

MCA/MSU Bull Evaluation Program

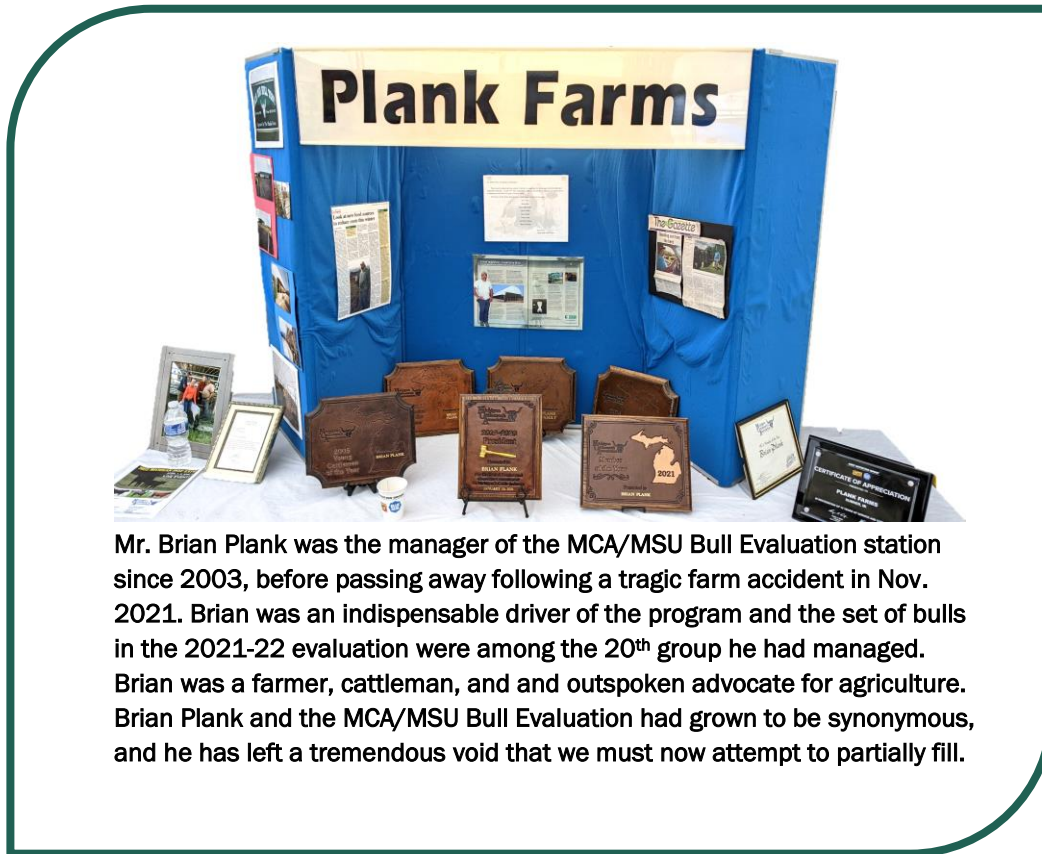
2021-22 Final Report

May 2, 2022



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Mr. Brian Plank was the manager of the MCA/MSU Bull Evaluation station since 2003, before passing away following a tragic farm accident in Nov. 2021. Brian was an indispensable driver of the program and the set of bulls in the 2021-22 evaluation were among the 20th group he had managed. Brian was a farmer, cattleman, and an outspoken advocate for agriculture. Brian Plank and the MCA/MSU Bull Evaluation had grown to be synonymous, and he has left a tremendous void that we must now attempt to partially fill.

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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 2021-22 MCA/MSU Bull Evaluation Program was the 34th consecutive year of the program. The MCA cooperated 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).¹

Table 1. MCA/MSU Bull Evaluation Program: Committee membership (2021-22)

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

BULLS AND MANAGEMENT

Twenty-three seedstock breeders, MCA members (19 MI, 3 IN, 1 OH) evaluated bulls in the evaluation. Ninety-eight bulls born between September 3, 2020, and March 31, 2021, were delivered to the evaluation station (Plank Farms) on October 8 and 9, 2021. 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

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

and boosted for IBR, BVDV (types 1 & 2), PI₃, 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 farm contemporary group. The 23 older bulls (one pen) were classified as “senior”, with all remaining bulls classified as “junior”. Upon arrival, bulls were administered Safe-guard (Merck & Co., Inc., Kenilworth, NJ) for internal parasite control. 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, and vaccinated again for prevention of respiratory disease (Vista Once 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) and later with piperonyl butoxide (Ultra Saber; Merck Animal Health) for lice control and prevention.

Table 2. MCA/MSU Bull Evaluation Program: Group treatment of bulls (2021-22)

Date	Product	Purpose
10/8/21	Safe-guard	Internal parasite control
10/15/21	Corid 1.25%	Coccidiosis prevention/treatment
10/15/21	AUREO S 700	Respiratory disease control
10/22/21	Vista Once SQ	Prevent IBR, BVD, PI ₃ , BRSV, <i>M. Haemolytica</i> & <i>P. multocida</i>
10/22/21	Clean-Up II	External parasite control
1/14/22	Ultra Saber	External parasite control

RATIONS

Bulls were fed once daily in a fenceline 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 37.8% corn silage, 23.8% corn, 25.4% hay, 11.8% dry distillers’ grain and 1.2% mineral/vitamin supplement on a dry matter (DM) basis. Average nutrient content was 12.9% crude protein and 0.50 Mcal NE_g/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 every 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 for the combined junior and senior classifications. To be sale eligible, bulls must have had a minimum average daily gain of 2.8 lb/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 intramuscular fat percentage was completed on 11/11/21 for the oldest bulls and on 2/10/22 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 (2021-22)

	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 ²	Fat, in	REA, in ²	IMF, %
Senior													
Angus	15	77.6	732	1085	1551	4.15	3.18	5.6	34.9	241	0.21	12.8	2.80
Simmental	8	81.1	692	1063	1467	3.61	3.18	5.8	36.9	267	0.30	13.9	3.10
Junior													
Angus	40	83.0	698	781	1196	3.71	3.27	5.6	36.6	204	0.33	13.3	3.87
P.Hereford	1	88.0	533	683	930	2.21	2.69	5.4	34.6	198	0.19	10.7	2.00
Red Angus	4	79.5	765	956	1376	3.76	3.77	6.3	37.8	210	0.45	15.0	3.09
Gelbvieh	1	76.0	642	783	1128	3.09	2.98	4.7	33.1	206	0.28	14.1	2.44
Charolais	3	77.3	657	666	969	2.70	2.93	5.9	34.1	218	0.25	13.4	2.40
Simmental	24	79.9	666	806	1229	3.77	3.25	5.6	37.2	209	0.27	13.6	2.73
All bulls	96*	80.9	694	861	1279	3.73	3.24	5.7	36.4	217	0.29	13.4	3.41

*Bulls that completed the 112-d evaluation period

Figure 1. MCA/MSU Bull Evaluation Program: Growth performance by pen (2021-22)

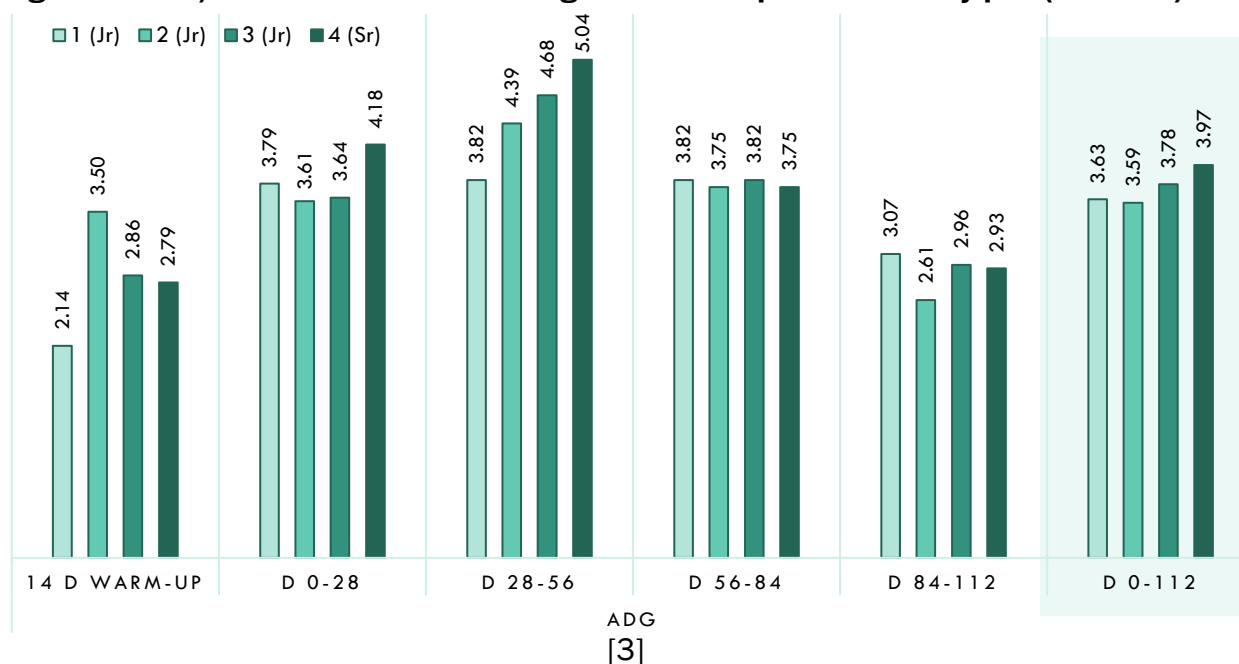
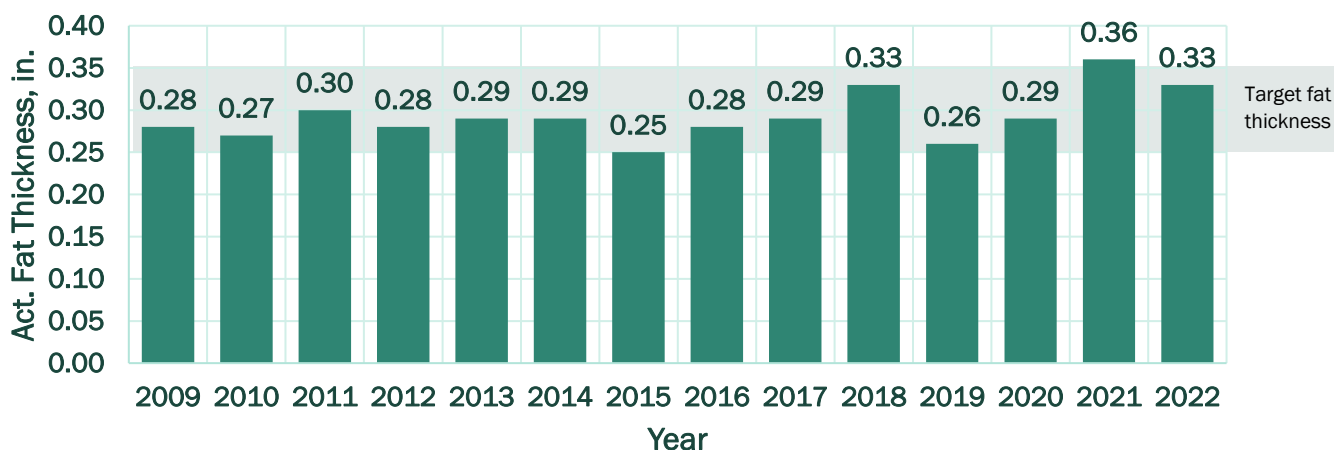


Figure 2. MCA/MSU Bull Evaluation Program: Spring ultrasound actual rib fat thickness (14-year summary)



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, 2021, 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 1 and later that passed the BSE and passed at the lowered morphology threshold. Five bulls received a second breeding soundness exam before the sale. This included three rechecks for white blood cells (WBC) and two for penile warts. All bulls with high WBC, and one of the 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)

Breeding Soundness Exam category	Program year				
	2017-18	2018-19	2019-20	2020-21	2021-22
Passing, total	21	56	37	73	72
Passing, 50-69% normal morphology	15	6	6	4	5
Deferred or failing, total	9	17	1	13	14
Deferred or failing for semen quality	5	14	1	10	14

Table 5 outlines a historical summary for causes of sale ineligibility. Twenty-six bulls were ineligible in meeting all sale criteria.

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

	Program year				
	2017-18	2018-19	2019-20	2020-21	2021-22
Number of bulls	80	92	78	100	98
Number ineligible for sale	18	29	15	36	26
Reason for ineligibility					
ADG	7	4	3	6	6
ADG-WDA%	--	5	0	12	--
BSE	9	17	5	10	15
Semen quality	7	12	4	7	14
No semen	1	2	0	1	0
Insufficient scrotal	0	0	0	0	0
Genital warts	1	1	1	2	1
Repro structure	0	2 (testicle edema)	0	0	0
Structure/feet	0	0	2	1	3
Temperament	0	1	1	2	0
Injury	0	0	3	2	2
Consignor request	0	1	0	1	0
Mortality	0	0	0	0	0
Lethal genetic defect	2	1	1	2	0

This was the fifth year that bulls were 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 guidelines². When there was scoring variation among an animal's feet, the worst foot for that trait was scored. The distribution of foot angle and claw set scores are shown in **Figure 3**. At scoring, three bulls were removed due to claw set, one bull which was removed due to insufficient ADG, would have also had an ineligible foot angle score. No 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.

Seventy-three qualified bulls were freeze branded with the Bull Evaluation Program brand and 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

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

when less than 20%], marbling, and ribeye area), and evaluation percentile rank for ADG and WDA (within combined senior and junior bulls).

Figure 3. MCA/MSU Bull Evaluation Program: Foot angle and claw set score frequency (2021-22)

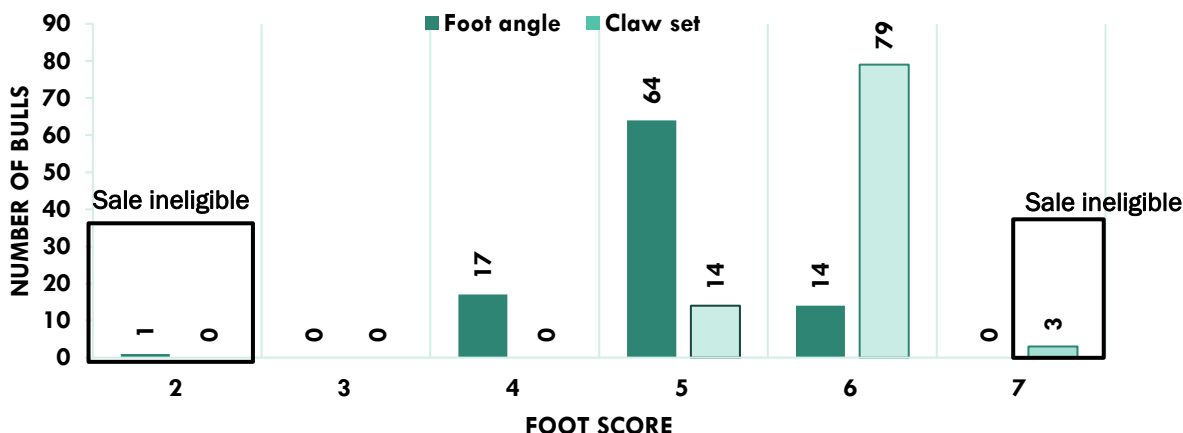


Table 6. MCA/MSU Bull Evaluation Program: Historic sale eligibility by birth month (3-year detail and 10-year average)

2019-20					2020-21				
B. Month	No.	Out	Eligible	% Eligible	B. Month	No.	Out	Eligible	% Eligible
Sep	1	0	1	100%	Sep	3	1	2	67%
Oct	0	0	0	-	Oct	7	1	6	86%
Nov	5	1	4	80%	Nov	6	3	3	50%
Dec	2	2	0	0%	Dec	7	2	5	71%
Jan	29	5	24	83%	Jan	41	13	28	68%
Feb	28	5	23	82%	Feb	24	7	17	71%
Mar	13	2	11	85%	Mar	12	9	3	25%
Total	78	15	63	81%	Total	100	36	64	64%

2021-22					10-year average (2012-13 to 2021-2022)				
B. Month	No.	Out	Eligible	% Eligible	B. Month	No.	Out	Eligible	% Eligible
Sep	10	3	7	70%	Sep	44	13	31	70%
Oct	3	1	2	67%	Oct	44	9	35	80%
Nov	5	0	5	100%	Nov	30	7	23	77%
Dec	5	2	3	60%	Dec	61	21	40	66%
Jan	33	8	25	76%	Jan	315	81	234	74%
Feb	21	8	13	62%	Feb	264	70	194	73%
Mar	21	4	17	81%	Mar	181	65	116	64%
Total	98	26	72	73%	Apr	2	1	1	50%
					Total	941	267	674	72%

ADVERTISING AND COMMUNICATION

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

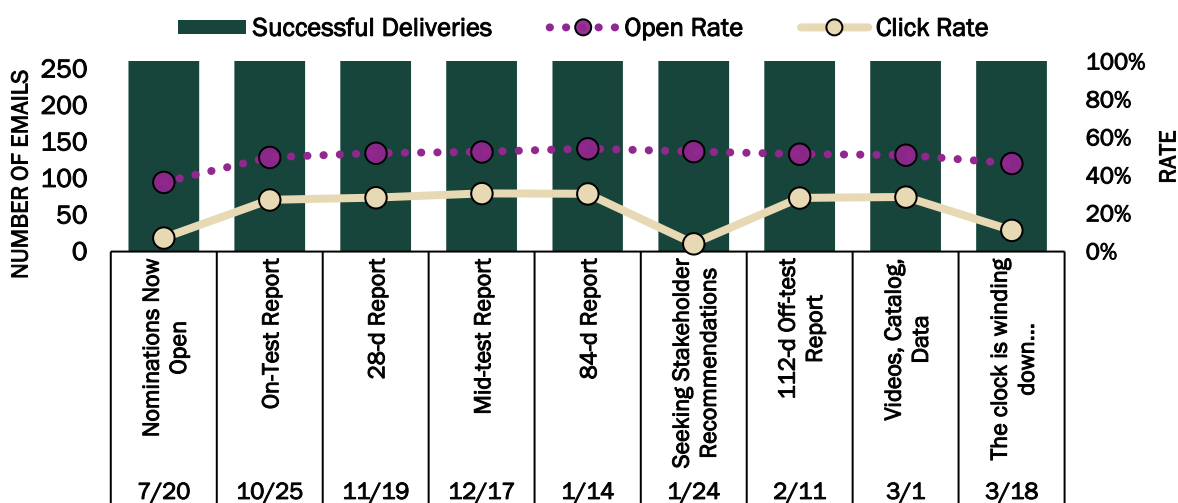
Table 7. MCA/MSU Bull Evaluation Program: MCA Facebook campaign*

Caption	Post Date	Boost	Reach	Engagement	Likes	Comments	Shares
Stay up to date on the 2021-2022 perf. reports	29-Jan	-	3,284	160	13	0	9
Consignor Feature: KB Angus	2-Feb	-	2,464	195	25	0	13
Consignor Feature: Hutchings-Kenton Reg. Angus	4-Feb	-	2,382	137	11	0	9
Consignor Feature: Schoenbine Beef Cattle	6-Feb	-	3,376	307	25	1	11
Consignor Feature: Dawson Farms, LLC	6-Feb	-	3,702	358	44	0	21
Consignor Feature: White Diamon Angus Ranch	7-Feb	-	2,494	144	15	0	10
40 days till the sale	7-Feb	-	854	43	14	0	3
Consignor Feature: Plank Simmental Farms	9-Feb	-	9,645	984	71	0	37
Coming soon - Final reports	9-Feb	-	2,819	71	24	0	5
Consignor Feature: R-Value Farms	13-Feb	-	1,169	66	12	1	3
Consignor Feature: Walnut Springs Farm	14-Feb	-	449	25	4	0	1
Bulls have completed their 112-day growth eval	15-Feb	-	1,562	139	11	1	5
Consignor Feature: Longcore Cattle	16-Feb	-	1,218	71	16	0	2
Breeding Soundness E-am	16-Feb	-	1,273	30	3	0	9
Open House Event	17-Feb	-	295	10	5	0	0
Consignor Feature: Rural Route 5 Farm	18-Feb	-	2,434	360	28	0	13
Open house 15 days away	18-Feb	-	1,255	49	6	0	12
Consignor Feature: Eastview Angus Farm	20-Feb	-	485	20	2	0	2
Consignor Feature: MSU Beef Center	21-Feb	-	1,100	55	14	0	3
Preparations continue for the open house	21-Feb	-	5,669	256	25	0	23
Consignor Feature: Kreh Farms Herefords	1-Mar	-	879	42	13	0	2
Videos and Catalog Live	1-Mar	\$25	3,880	317	45	0	25
3 days till open house	2-Mar	-	876	42	7	3	3
Sale Event	3-Mar	-	330	7	5	0	0
Open house is tomorrow	4-Mar	-	711	13	6	0	3
Open house day	5-Mar	-	3,145	72	2	0	18
See you March 19	5-Mar	-	2,659	241	38	0	9
Bull Pen App	6-Mar	-	788	17	6	0	2
DVAuction	9-Mar	-	982	99	14	1	14
Calving ease and weaning weight infographics	9-Mar	-	1,535	95	8	0	6
Lot 2 Video	10-Mar	-	508	33	7	0	0
Lot 74 Video	11-Mar	-	3,578	258	18	0	10
8 Days till sale day	11-Mar	-	3,714	66	8	0	11
Lot 61 Video	12-Mar	-	1,108	101	10	0	10
Link to catalog	12-Mar	-	975	43	6	0	0
Tag 69 Video	15-Mar	-	435	22	7	0	0
Lot 65 Video	16-Mar	-	579	31	6	0	1
3 Days till sale day	16-Mar	\$25	3,103	202	64	0	14
Consignor Feature: Jerz Angus Farm	17-Mar	-	829	35	7	0	2
Tomorrows sale day	18-Mar	-	1,714	82	6	0	8
Sale Day	19-Mar	-	2,477	78	3	0	17
Sale is underway	19-Mar	-	1,353	72	17	0	3
Thank you to the bidders, buyer	19-Mar	-	977	65	23	0	2
		Boost	Reach	Engagement	Like	Comment	Share
Total of 43 BEP-focused Facebook Posts:		\$ 50	85,064	5,513	694	7	351

*As of 4-14-22, 2,686 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 2021-22 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. Data from BullPEN usage was not available for this report.

Figure 4. MCA/MSU Bull Evaluation Program: Email open and click rates (2021-22)*



*As of 5-2-22, the MCA/MSU Bull Evaluation MailChimp account contained 332 contacts.

SALE RESULTS

An open house was held on March 5, 2022, to allow buyers to view bulls and visit with breeders before the sale. The culmination of the program was the auction of 72 eligible bulls, at the station on March 19, 2022. 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.

DVAuction was used to offer an online bidding option to buyers. A minimum floor price of \$2,250 was established, and there were four bulls that did not bring the minimum bid. The

number of bulls sold, and average sale price is shown in Figure 5 compared to past sales. Table 8 includes bulls sold and sale averages for bulls by breed.

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

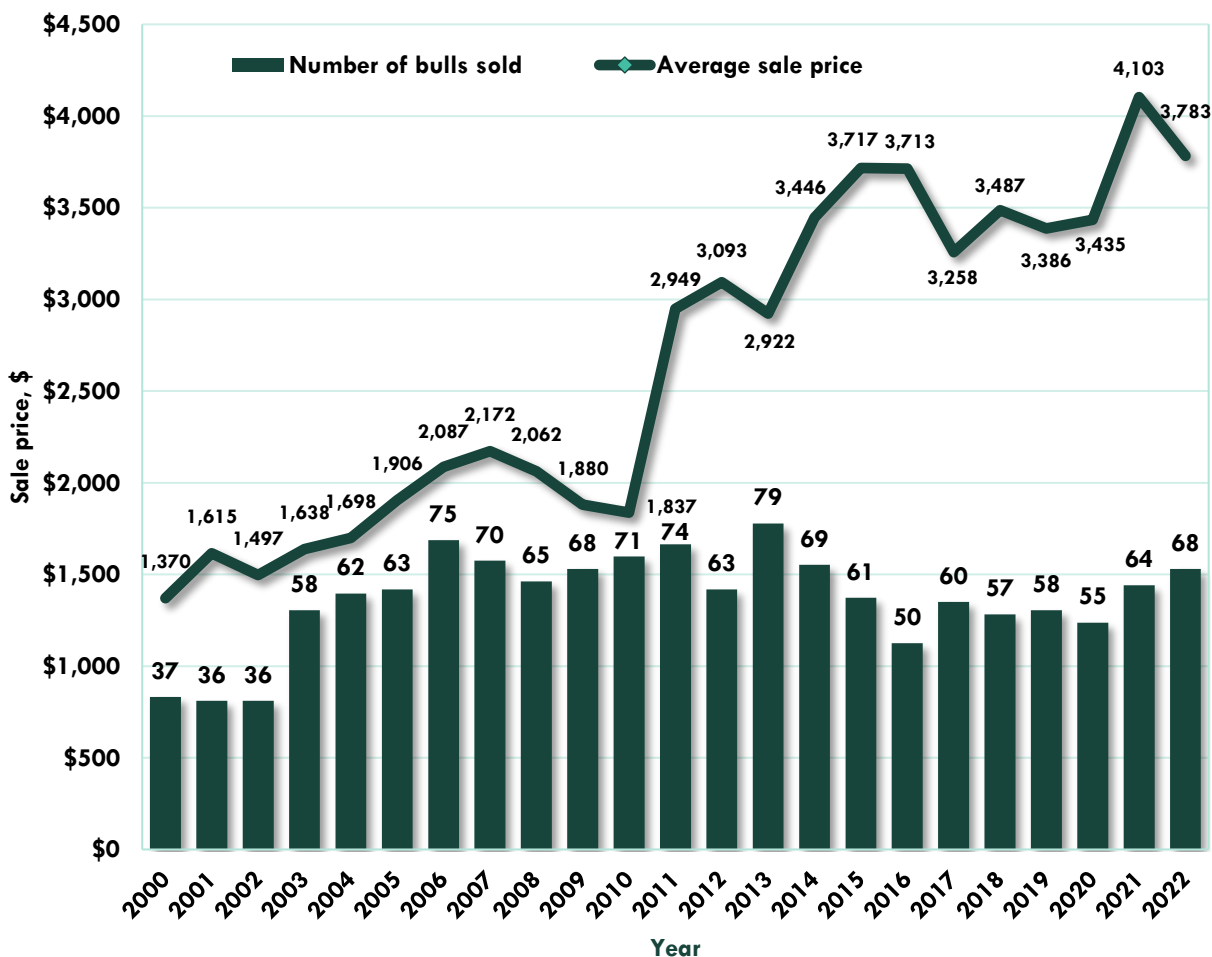


Table 8. MCA/MSU Bull Evaluation Program: Bull sale prices by breed (2021-22)

Breed	Bulls sold	Sale gross	Average
Angus	40	\$146,500	\$3,662.50
Red Angus	3	\$13,500	\$3,934.78
Charolais	1	\$3,000	\$3,000.00
Gelbvieh	1	\$3,750	\$3,750.00
Simmental	23	\$90,500	\$3,934.78
Total	68	\$257,250	\$3,783.09

Table 9 provides sale averages and number of bulls sold at regional bull test programs.

Table 9. Regional bull test sale averages (2022)

Bull test	Sale date	Bulls cataloged	Bulls sold	Average price
Western Illinois Univ. Bull Test, Macomb	Mar. 11	38	35	\$4,073
Pennsylvania Perf. Tested Bull, PA Furnace	Mar. 25	83	75	\$3,369
Wisconsin BIA Bull Test, Platteville	Apr. 2	64	61	\$4,060
Indiana Bull Evaluation Program, Bedford	Apr. 16	90	89	\$4,666

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	2018	2019	2020	2021	2022
Registered on-site bidders	82	67	31	99	55
New registered on-site bidders	32	29	12	n/a	n/a
Online viewers*	88	92	235	151 [†]	130 [†]
Online bids	18	46	210	89	98
Online active bidders	6	9	30	18	13
Bulls sold online	8	7	28	15	17
Total bull buyers	47	32	48	54	47

*Viewers that were online for more than 10 minutes, prior to 2022, this was more than 5 minutes.

[†]Online viewers were from GA(1), IA(4), ID(1), IL(1), IN(4), KS(2), KY(3), LA(1) MI(83), MN(1), MO(2), MT(1), ND(5), NE(5), OH(6), SD(5), WA(1), WV(1); Canada: AB(1), ON(2).

Figure 6 displays the location of bull buyers from the 2021-22 sale.

Figure 6. MCA/MSU Bull Evaluation Program: Bull buyer location (2021-22)

