

# MCA/MSU BULL EVALUATION PROGRAM

2019-2020 Final Report



Prepared by:

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## BACKGROUND

The Michigan Cattlemen’s Association/Michigan State University (MCA/MSU) Bull Evaluation Program is a cooperative effort between the Michigan Cattlemen's Association, Michigan State University, and Plank Farm. The objectives of the program are to 1) promote performance-evaluated beef cattle and serve as an educational tool to acquaint producers with its overall value; 2) provide a common environment for evaluating young bulls for rate of gain, soundness, and body composition; and 3) aid beef producers in obtaining superior bulls that have been evaluated for growth, breeding, and structural soundness, and carcass merit.

The 2019-20 MCA/MSU Bull Evaluation Program was the 32<sup>nd</sup> consecutive year of the program. The MCA contracted with Plank Farm, Crystal, Michigan to furnish development facilities and provide complete care and management for the bulls. The MCA/MSU Bull Evaluation Program Committee set rules, policies, and performance standards, handled consignments, certified records, and generally supervised the evaluation and sale. The Committee is composed of appointed breed representatives, and non-voting members, including the station manager, MSU faculty/staff, and MCA Executive Vice President (**Table 1**). Whenever possible, the MCA/MSU Bull Evaluation Program follows the Guidelines for Uniform Beef Improvement Programs<sup>1</sup> published by the Beef Improvement Federation (BIF).

**Table 1. MCA/MSU Bull Evaluation Program:  
Committee Membership (2019-20)**

<b>Breed Representatives</b> (voting members)	<b>Michigan Cattlemen’s Association</b>
Bob Zellmer (Angus; Committee Chair)	George Quackenbush
Kevin Beckington (Angus)	<b>Michigan State University</b>
Paul Dawson (Angus)	Dan Buskirk
Mike Karweik (Red Angus)	Kevin Gould
G. Patrick White (Charolais)	<b>Station Management</b>
Phil Smith (Simmental)	Brian Plank
Brian Plank (Simmental)	
Mark Sears (Commercial)	

## BULLS AND MANAGEMENT

Nineteen MCA members and seedstock breeders (18 Michigan, 1 Indiana) evaluated bulls in the evaluation. Seventy-eight bulls born between September 8, 2018, and March 31, 2019, were delivered to the evaluation station (Plank Farms) on October 11 and 12, 2019. Bulls accepted were required to have a minimum weight per day of age (WDA) of 2.4 pounds at delivery, and not have been a known or tested carrier of a lethal genetic defect. Bulls must

<sup>1</sup> BIF. 2016. Guidelines for uniform beef improvement programs. 9<sup>th</sup> ed. Beef Improv. Fed.

have previously tested negative for BVDV and bovine tuberculosis and have been vaccinated and boosted for IBR, BVDV (types 1 & 2), PI<sub>3</sub>, BRSV, *M. haemolytica* (with toxoid), *H. somni*, 5-way Leptospira, and 7-way clostridial. Bulls were divided into four pens based on incoming age, and contemporary group. The 17 oldest bulls (one pen) were classified by age as “senior”, with all remaining bulls classified as “junior”. Upon arrival, bulls were treated for internal (Synanthic® (oxfendazole) oral drench) parasites (**Table 2**). The bulls were later administered a 5-day treatment for coccidia control (CORID® (amprolium)) and vaccinated for prevention of respiratory disease (Bovi-Shield GOLD® 5). Bulls within an age classification were fed an identical diet formulation so that their contemporary group could be maintained. During the evaluation, bulls were treated on two more occasions with the pour-on insecticide for lice control.

**Table 2. MCA/MSU Bull Evaluation Program:  
Group Treatment of Bulls (2019-20)**

Date	Product	Purpose
10/11	Synanthic	Internal parasite control
10/13	Corid 1.25%	Coccidiosis prevention/treatment
10/24	Bovi-Shield GOLD 5	IBR, BVD, PI <sub>3</sub> , BRSV, <i>M. haemolytica</i> , <i>P. multocida</i> prevention
12/20	Synergized Delice	Lice control
1/3	Synergized Delice	Lice control

### RATIONS

Bulls were fed daily in fence-line feed bunks with feed that was furnished by Plank Farm (raised or purchased). Feeds were sampled periodically for nutrient composition analysis. Rations were formulated and adjusted every 28 days by MSU Extension staff. On average, the evaluation diet was balanced to contain 44.1% corn silage, 23.6% corn, 19.3% hay, 10.6% dry distillers grain and 2.4% supplement on a dry matter (DM) basis. The average nutrient content was 12.5% crude protein and 0.52 Mcal NE<sub>g</sub>/lb on a DM-basis. Also, following BIF guidelines, bulls are given an increased percentage of dietary forage for 4 weeks post-evaluation, along with daily exercise, to further prepare them for the breeding season and optimize reproductive performance.

### PERFORMANCE EVALUATION

At the beginning of the gain test (14 days after arrival), bulls had hip height measured, and were weighed on two consecutive days. Bulls were then weighed each successive 28 days, to monitor growth rate. Interim performance reports were published and communicated to an email list. Following the 112-day test period, hip height and weights were taken on two consecutive days. The ADG and WDA ratios were calculated across both junior and senior classifications. To be sale eligible, bulls must have had a minimum average daily gain of 2.8 lb. per day. Average performance measures by age classification and breed are listed in **Table 3**. Growth performance by pen is shown in **Figure 1**. Near the end of the evaluation, ultrasound measurement of fat thickness, ribeye area, and percent intramuscular fat was completed. All ultrasound data were processed through the centralized ultrasound

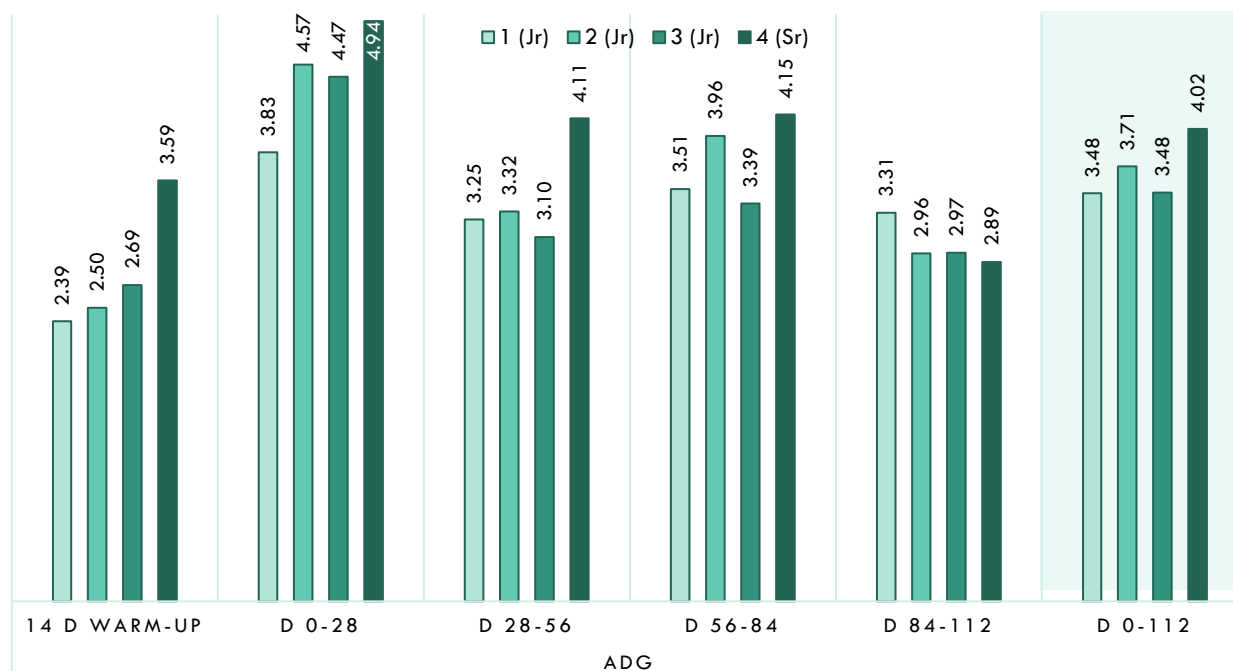
processing laboratory (CUP Lab, Ames IA), which submitted the interpreted data to the respective breed associations for carcass data EPD calculations. **Table 3** lists the average ultrasound measures, and **Figure 2** displays rib fat thickness measured at the spring ultrasound, as an indication of bull compositional development compared to previous years.

**Table 3. MCA/MSU Bull Evaluation Program: Performance Measures by Age Division and Breed (2019-20)**

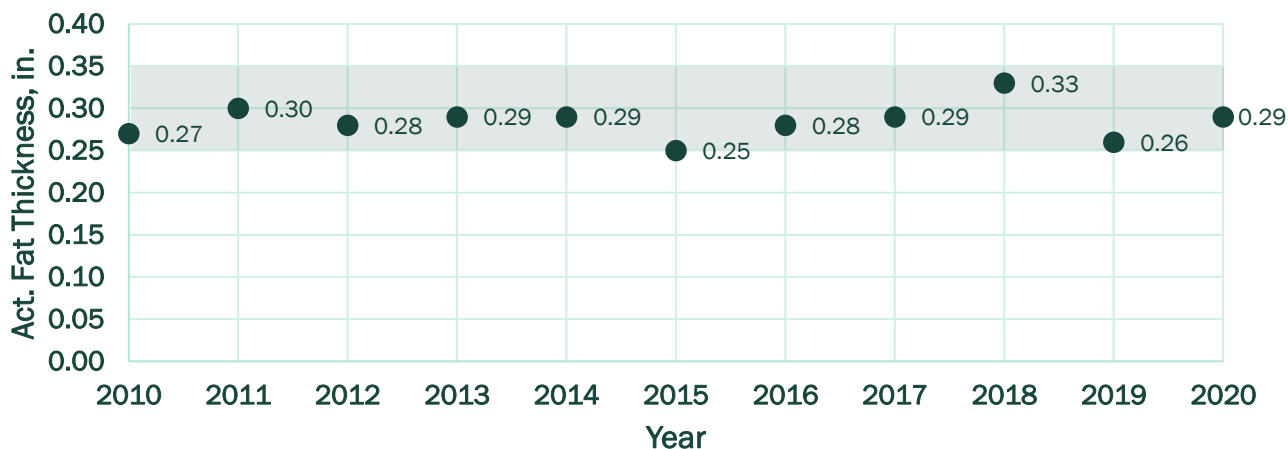
	n	Farm		Evaluation measures						Ultrasound, 365-d			
		Act. BW	Adj. WW	Initial wt.,	Final wt.,	ADG, lb/d	WDA, lb/d	Frame score	Scrotal cir, cm	Pelvic cm <sup>2</sup>	Fat, in	REA, in <sup>2</sup>	IMF, %
<b>Senior</b>													
Angus	6	82.5	643	948	1397	4.00	3.23	5.4	35.0	211	0.21	12.1	2.93
Simmental	11	86.5	732	925	1210	4.03	3.26	5.3	36.3	215	0.24	14.6	2.53
<b>Junior</b>													
Angus	36	76.5	681	790	1199	3.65	3.26	5.3	36.3	195	0.32	14.2	4.12
Red Angus	9	75.9	580	645	1019	3.34	2.82	4.2	35.8	181	0.26	12.7	3.11
Charolais	2	73.0	755	800	1141	3.05	3.22	5.6	36.8	177	0.30	14.1	2.82
Simmental	10	80.7	701	738	1126	3.47	2.98	4.8	36.2	182	0.25	13.3	2.59
<b>All bulls</b>	<b>74*</b>	<b>78.9</b>	<b>678</b>	<b>799</b>	<b>1208</b>	<b>3.66</b>	<b>3.16</b>	<b>5.1</b>	<b>36.1</b>	<b>195</b>	<b>0.28</b>	<b>13.8</b>	<b>3.41</b>

\*Bulls that completed evaluation period

**Figure 1. MCA/MSU Bull Evaluation Program: Growth Performance by Pen (2019-20)**



**Figure 2. MCA/MSU Bull Evaluation Program:  
Spring Ultrasound Actual Rib Fat Thickness (2010-20)**



All bulls eligible for sale passed a breeding soundness exam (BSE), including semen evaluation as per Society for Theriogenology. Bulls born between February 1 and March 31, 2019, had to meet all requirements of a BSE, except, the normal sperm morphology requirement was lowered to 50% (compared to 70% for those born before February 1). **Table 4** shows the BSE results for young bulls (born February and later) that passed the BSE and passed at the lowered morphology threshold. Three bulls received a second breeding soundness exam before the sale. This included two rechecks for white blood cells (WBC) and one for a penile wart. Both bulls with high WBC cleared upon recheck and were offered for sale. The bull with the wart had regrowth was not offered for sale. **Table 5** outlines the 5-year summary for causes of sale ineligibility.

**Table 4. MCA/MSU Bull Evaluation Program:  
BSE Results for Feb. and Mar. Born Bulls (5 Year Summary)**

Item	Program Year				
	2015-16	2016-17	2017-18	2018-19	2019-20
Bulls passing BSE, total	28	21	21	56	37
Bulls passing BSE, 50 to 69%	6	15	15	6	6
Bulls deferred or failing BSE, total	11	13	9	17	1
Bulls deferred or failing BSE due to semen quality	3	11	5	14	1

**Table 5. MCA/MSU Bull Evaluation Program:  
Causes for Sale Ineligibility (5 Year Summary)**

	Program year				
	2015-16	2016-17	2017-18	2018-19	2019-20
Number of bulls	71	103	80	92	78
Number ineligible for sale	17	27	18	29	15
<b>Reason for ineligibility</b>					
ADG	1	6	7	4	3
ADG-WDA%	--	--	--	5	0
BSE	11	15	9	17	5
Semen quality	6	11	7	12	4
No semen	2	1	1	2	0
Insufficient scrotal	0	0	0	0	0
Genital warts	2	2	1	1	1
Repro structure	1 (testicle degeneratio	1 (penile laceration)	0	2 (testicle edema)	0
Structure/feet	2	2	0	0	2
Temperament	0	1	0	1	1
Injury	2	0	0	0	3
Consignor request	0	2	0	1	0
Mortality	1	0	0	0	0
Lethal genetic defect	0	0	2	1	1

This was the third year that bulls were objectively scored for foot structure to eliminate bulls from the sale that had a likelihood of future impaired movement and reduced longevity. Bulls were visually screened for extremes in foot angle, claw set, or leg conformation upon delivery to the station. On the final day of evaluation (112-d) scores for foot angle and claw set (1 to 9 scale, where 5 is ideal) were assigned by two independent evaluators per established guidelines<sup>2</sup>. When there was scoring variation among an animal's feet, the worst foot was scored. The distribution of foot angle and claw set scores are shown in **Figure 3**. At scoring, one bull was removed due to excessive claw set, and one bull was removed for lack of front leg structural integrity. One bull was removed for poor temperament.

<sup>2</sup> American Angus Association. n.d. Foot score guidelines. Available: <http://www.angus.org/performance/footscore/footscoreposter.pdf>

**Figure 3. MCA/MSU Bull Evaluation Program:  
Foot Angle and Claw Set Scoring Frequency (2019-20)**

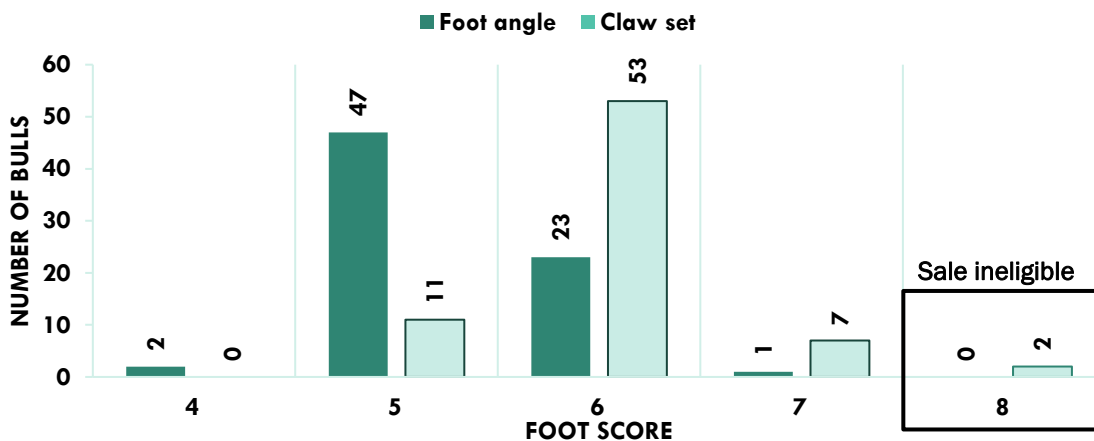


Table 6 presents the historic averages for the percentage of bulls eligible for the sale by birth month.

**Table 6. MCA/MSU Bull Evaluation Program:  
Historic Eligibility by Birth Month (3 Yr. Detail & 10 Yr. Avg.)**

2017-18					2018-19				
B. Month	No.	Out	Eligible	% Eligible	B. Month	No.	Out	Eligible	% Eligible
Sep	1	0	1	100%	Sep	4	1	3	75%
Oct	4	0	4	100%	Oct	7	2	5	71%
Nov	1	0	1	100%	Nov	1	0	1	100%
Dec	10	4	6	60%	Dec	1	0	1	100%
Jan	25	4	21	84%	Jan	32	8	24	75%
Feb	22	4	18	82%	Feb	30	10	20	67%
Mar	17	6	11	65%	Mar	17	8	9	53%
<b>Total</b>	<b>80</b>	<b>18</b>	<b>62</b>	<b>78%</b>	<b>Total</b>	<b>92</b>	<b>29</b>	<b>63</b>	<b>68%</b>

2019-20					10 Year Average (2010-11 to present)				
B. Month	No.	Out	Eligible	% Eligible	B. Month	No.	Out	Eligible	% Eligible
Sep	1	0	1	100%	Sep	40	11	29	73%
Oct	0	0	0	-	Oct	39	8	31	79%
Nov	5	1	4	80%	Nov	20	4	16	80%
Dec	2	2	0	0%	Dec	61	22	39	64%
Jan	29	5	24	83%	Jan	304	78	226	74%
Feb	28	5	23	82%	Feb	276	75	201	73%
Mar	13	2	11	85%	Mar	197	68	129	65%
					Apr	11	7	4	36%
<b>Total</b>	<b>78</b>	<b>15</b>	<b>63</b>	<b>81%</b>	<b>Total</b>	<b>948</b>	<b>273</b>	<b>675</b>	<b>71%</b>



Sixty-four bulls that successfully met all sale criteria were freeze branded with the Bull Evaluation Program brand and fitted (one bull was scratched due to wart regrowth). Sale order was determined by the evaluation index, with the lowest indexing bull selling first. The evaluation index was the average of percentile rank for six EPD values (calving ease direct, weaning weight, yearling weight, maternal milk [no additional benefit when less than 20%], marbling, and ribeye area), and evaluation percentile rank for ADG and WDA (ADG and WDA percentiles were not calculated independently for senior and junior bulls).

## SALE RESULTS

An open house was held on March 7, 2020, to allow buyers to view bulls and visit with consignors before the sale. The culmination of the program was the auction of 63 eligible bulls, at the station on March 21, 2020. All pertinent information was published in the sale catalog, including consignor contact information, breed, breed percentage, hide color, horn status, registration number, tattoo/brand, radio frequency identification number, birth type (single, twin, ET), birth date, actual birth weight, adjusted weaning weight, test average daily gain, off test weight, off test weight per day of age, actual scrotal circumference, 365-day adjusted scrotal circumference, 365-day adjusted pelvic area, frame score, 365-day adjusted measures for ultrasound fat thickness, ribeye area, and intramuscular fat percentage, Expected Progeny Differences (EPD) for calving ease (CE), birth weight (BW), weaning weight (WW), yearling weight (YW), maternal milk (MM), marbling (Marb), fat thickness (Fat), ribeye area (REA), two breed-specific EPD indexes, percentile ranks for each EPD, and a two-generation pedigree. All bulls were sire-verified and had genomically enhanced EPDs.

Before the sale, bulls were videoed individually and a link to videos and electronic copy of the sale catalog made available on the MIBulls.com website.

Beginning on March 17, 2020 (4 days before the sale) the state of Michigan came under an executive order of the governor (Executive Order 2020-11) to restrict the use of public places and gatherings due to COVID-19. Although production agriculture was exempted in the order, local law enforcement was notified about the sale, the sale day meal was canceled, and sale procedures were modified to allow for social distancing.

DVAuction was utilized to offer an online bidding option to buyers. Through email and social media campaigns, bidders were strongly urged to utilize DVAuction or proxy to bid on bulls. A minimum floor price of \$2,250 was established for the sale, and 55 bulls of the 63 offered for sale, sold at or above the floor price. The historic number of bulls sold and the average sale price is given in **Figure 4**.

**Figure 4. MCA/MSU Bull Evaluation Program:  
Number of Bulls Sold and Average Sale Price**

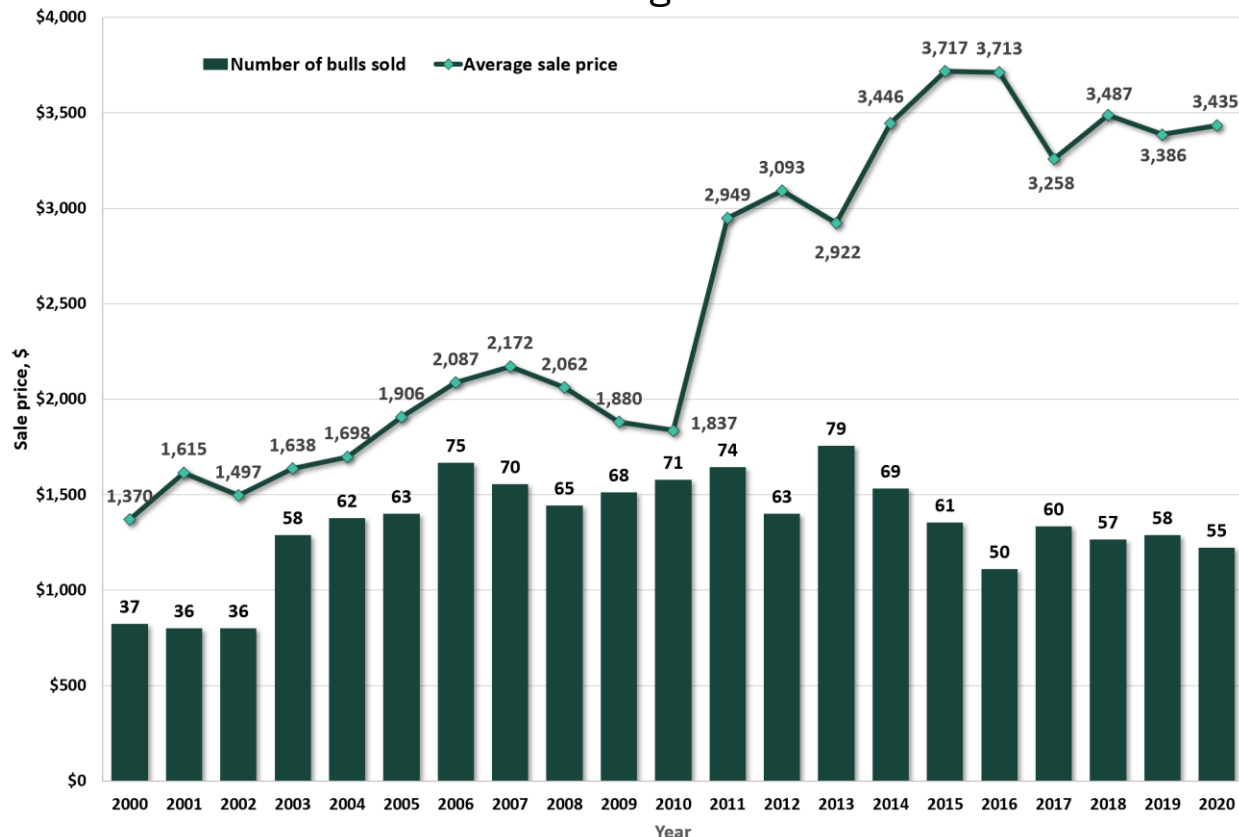


Table 7 includes bulls sold and sale averages for bulls by breed.

**Table 7. MCA/MSU Bull Evaluation Program:  
Sale Prices by Breed (2019-2020)**

Breed	Bulls sold	Sale gross	Average
Angus	31	\$100,350	\$3,237.10
Simmental	17	\$69,600	\$4,094.12
Red Angus	6	\$14,750	\$2,458.33
Charolais	1	\$4,200	\$4,200.00
<b>Total</b>	<b>55</b>	<b>\$188,900</b>	<b>\$3,434.55</b>

Table 8 provides sale averages and number of bulls sold at regional bull test programs. In response to COVID-19, an intensive email and social media communication campaign was conducted in the two weeks prior to the sale. Bidders were encouraged to use DVAuction for viewing the sale and submitting bids online. Table 9 provides details of viewers, bidders, and buyers. Figure 5 displays the location for the bull buyers. Figure 6 depicts the open and click

rate for emails sent to the MailChimp maintained list (n = 260 subscribers). **Table 9** provides a summary of the posts and reach on Facebook.

**Table 8. Regional Bull Test Sale Averages, 2020**

Bull test	2020 sale	Bulls	Bulls	Avg. price
Western Illinois Univ. Bull Test, Macomb	Mar. 6	40	38	\$2,633
Wisconsin BIA Bull Test, Platteville	Apr. 4	51	48	\$3,135
Indiana Bull Evaluation Program, Bedford	Apr. 16	85	72	\$3,022
St. Croix Valley Bull Test, River Falls, WI	Apr. 18	45	–sale cancelled–	

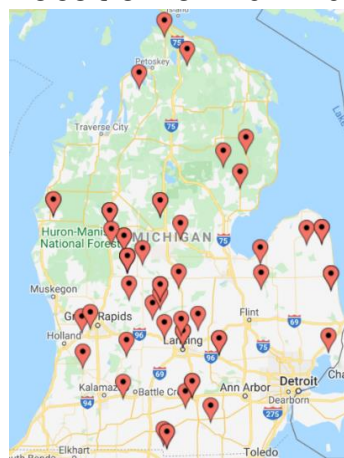
**Table 9. MCA/MSU Bull Evaluation Program: Number of Bidders and Bulls Purchased (5 Year Summary)**

Item	2016	2017	2018	2019	2020
Registered on-site bidders	76	77	82	67	31
New registered on-site bidders	23	23	32	29	12
Online viewers	6*	20*	88*	92*	235*,†
Online bids	21	48	18	46	210
Online active bidders	3	7	6	9	30
Bulls sold online	5	7	8	7	28
Total bull buyers	36	45	47	32	48

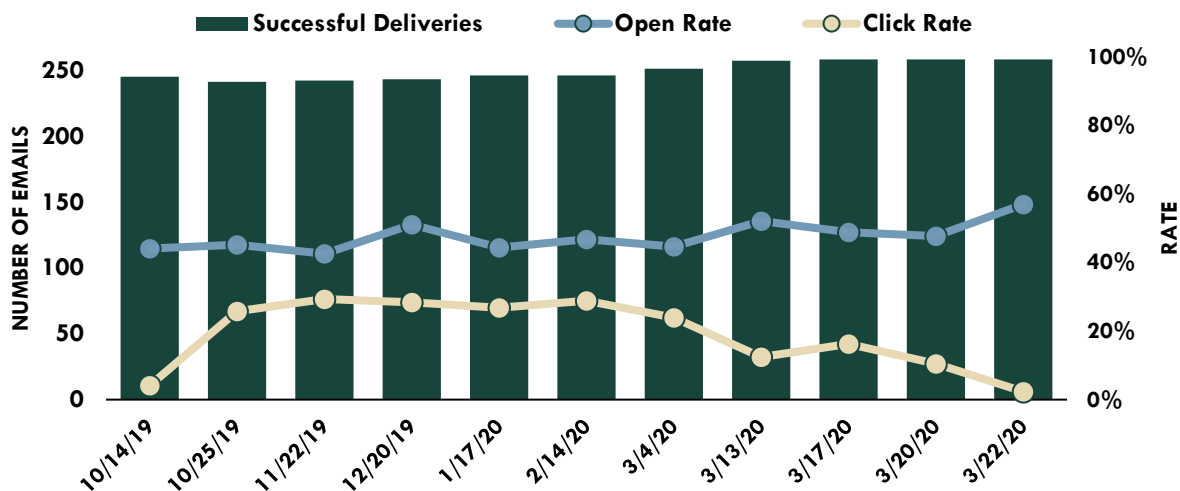
\*Viewers that were online for more than 5 minutes.

†Online viewers were from AL(1), AR(1), CA(1), GA(2), IA(14), ID(1), IL(4), IN(9), KS(5), KY(3), MI(126), MN(8), MO(6), MS(2), ND(10), NE(13), OH(4), OK(3), PA(1), SD(8), TN(1), TX(2), UT(1), VA(1), WA(1), WI(2), WV(1); Canada: AB(1), BC(1), MB(1), SK(1).

**Figure 5. MCA/MSU Bull Evaluation Program: Location of Bull Buyers (2019-20)**



**Figure 6. MCA/MSU Bull Evaluation Program:  
Email open and click rates\***



\*As of 4-25-20, the MCA/MSU Bull Evaluation MailChimp account contained 258 subscribers

**Table 10. MCA/MSU Bull Evaluation Program:  
Michigan Cattlemen's Association's Facebook campaign\***

Published	Time	Post Description	Type	Reach-all organic (no paid)	Post clicks	Reactions, comments, shares
2/13/20	3:00 PM	Webinar/Bull eval	link	285	2	
2/17/20	12:45 PM	112 day off test report	link	279	24	6
2/17/20	5:00 PM	Save the date	graphic	2,504	58	40
2/24/20	5:00 PM	Save the date	graphic	1,091	32	19
3/2/20	3:45 PM	Get a move on to open house	photo	1,982	96	69
3/5/20	2:30 PM	Catalog release	photo	3,840	110	70
3/6/20	5:00 PM	Explain impact of bad sires	photo	1,442	43	21
3/7/20	12:30 PM	Day of open house	photo	1,872	361	95
3/9/20		Lot 88	video	1,528	161	62
3/11/20		Lot 32	video	832	44	12
3/13/20		Rural route 5 3 bulls	video	2,264	86	27
3/13/20		COVID updates	link	697	142	21
3/16/20	6:00 PM	Lot 18	video	372	30	6
3/17/20	5:00 PM	Lot 10	video	316	17	4
3/18/20	5:00 PM	Lot 59	video	546	22	6
3/19/20	5:00 PM	Lot 37	video	412	6	6
3/20/20	1:00 PM	Lot 66	video	424	20	4
3/20/20	5:00 PM	Final details for bidders	link	1,053	68	50
3/21/20	2:30 PM	Thanks for participating	photo	967	188	66

\*As of 4-25-20, 2,169 people like the Michigan Cattlemen's Assoc. Facebook page.