total	54	100%	118	100%	22	100%	66	100%	53	100%	216	100%

Ultrasound (Reproduction or Carcass)

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	28	52%	23	19%	1	5%	14	21%	0	0%	40	18%
Planning to use	3	6%	9	8%	1	5%	2	3%	5	9%	14	6%
Not currently using	19	35%	81	68%	13	59%	32	48%	35	66%	124	57%
Does not apply to my operation	4	7%	7	6%	7	32%	18	27%	13	25%	39	18%
Total	54	100%	120	100%	22	100%	66	100%	53	100%	217	100%

Embryo Transfer

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	23	43%	20	17%	0	0%	13	20%	2	4%	35	16%
Planning to use	4	7%	6	5%	2	9%	3	5%	2	4%	10	5%
Not currently using	21	39%	80	67%	10	45%	27	41%	33	62%	119	55%
Does not apply to my operation	6	11%	14	12%	10	45%	23	35%	16	30%	53	24%
Total	54	100%	120	100%	22	100%	66	100%	53	100%	217	100%

Implanting Calves

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	8	15%	21	18%	5	23%	28	42%	1	2%	43	20%
Planning to use	1	2%	6	5%	2	9%	2	3%	1	2%	8	4%
Not currently using	37	69%	82	69%	12	55%	30	45%	37	70%	135	62%
Does not apply to my operation	8	15%	10	8%	3	14%	6	9%	14	26%	31	14%
Total	54	100%	119	100%	22	100%	66	100%	53	100%	217	100%

Artificial Insemination

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	48	89%	56	47%	7	32%	25	37%	8	15%	91	42%
Planning to use	3	6%	12	10%	2	9%	4	6%	10	19%	21	10%
Not currently using	2	4%	47	39%	6	27%	16	24%	27	51%	68	31%
Does not apply to my operation	1	2%	5	4%	7	32%	22	33%	8	15%	39	18%
Total	54	100%	120	100%	22	100%	67	100%	53	100%	219	100%

Individual ID (Visual, RFID)

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	52	96%	110	92%	19	86%	61	92%	42	79%	195	90%
Planning to use	0	0%	4	3%	0	0%	1	2%	2	4%	5	2%
Not currently using	1	2%	5	4%	3	14%	4	6%	8	15%	15	7%
Does not apply to my operation	1	2%	0	0%	0	0%	0	0%	1	2%	2	1%
Total	54	100%	119	100%	22	100%	66	100%	53	100%	217	100%

Obtain Carcass Data From Calves

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	10	19%	14	12%	4	18%	11	17%	4	8%	29	14%
Planning to use	5	9%	12	10%	3	14%	9	14%	3	6%	16	7%
Not currently using	33	61%	83	71%	11	50%	37	57%	35	66%	141	66%
Does not apply to my operation	6	11%	8	7%	4	18%	8	12%	11	21%	28	13%
Total	54	100%	117	100%	22	100%	65	100%	53	100%	214	100%

Weigh Calves and/or Cows

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	41	76%	52	43%	8	36%	21	32%	12	23%	91	42%
Planning to use	6	11%	17	14%	5	23%	13	20%	6	11%	29	13%
Not currently using	6	11%	50	42%	8	36%	19	29%	30	57%	77	35%
Does not apply to my operation	1	2%	1	1%	1	5%	13	20%	5	9%	21	10%
Total	54	100%	120	100%	22	100%	66	100%	53	100%	218	100%

Nutrient Testing of Feeds

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	20	37%	49	41%	5	23%	38	58%	12	23%	82	38%
Planning to use	4	7%	14	12%	4	18%	5	8%	7	13%	22	10%
Not currently using	24	44%	54	45%	12	55%	22	33%	27	51%	99	46%
Does not apply to my operation	6	11%	3	3%	1	5%	1	2%	7	13%	13	6%
Total	54	100%	120	100%	22	100%	66	100%	53	100%	216	100%

Use Feed Scales

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	20	37%	27	23%	3	14%	41	61%	3	6%	65	30%
Planning to use	0	0%	5	4%	2	9%	1	1%	4	8%	8	4%
Not currently using	27	50%	78	66%	12	55%	23	34%	31	58%	116	54%
Does not apply to my operation	7	13%	8	7%	5	23%	2	3%	15	28%	27	13%
Total	54	100%	118	100%	22	100%	67	100%	53	100%	216	100%

Use Total Mixed Ration

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	21	39%	31	26%	6	27%	38	27%	5	9%	69	32%
Planning to use	4	7%	8	7%	2	9%	9	9%	1	2%	15	7%
Not currently using	22	41%	67	57%	11	50%	20	50%	31	58%	100	46%
Does not apply to my operation	7	13%	12	10%	3	14%	0	14%	16	30%	32	15%
Total	54	100%	118	100%	22	100%	67	100%	53	100%	216	99%

Extending the Grazing Season

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	25	46%	49	42%	9	41%	20	30%	23	43%	80	37%
Planning to use	12	22%	30	26%	3	14%	12	18%	19	36%	53	25%
Not currently using	12	22%	33	28%	6	27%	12	18%	9	17%	51	24%
Does not apply to my operation	5	9%	5	4%	4	18%	22	33%	2	4%	31	14%
Total	54	100%	117	100%	22	100%	66	100%	53	100%	215	100%

Vaccination of Cattle

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	49	91%	102	85%	18	82%	58	88%	27	51%	176	81%
Planning to use	2	4%	6	5%	1	5%	4	6%	4	8%	11	5%
Not currently using	2	4%	11	9%	2	9%	3	5%	20	38%	25	12%
Does not apply to my operation	1	2%	1	1%	1	5%	1	2%	2	4%	5	2%
Total	54	100%	120	100%	22	100%	66	100%	53	100%	217	100%

Antibiotic Treatment of Individual Animals

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	44	81%	88	73%	16	73%	56	84%	20	38%	151	69%
Planning to use	2	4%	7	6%	0	0%	3	4%	2	4%	11	5%
Not currently using	5	9%	23	19%	4	18%	5	7%	20	38%	42	19%
Does not apply to my operation	3	6%	2	2%	2	9%	3	4%	11	21%	15	7%
Total	54	100%	120	100%	22	100%	67	100%	53	100%	219	100%

Antibiotic Treatment of Groups of Animals

	Seedstock		Cow Calf		Stocker		Feedlot		Grass Finish		Total	
	Reporting		Reporting		Reporting		Reporting		Reporting		Reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Currently using	10	19%	21	18%	6	27%	21	32%	2	4%	42	19%
Planning to use	1	2%	1	1%	0	0%	3	5%	1	2%	6	3%
Not currently using	37	69%	90	75%	14	64%	39	59%	32	60%	143	66%
Does not apply to my operation	6	11%	8	7%	2	9%	3	5%	18	34%	27	12%
Total	54	100%	120	100%	22	100%	66	100%	53	100%	218	100%

^a Row totals are higher than that represented in **Table 12** due to the ability to select more than one operation.

^b Total percent reporting may not visually sum to 100% due to rounding.

Appendix B

Table B.1. Cow calf responses to: “What percentage of calving occurs during each month? Percentages must total 100.”^a

	0%	1-25%	26-50%	51-75%	76-100%	Total
January	80%	13%	6%	1%	0%	100%
February	75%	15%	9%	1%	1%	100%
March	44%	30%	17%	4%	6%	100%
April	16%	34%	28%	13%	9%	100%
May	32%	38%	23%	6%	2%	100%
June	65%	28%	5%	0%	2%	100%
July	82%	17%	2%	0%	0%	100%
August	85%	11%	4%	0%	0%	100%
September	87%	11%	3%	0%	0%	100%
October	92%	8%	0%	0%	0%	100%
November	94%	4%	3%	0%	0%	100%
December	90%	10%	0%	0%	0%	100%

Total respondents: 114

^a Total percent reporting may not visually sum to 100% due to rounding.

Table B.2. Cow calf responses to: “What percentage of weaning occurs during each month? Percentages must total 100%.”^a

	0%	1-25%	26-50%	51-75%	76-100%	Total
January	93%	4%	2%	0%	1%	100%
February	93%	2%	2%	0%	4%	100%
March	91%	4%	4%	0%	1%	100%
April	96%	3%	0%	0%	1%	100%
May	94%	4%	1%	1%	1%	100%
June	91%	6%	3%	0%	0%	100%
July	87%	4%	5%	2%	3%	100%
August	84%	4%	7%	1%	4%	100%
September	63%	5%	5%	3%	24%	100%
October	66%	6%	4%	3%	21%	100%
November	75%	9%	6%	1%	9%	100%
December	85%	9%	4%	0%	3%	100%

Total respondents: 114

^a Total percent reporting may not visually sum to 100% due to rounding

Table B.3. Seedstock responses to: “What percentage of calving occurs during each month? Percentages must total 100%.”^a

	0%	1-25%	26-50%	51-75%	76-100%	Total
January	60%	25%	13%	0%	2%	100%
February	54%	29%	15%	0%	2%	100%
March	27%	31%	33%	8%	2%	100%
April	17%	37%	33%	8%	6%	100%
May	50%	29%	17%	4%	0%	100%
June	81%	17%	0%	0%	2%	100%
July	88%	10%	2%	0%	0%	100%
August	92%	8%	0%	0%	0%	100%
September	87%	13%	0%	0%	0%	100%
October	87%	13%	0%	0%	0%	100%
November	94%	6%	0%	0%	0%	100%
December	92%	6%	2%	0%	0%	100%

Total respondents: 52

^a Total percent reporting may not visually sum to 100% due to rounding.

Table B.4. Seedstock responses to: “What percentage of weaning occurs during each month? Percentages must total 100%.”^a

	0%	1-25%	26-50%	51-75%	76-100%	Total
January	90%	4%	4%	0%	2%	100%
February	100%	0%	0%	0%	0%	100%
March	94%	2%	2%	0%	2%	100%
April	98%	0%	2%	0%	0%	100%
May	96%	2%	2%	0%	0%	100%
June	94%	4%	2%	0%	0%	100%
July	81%	6%	10%	0%	4%	100%
August	71%	2%	12%	2%	13%	100%
September	52%	8%	15%	15%	21%	112%
October	71%	0%	10%	8%	12%	100%
November	88%	4%	6%	0%	2%	100%
December	88%	6%	2%	0%	4%	100%

Total respondents: 52

^a Total percent reporting may not visually sum to 100% due to rounding.





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