

# MCA/MSU Bull Evaluation Program

## 2020-21 Final Report



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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 2020-21 MCA/MSU Bull Evaluation Program was the 33<sup>rd</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 consigned bulls. The MCA/MSU Bull Evaluation Program Committee set the 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 published by the Beef Improvement Federation (BIF).<sup>1</sup>

**Table 1. MCA/MSU Bull Evaluation Program: Committee membership (2020-21)**

Voting members	Non-voting members
<b>Breed Representatives</b>	<b>Michigan Cattlemen’s Association</b>
Phil Smith (Simmental; Committee Chair)	George Quackenbush
Paul Dawson (Angus; Vice Chair)	<b>Michigan State University</b>
Kevin Beckington (Angus)	Dan Buskirk
Mike Karweik (Red Angus)	Kevin Gould
Brian Plank (Simmental)	<b>Station Management</b>
Mark Sears (Commercial)	Brian Plank

## BULLS AND MANAGEMENT

Twenty-seven MCA members and seedstock breeders (25 MI, 1 IN, 1 OH) evaluated bulls in the evaluation. One hundred bulls born between September 2, 2019, and March 26, 2020, were delivered to the evaluation station (Plank Farms) on October 9 and 10, 2020. Bulls accepted were required to have a minimum of 2.4 pounds weight per day of age (WDA) at delivery, and not have been a known or tested carrier of a lethal genetic defect. Bulls must have previously tested negative for Bovine Viral Diarrhea Virus (BVDV) and have been vaccinated and boosted for IBR, BVDV (types 1 & 2), PI<sub>3</sub>, BRSV, *M. haemolytica* (with

<sup>1</sup> BIF. 2021. Guidelines for uniform beef improvement programs. Beef Improvement Federation. Available: <http://guidelines.beefimprovement.org/index.php>

toxoid), *H. somni*, 5-way Leptospira, and 7-way clostridial. Bulls were divided into four pens based on incoming age, and farm contemporary group. The 23 older bulls (one pen) were classified as “senior”, with all remaining bulls classified as “junior”. After arrival, bulls were administered amprolium (CORID, Boehringer Ingelheim Animal Health USA Inc., Duluth, GA) for coccidia control, aureomycin chlortetracycline and sulfamethazine (AUREO S 700, Zoetis U.S., Parsippany, NJ) for respiratory disease control, dewormed a second time with moxidectin pour-on (Cydectin, Bayer HealthCare LLC, Shawnee Mission, KS) for internal and external parasite control and vaccinated again for prevention of respiratory disease (Vista 5 SQ, Intervet Inc., Merck Animal Health, Omaha, NE) (**Table 2**). Bulls within an age classification were fed the same diet formulation so that their contemporary group could be maintained. During the evaluation, bulls were poured with diflubenzuron and permethrin (Clean-Up II, Bayer HealthCare LLC) for lice control and prevention.

**Table 2. MCA/MSU Bull Evaluation Program: Group treatment of bulls (2020-21)**

Date	Product	Purpose
10/15/20	Corid 1.25%	Coccidiosis prevention/treatment
10/19/20	AUREO S 700	Respiratory disease control
10/23/20	Cydectin	Parasite control
10/23/20	Vista 5 SQ	IBR, BVD, PI3, BRSV prevention
1/9/21	Clean-Up II	Parasite control

## RATIONS

Bulls were fed once daily in a fenceline feed bunk with feed that was raised or purchased by Plank Farm. 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 44.0% corn silage, 26.5% corn, 17.8% hay, 9.4% dry distillers grain and 2.2% mineral/vitamin supplement on a dry matter (DM) basis. Average nutrient content was 12.9% crude protein and 0.53 Mcal NE<sub>g</sub>/lb on a DM-basis. Also, in accordance with BIF guidelines, bulls are given an increased percentage of dietary forage for 4 weeks post-evaluation, along with daily exercise throughout the test, 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 within 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**. Ultrasound measurement of fat thickness, ribeye area, and percent intramuscular fat was completed on 11/17/20 for the oldest bulls and on 2/11/21 for the remaining bulls. All ultrasound data were processed



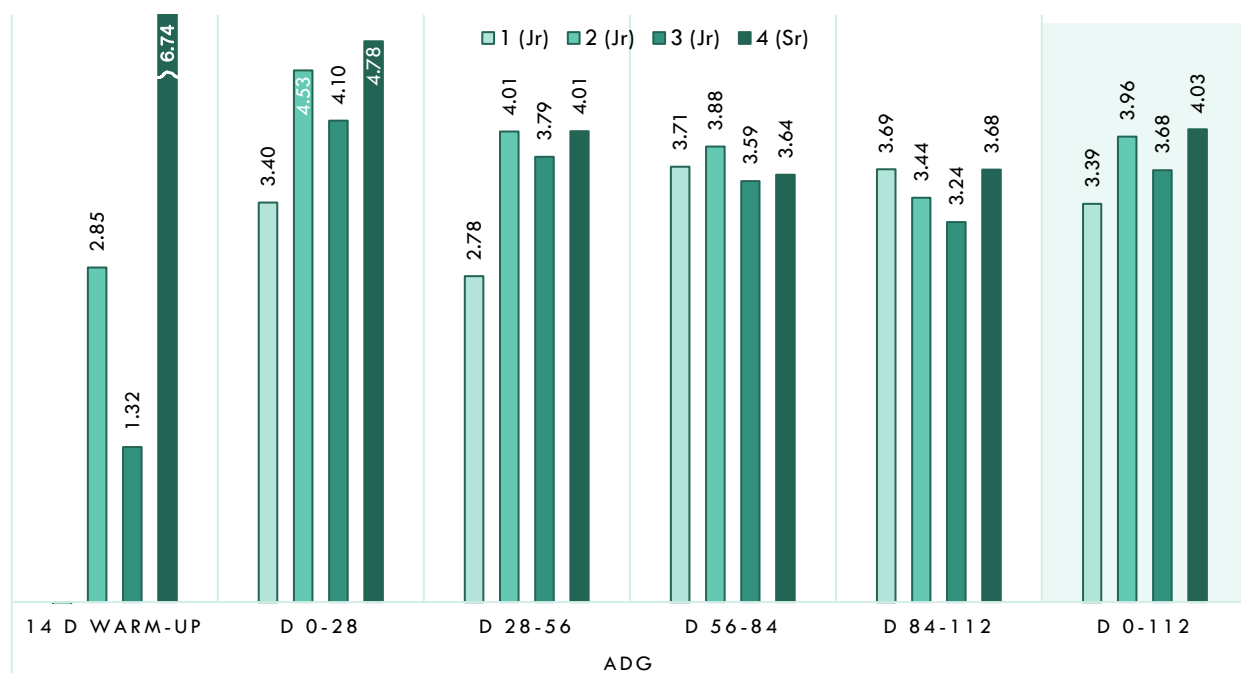
through the centralized ultrasound processing laboratory (CUP Lab, Ames IA), which submitted the interpreted data to the respective breed associations for carcass data EPD calculations. **Table 3** lists the average ultrasound measures, and **Figure 2** displays rib fat thickness measured at the spring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

**Table 3. MCA/MSU Bull Evaluation Program: Performance measures by age division and breed (2020-21)**

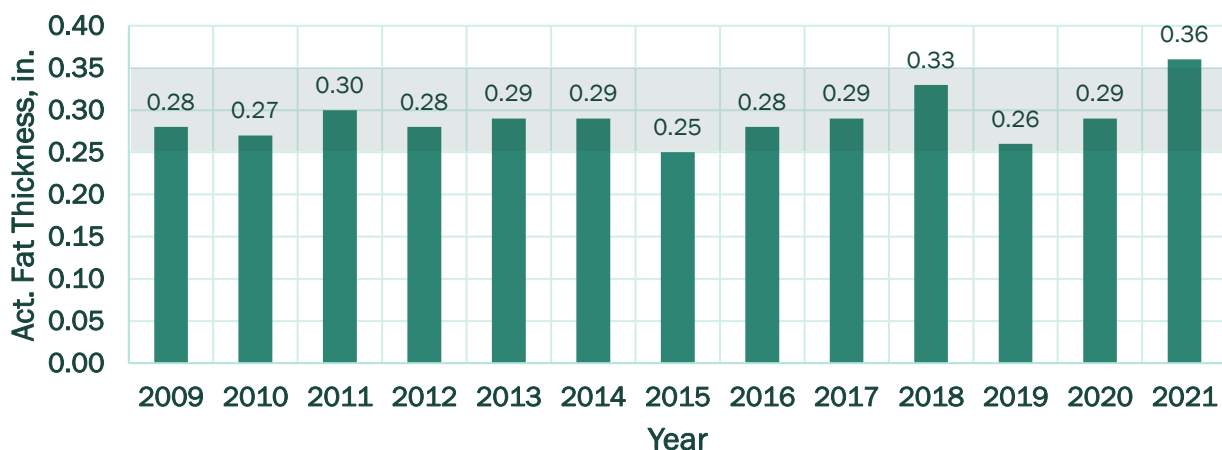
	n	Farm		Evaluation measures						Ultrasound, 365-d			
		Act. BW	Adj. WW	Initial wt.,	Final wt.,	ADG, lb/d	WDA, lb/d	Frame score	Scrotal cir, cm	Pelvic cm <sup>2</sup>	Fat, in	REA, in <sup>2</sup>	IMF, %
<b>Senior</b>													
Angus	14	76.6	605	978	1444	4.16	3.14	5.4	34.6	221	0.27	12.1	3.30
Simmental	9	80.9	676	1004	1432	3.82	3.02	5.4	35.5	213	0.27	14.8	2.17
<b>Junior</b>													
Angus	39	78.7	691	791	1205	3.70	3.21	5.6	36.6	205	0.37	13.1	3.68
P.Hereford	2	68.0	621	754	994	2.14	2.68	5.4	33.8	209	--	--	--
Red Angus	3	77.3	665	716	1054	3.02	3.04	5.3	36.6	212	0.27	13.3	2.55
Charolais	1	65.0	600	798	1165	3.28	2.93	5.5	34.6	192	--	--	--
Simmental	26	81.4	739	857	1277	3.76	3.31	5.8	36.9	204	0.34	14.4	2.78
<b>All bulls</b>	<b>94*</b>	<b>78.9</b>	<b>678</b>	<b>854</b>	<b>1273</b>	<b>3.73</b>	<b>3.19</b>	<b>5.6</b>	<b>36.2</b>	<b>208</b>	<b>0.33</b>	<b>13.5</b>	<b>3.14</b>

\*Bulls that completed the evaluation period

**Figure 1. MCA/MSU Bull Evaluation Program: Growth performance by pen (2020-21)**



**Figure 2. MCA/MSU Bull Evaluation Program: Spring ultrasound actual rib fat thickness (2010-21)**



All bulls eligible for sale passed a breeding soundness exam (BSE), including semen evaluation according to the Society for Theriogenology standards. Bulls born between February 1 and March 31, 2020, 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 bulls born February and later that passed the BSE and passed at the lowered morphology threshold. Seven bulls received a second breeding soundness exam before the sale. This included two rechecks for white blood cells (WBC) and five for penile warts. Both bulls with high WBC, and four of the five bulls with warts were passed upon recheck and offered for sale.

**Table 4. MCA/MSU Bull Evaluation Program: BSE results for Feb. and Mar. born bulls (5-year summary)**

Item	Program year				
	2016-17	2017-18	2018-19	2019-20	2020-21
Bulls passing BSE, total	21	21	56	37	73
Bulls passing BSE, 50 to 69%	15	15	6	6	4
Bulls deferred or failing BSE, total	13	9	17	1	13
Bulls deferred or failing BSE due to semen quality	11	5	14	1	10

**Table 5** outlines a historical summary for causes of sale ineligibility. Twelve bulls were removed based on preliminary index to arrive at a total of 65 bulls to catalog that successfully met all sale criteria.

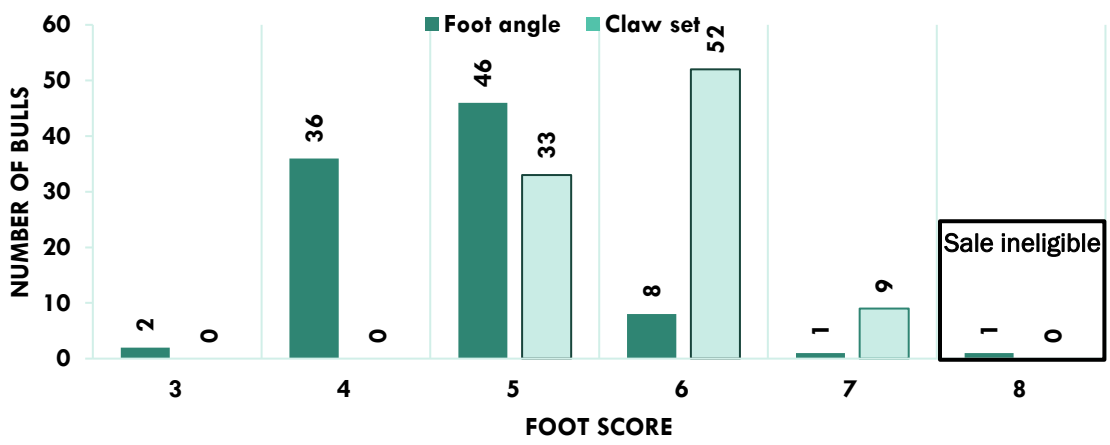
**Table 5. MCA/MSU Bull Evaluation Program: Causes for sale ineligibility (5-year summary)**

	Program year				
	2016-17	2017-18	2018-19	2019-20	2020-21
Number of bulls	103	80	92	78	100
Number ineligible for sale	27	18	29	15	36
Reason for ineligibility					
ADG	6	7	4	3	6
ADG-WDA%	–	–	5	0	12
BSE	15	9	17	5	10
Semen quality	11	7	12	4	7
No semen	1	1	2	0	1
Insufficient scrotal	0	0	0	0	0
Genital warts	2	1	1	1	2
Repro structure	1 (penile laceration)	0	2 (testicle edema)	0	0
Structure/feet	2	0	0	2	1
Temperament	1	0	1	1	2
Injury	0	0	0	3	2
Consignor request	2	0	1	0	1
Mortality	0	0	0	0	0
Lethal genetic defect	0	2	1	1	2

This was the fourth 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 lack of front foot/leg structural integrity. Two bulls were removed during the test for poor temperament. **Table 6** presents the historic averages for the percentage of sale eligibility by bull birth month.

<sup>2</sup> American Angus Association. n.d. Foot score guidelines. Available: <https://www.angus.org/Performance/Documents/footscoreposter.pdf>

**Figure 3. MCA/MSU Bull Evaluation Program: Foot angle and claw set scoring frequency (2020-21)**



**Table 6. MCA/MSU Bull Evaluation Program: Historic sale eligibility by birth month (3-year detail and 10-year average)**

2018-19					2019-20				
B. Month	No.	Out	Eligible	% Eligible	B. Month	No.	Out	Eligible	% Eligible
Sep	4	1	3	75%	Sep	1	0	1	100%
Oct	7	2	5	71%	Oct	0	0	0	-
Nov	1	0	1	100%	Nov	5	1	4	80%
Dec	1	0	1	100%	Dec	2	2	0	0%
Jan	32	8	24	75%	Jan	29	5	24	83%
Feb	30	10	20	67%	Feb	28	5	23	82%
Mar	17	8	9	53%	Mar	13	2	11	85%
Total	92	29	63	68%	Total	78	15	63	81%

2020-21					10-year average (2011-12 to present)				
B. Month	No.	Out	Eligible	% Eligible	B. Month	No.	Out	Eligible	% Eligible
Sep	3	1	2	67%	Sep	38	12	26	68%
Oct	7	1	6	86%	Oct	44	8	36	82%
Nov	6	3	3	50%	Nov	26	7	19	73%
Dec	7	2	5	71%	Dec	65	24	41	63%
Jan	41	13	28	68%	Jan	314	84	230	73%
Feb	24	7	17	71%	Feb	271	73	198	73%
Mar	12	9	3	25%	Mar	182	71	111	61%
Total	100	36	64	64%	Apr	7	3	4	57%
					Total	947	282	665	70%

Sixty-five qualified bulls were freeze branded with the Bull Evaluation Program brand and [6]



fitted. 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 (within senior and junior bulls).

## ADVERTISING AND COMMUNICATION

The MCA staff managed extensive advertising in print and online trade publications (data not shown), and a Facebook campaign on the MCA Facebook account (Table 7).

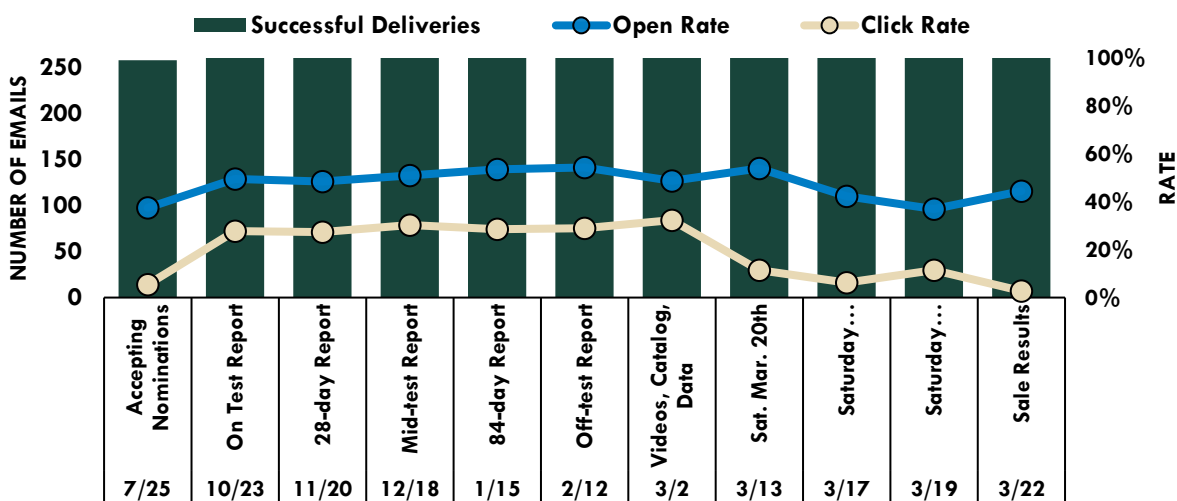
**Table 7. MCA/MSU Bull Evaluation Program: MCA Facebook campaign\***

Caption	Post date	Reach	Likes/reactions	Comments	Shares	Link clicks
The MCA/MSU Bull Evaluation 84-Day weigh-in was January 15...	1/18	329	19	0	2	24
Countdown is on, 40 days until the MCA/MSU Bull Evaluation Sale!...	2/8	1,368	67	1	7	27
MCA/MSU Bull Evaluation Consignor Feature: KB Angus	2/9	736	25	0	4	13
The bull evaluation team has been working diligently to collect data...	2/9	1,316	30	8	5	52
MCA/MSU Bull Evaluation Consignor Feature: R-Value Farms	2/10	385	13	0	1	20
MCA/MSU Bull Evaluation Consignor Feature: Bordner Angus Farms	2/11	1,639	89	8	4	136
MCA/MSU Bull Evaluation Consignor Feature Brumfield Angus Farms	2/12	322	4	0	1	17
MCA/MSU Bull Evaluation Consignor Feature: White Diamond Angus	2/13	3,423	47	5	20	130
MCA-MSU Bull Evaluation 112-day Off-test Performance Report...	2/13	240	7	0	1	16
MCA/MSU Bull Evaluation Consignor Feature: Higgins Angus Farm	2/15	1,657	106	21	10	190
MCA/MSU Bull Evaluation Consignor Feature Dawson Farms	2/19	1,290	48	0	4	82
MCA/MSU Bull Evaluation Consignor Feature: MSU Beef Center	2/20	354	10	0	0	33
MCA/MSU Bull Evaluation Consignor Feature: Hutchings-Kenyon	2/21	1,018	40	2	5	37
MCA/MSU Bull Evaluation Consignor Feature: Jerz Angus Farm	2/23	628	20	0	2	7
MCA/MSU Bull Evaluation Consignor Feature: Longcore Cattle	2/25	647	16	0	1	44
MCA/MSU Bull Evaluation Consignor Feature Plank Simmental Farms	2/26	1,746	54	6	7	67
MCA/MSU Bull Evaluation Consignor Feature: Schoenbine Beef Cattle	2/27	441	10	0	0	37
MCA/MSU Bull Evaluation Consignor Feature: Rural Route 5 Farm	2/28	2,350	89	2	10	100
The Bull Evaluation Open house, Saturday March 6th, is less than...	2/28	1,450	49	2	4	119
MCA/MSU Bull Evaluation Consignor Feature: Decker Farms	3/1	1,700	64	3	11	81
Bull videos and the 2021 catalog are now posted!...	3/3	2,851	120	6	34	205
MCA/MSU Bull Evaluation Consignor Feature: Bullard	3/3	568	14	0	1	22
The Bull Evaluation Open House is only two days away!...	3/4	1,892	40	3	8	70
Need help sorting through the MCA/MSU Bull Evaluation Sale Set?...	3/9	286	7	0	0	0
Spring Your Herd Ahead at the MCA-MSU Bull Evaluation Sale!	3/13	2,282	28	0	7	31
Lot 14 MSU Enchantment 002 from MSU, rose to the top...	3/15	276	5	0	0	12
Lot 32 Dia Acclaim 07015 consigned by Dow Livestock Acres...	3/16	381	8	0	2	26
Looking for a calving ease bull? We've got them! Lot 40 DF Turning...	3/17	241	4	0	0	11
"Powerful, Proven, Predictable, Progressive, and Performance...	3/18	263	10	0	3	5
The MCA/MSU Bull Evaluation Sale begins Saturday at 12:30 pm...	3/18	149	1	0	0	7
You can't miss the high indexing Sim-Angus bull consigned by Plank...	3/18	272	14	3	3	19
KB Angus brought an elite group of bulls to the MCA/MSU Bull Eval...	3/19	261	7	0	2	16
Join us tomorrow at the MCA/MSU Bull Eval Sale, 12:30 pm! Lot 64...	3/19	246	5	0	1	15
As the 2021 Bull Evaluation comes to a close, we would like to thank...	3/20	231	8	0	0	3
Sunny with a high of 55 degrees, a beautiful day for a BULL SALE...	3/20	6,154	43	2	44	140
Welcome to the 33rd Annual MCA-MSU Bull Evaluation Sale!...	3/20	321	8	0	0	11
Total		39,713	1,129	72	204	1,825

\*As of 4-26-21, 2,333 people like the Michigan Cattlemen's Assoc. Facebook page.

Data reports were published by MSU on MiBulls.com and communicated to buyers via email campaigns using a MailChimp account. **Figure 4** depicts the open and click rate for emails sent during the 2020-21 program. Three weeks prior to the sale, bulls were videoed individually and links to edited videos were published on DVAuction.com. The sale catalog was published on issuu.com and MiBulls.com, and sale data was posted within the BullPEN mobile app for sorting of bulls.

**Figure 4. MCA/MSU Bull Evaluation Program: Email open and click rates (2020-21)\***



\*As of 4-27-21, the MCA/MSU Bull Evaluation MailChimp account contained 309 contacts.

### SALE RESULTS

An open house was held on March 6, 2021, to allow buyers to view bulls and visit with breeders before the sale. The culmination of the program was the auction of 64 eligible bulls, at the station on March 20, 2021. 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, foot angle, claw set, 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), breed-specific EPD indexes, percentile ranks for each EPD, and a two-generation pedigree. All bulls were sire-verified and had genomically enhanced EPDs.

Sale seating was 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 bids. A minimum floor price of \$2,250 was established, and all of the 64 bulls offered for sale, sold at or above the floor price. The number of bulls sold and the historic high average sale price is shown in Figure 5.

**Figure 5. MCA/MSU Bull Evaluation Program: Number of bulls sold and average sale price**

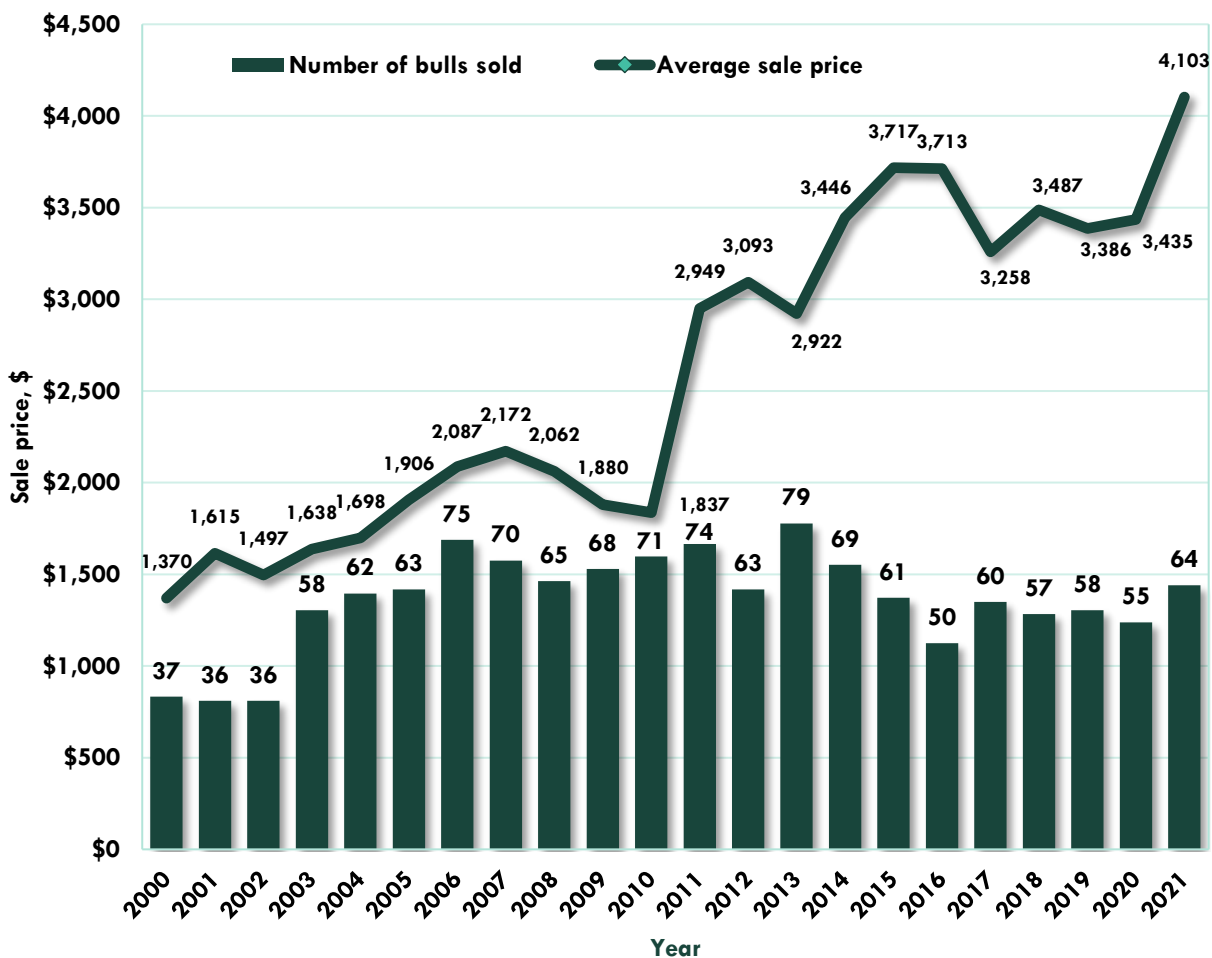


Table 8 includes bulls sold and sale averages for bulls by breed.

**Table 8. MCA/MSU Bull Evaluation Program: Bull sale prices by breed (2020-21)**

Breed	Bulls sold	Sale gross	Average
Angus	36	\$150,600	\$4,183.33
Red Angus	1	\$3,000	\$3,000.00
Simmental	27	\$109,000	\$4,037.04
<b>Total</b>	<b>64</b>	<b>\$262,600</b>	<b>\$4,103.13</b>

**Table 9** provides sale averages and number of bulls sold at regional bull test programs. In response to COVID-19, bidders were encouraged to use DVAuction for viewing the sale and submitting bids online.

**Table 9. Regional bull test sale averages (2021)**

Bull test	Sale date	Bulls offered	Bulls sold	Average price
Western Illinois Univ. Bull Test, Macomb	Mar. 12	38	36	\$3,357
Pennsylvania Perf. Tested Bull, PA Furnace	Mar. 26	94	89	\$2,842
Wisconsin BIA Bull Test, Platteville	Apr. 3	66	61	\$3,327
Indiana Bull Evaluation Program, Bedford	Apr. 17	101	88	\$3,342

**Table 10** provides historical details of viewers, bidders, and buyers.

**Table 10. MCA/MSU Bull Evaluation Program: Number of bidders and bulls purchased (5-year summary)**

Item	2017	2018	2019	2020	2021
Registered on-site bidders	77	82	67	31	99
New registered on-site bidders	23	32	29	12	n/a
Online viewers*	20	88	92	235	151 <sup>†</sup>
Online bids	48	18	46	210	89
Online active bidders	7	6	9	30	18
Bulls sold online	7	8	7	28	15
Total bull buyers	45	47	32	48	54

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

<sup>†</sup>Online viewers were from AL(1), AR(1), CA(2), GA(2), IA(4), ID(1), IL(7), IN(4), KS(3), KY(3), MI(79), MN(2), MO(5), MS(2), ND(3), NE(9), NM(1), NY(2), OH(4), OK(1), OR (1), PA(2), SD(3), TN(1), TX(2), UT(1), WA(1), WY(2); Canada: BC(1), MB(1).

**Figure 6** displays the location of bull buyers from the 2020-21 sale.

**Figure 6. MCA/MSU Bull Evaluation Program: Bull buyer location (2020-21)**

