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MCA-MSU
Bull Evaluation Program
2023-24 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 MCA, MSU, and Wernette Cattle Co. 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, feed efficiency, soundness, and body composition, and 3) aid beef producers in obtaining superior bulls that have been evaluated for growth, feed efficiency, breeding and structural soundness, and carcass merit.

The 2023-24 MCA-MSU Bull Evaluation Program was the 36th consecutive year of the program. Wernette Cattle Co., Remus, Michigan furnished facilities and Mr. Karl Wernette served as station manager and provided daily husbandry for the developing bulls. The facility is a 228 × 50 ft. monoslope barn consisting of 4 large pens with outdoor exercise lots. New in 2023, SmartFeed system (individual feed intake), SmartScale system (partial body weights when drinking), and R&R Livestock Equipment handling facility (tub, alleyway, chute, Tru-test scales, RFID reader) were added. 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, station manager, MSU faculty, 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 (2023-24)

Michigan Cattlemen's Association	Breed Representatives
Sara Horton*	Phil Smith (Simmental; Committee Chair)
	Paul Dawson (Angus; Vice Chair)
Michigan State University	Kevin Beckington (Angus)
Dan Buskirk	Mark Benaske (Angus)
	Mike Karweik (Red Angus)
Station Management	Randy Longcore (Simmental)
Karl Wernette	Mark Sears (Commercial)*

*Ex-officio

BULLS AND MANAGEMENT

Twenty-one MCA member, seedstock breeders (20 MI, 1 IN) evaluated bulls in the evaluation. Eighty-one bulls (43 AN, 31 SM and SMAN, 4 AR, 2 HP, and 1 CH) born between

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

September 1, 2022, and March 31, 2023, were delivered to the evaluation station (Wernette, Cattle Co.) on October 6, 2023. 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 boostered for IBR, BVDV (types 1 & 2), PI_3, 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 21 older bulls (one pen) were classified as "senior", with all remaining bulls classified as "junior". Bulls were treated for internal and external parasites, as well as revaccinated for respiratory diseases as the evaluation progressed (Table 2).

Table 2. MCA-MSU Bull Evaluation Program: Group treatment of bulls (2023-24)

Date	Product	Purpose
10/28/23	Safe-guard	Internal parasite control
10/28/23	Bovilis Vista Once SQ	Prevention of IBR, BVD, PI3, BRSV, *M. Haemolytica* and *P. multocida*
10/29/23	Corid 1.25%	Coccidiosis prevention/treatment
11/22-11/27/23	9710Alph Aureomycin 10	Treatment of respiratory disease
12/14/23	Clean-up II	External parasite control

RATIONS

Bulls were fed once daily in fenceline bunks or in the SmartFeed bunks (during feed test) with feed that was raised or purchased by Wernette Cattle Co. Feeds were sampled periodically for nutrient composition analysis. Rations were formulated and adjusted every 28 d. On average, the evaluation diet was balanced to contain 40.4% corn silage, 38.1% haylage, 12.7% high moisture corn, 7.8% dry distillers grain and 1.0% mineral/vitamin supplement on a dry matter (DM) basis. Average nutrient content was 12.3% crude protein and 0.45 Mcal NEg/lb on a DM-basis. Also, in accordance with BIF guidelines, bulls were given an increased percentage of dietary forage for 5 weeks post-evaluation, along with daily exercise throughout the test, to further prepare them for the breeding season and optimize reproductive performance.

PERFORMANCE EVALUATION

After arrival (d 0), bulls were weighed with the chute scale on d 20, 21, 45, 69, 70, 98, 125, and 126, to monitor growth rate, and had hip height measured on d 20, 125, and 126. As-fed feed intake was measured using the SmartFeed bunks from d 21 to 70 (49 d). Total mixed ration dry matter was determined on d 20, 37, and 69 using a food dehydrator (COSORI model CP267-FD, Vesync Co., Ltd, Anaheim, CA) set at 165°F for 46 to 48 h. Interim performance reports were published to mibulls.com and communicated to an email list. Average daily gain 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 11/9/23 for the oldest bulls and on 2/08/24 for the remaining bulls. All ultrasound data were processed through the 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 (2023-24)*

	Farm			Evaluation measures									Ultrasound, 365-d		
	n*	Act. BW	Adj. WW	Initial wt., lb	Final wt., lb	ADG, lb/d	WDA, lb/d	DMI, lb/d	RFI	Frame score	Scrotal cir, cm	Pelvic cm²	Fat, in	REA, in²	IMF, %
Senior bulls															
Angus	7	85	736	1209	1615	3.87	3.15	28.9	-1.46	6.5	36.4	232	0.14	11.8	2.75
Simmental	14	81.6	630	1106	1523	3.98	2.84	30.2	1.42	5.9	34.3	216	0.15	12.8	2.03
Junior bulls															
Angus	36	80.0	696	836	1211	3.57	3.09	22.1	-0.11	5.4	36.4	205	0.32	12.8	3.77
Red Angus	4	77.3	759	714	1058	3.28	3.29	19.3	0.61	5.6	36.0	201	0.23	12.3	2.72
Charolais	1	78	763	878	1100	2.11	3.80	15.7	-3.60	6.3	--	--	0.38	13.8	2.84
P. Hereford	2	80.5	635	854	1235	3.63	2.88	20.6	-2.32	5.1	33.6	196	0.33	12.5	1.99
Simmental	17	81.6	649	694	1074	3.62	3.17	19.3	0.00	5.6	36.7	199	0.22	13.1	2.43
All bulls	**81**	**80.8**	**680**	**880**	**1259**	**3.64**	**3.08**	**23.2**	**0.00**	**5.6**	**36.0**	**207**	**0.24**	**12.8**	**3.00**

*Bulls that began the evaluation. The n may differ for different traits.

Figure 1. MCA-MSU Bull Evaluation Program: Growth performance by pen (2023-24)

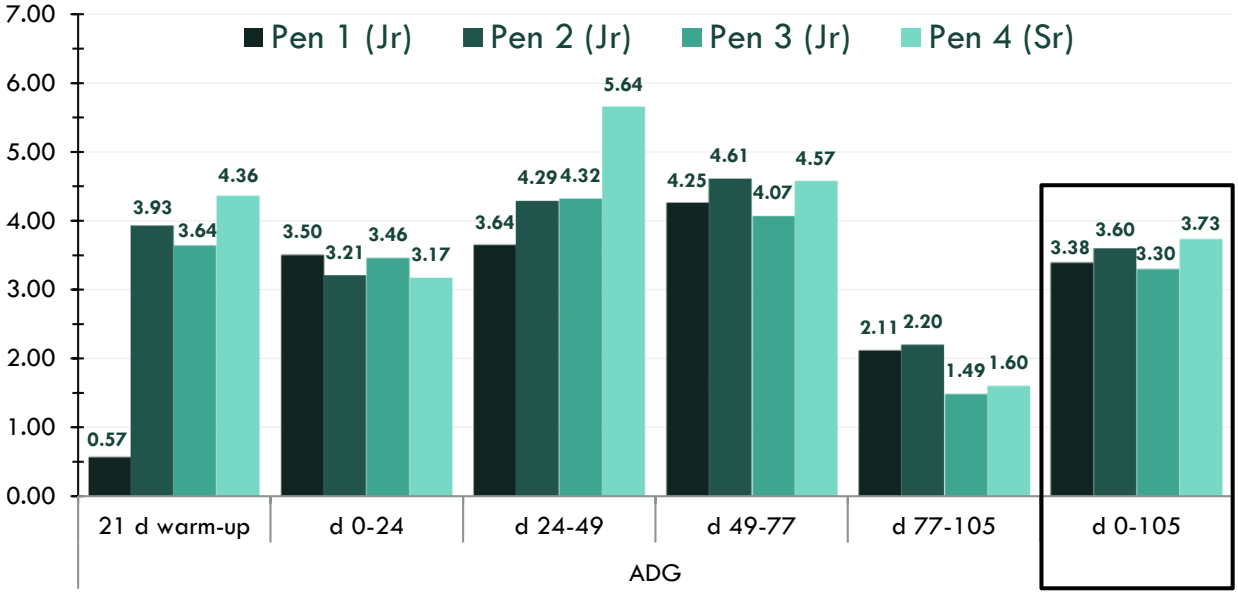
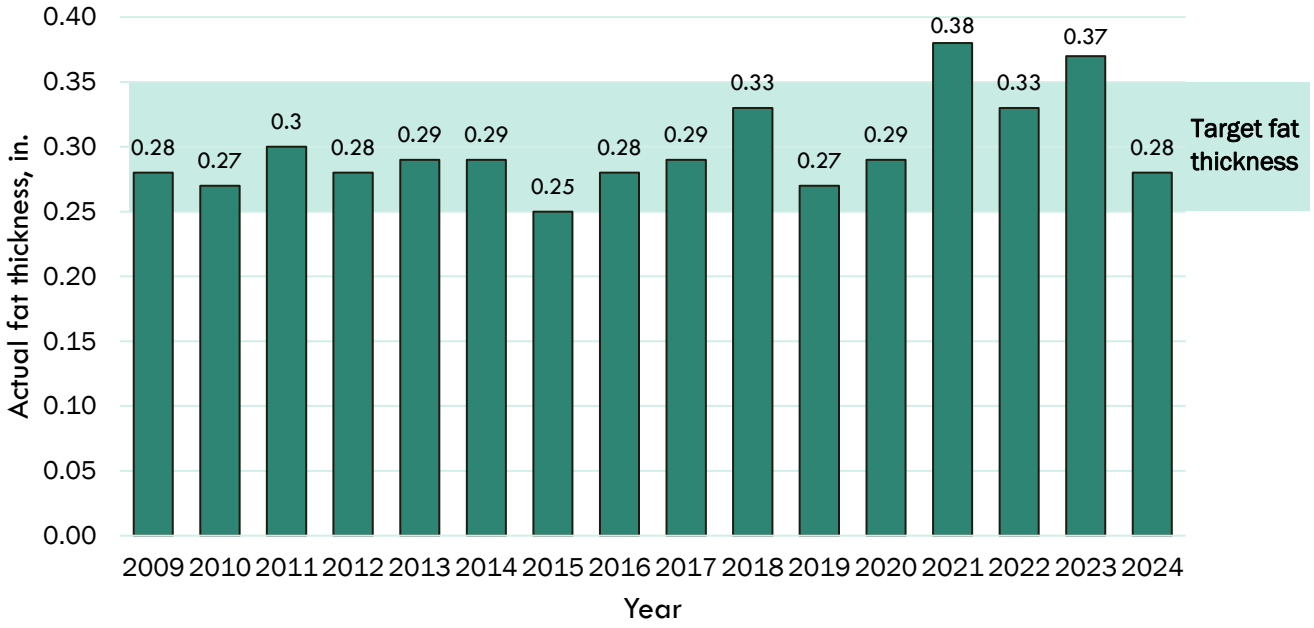


Figure 2. MCA-MSU Bull Evaluation Program: Spring ultrasound actual rib fat thickness (16-year summary)



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, 2023, 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. Six bulls received a second BSE before the sale. This included four rechecks for white blood cells (WBC), and two for penile warts. All but one bull with penile wart regrowth passed the recheck BSE and were offered for sale. **Table 5** outlines a historical summary for causes of sale ineligibility. Fourteen bulls were unable to meet all sale criteria.

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

	Program year				
Breeding Soundness Exam category	2019-20	2020-21	2021-22	2022-23	2023-24
Passing, total	37	29	38	17	24
Passing, 50-69% normal morphology	6	5	5	2	3
Deferred or failing, total	1	8	7	5	6
Deferred or failing for semen morphology	1	4	6	4	2

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

	Program year				
	2019-20	2020-21	2021-22	2022-23	2023-24
Number of bulls	78	100	98	90	81
Number ineligible for sale	15	36	26	23	14
Reason for ineligibility					
ADG	3	6	6	5	5
ADG-WDA%	0	12	--	--	--
BSE	5	10	15	9	4
Semen quality	4	7	14	7	2
No semen	0	1	0	0	0
Insufficient scrotal	0	0	0	0	0
Genital warts	1	2	1	1	1
Repro structure	0	0	0	1 (missing testicle)	1 (laceration)
Structure/feet	2	1	3	7	2*
Temperament	1	2	0	1	1
Injury/health	3	2	2	1	1
Consignor request	0	1	0	0	0
Lethal genetic defect	1	2	0	0	0
Breed registration	0	0	0	0	2
Mortality	0	0	0	0	0

*These 2 bulls were also ADG ineligible.

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 the test period (d 126) scores for foot angle and claw set (1 to 9 scale, where 5 is ideal) were assigned by two independent evaluators per established guidelines[2]. 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, two bulls would have been removed due to claw set, however, both bulls failed to reach the ADG requirement. One bull was removed early during the test for poor temperament. **Table 6** presents the historic averages for the percentage of sale eligibility by bull birth month.

Sixty-nine 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

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

(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, WDA, and DMI.

Figure 3. MCA-MSU Bull Evaluation Program: Foot angle and claw set score frequency (2023-24)

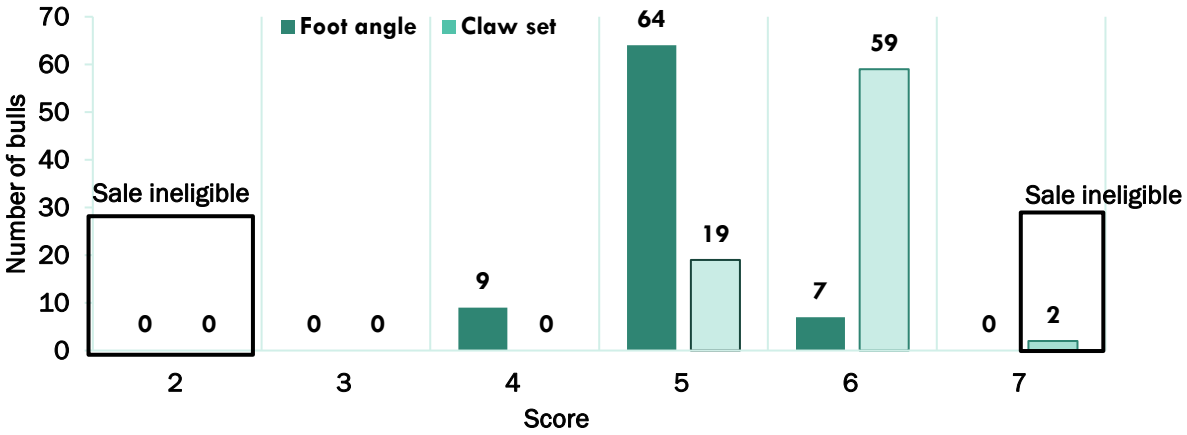


Table 6. MCA-MSU Bull Evaluation Program: Historic sale eligibility by birth month (3-year detail and 10-year average)

2021-22

B. Month	No.	Out	Eligible	% Eligible
Sep	10	3	7	70%
Oct	3	1	2	67%
Nov	5	0	5	100%
Dec	5	2	3	60%
Jan	33	8	25	76%
Feb	21	8	13	62%
Mar	21	4	17	81%
Total	98	26	72	73%

2022-23

B. Month	No.	Out	Eligible	% Eligible
Sep	24	7	17	71%
Oct	0	0	0	0%
Nov	2	0	2	100%
Dec	5	0	5	100%
Jan	30	6	24	80%
Feb	16	3	13	81%
Mar	13	7	6	46%
Total	90	23	67	74%

2023-24

B. Month	No.	Out	Eligible	% Eligible
Sep	14	3	11	79%
Oct	7	1	6	86%
Nov	0	0	0	0%
Dec	7	1	6	86%
Jan	19	2	17	89%
Feb	18	5	13	72%
Mar	16	2	14	88%
Total	81	14	67	83%

10 Year Average (2013-14 to present)

B. Month	No.	Out	Eligible	% Eligible
Sep	72	21	51	71%
Oct	42	8	34	81%
Nov	29	7	22	76%
Dec	50	12	38	76%
Jan	294	68	226	77%
Feb	232	61	171	74%
Mar	177	65	112	63%
Total	896	242	654	73%

ADVERTISING AND COMMUNICATION

The MCA staff managed advertising in print and online trade publications **Table 7**, and a Facebook / Instagram campaign on the MCA accounts shown in **Table 8**.

Table 7. MCA-MSU Bull Evaluation Program: Trade publication and other advertising

Trade publication advertising outlets	
American Simmental Assoc., Calendar	Farmer's Exchange
Angus Journal, Performance Report	Farm World
Sorting flags	Facebook / Instagram (see postings Table 8)
Bull Pen App	Angus Media online catalog
Open House postcard	Bred for Success sale catalog ad
MCA Information Exchange	SimTalk (American Simmental Publication)
Michigan Cattleman Magazine	MI Farm Trader / MI Truck Trader
UP Ag Connection (MSU Extension)	Posting on SheridanAuctionService.com
MI Farm News (print)	Posters to Michigan Livestock Auctions
American Agriculturist (formerly MI Farmer)	Sale day banner
300 catalogs sent to additional Angus Media contacts in IN, OH, PA, WI	

Table 8. MCA-MSU Bull Evaluation Program: MCA social media campaign*

Instagram			
Caption	Post Date	Reach	Likes
Nominations due	8/16/2023	59	4
Nominations due	8/27/2023	35	1
Thanksgiving feed eff	11/23/2023	46	6
New Bull? Feed eff	1/1/2024	58	3
30 day countdown	2/15/2024	57	3
Open House reminder	3/1/2024	67	6
One week away	3/9/2024	83	8
Longcore spotlight	3/11/2024	83	8
Bull sale tomorrow	3/15/2024	57	4
Bull Eval sale day	3/16/2024	63	5
Thank you attendees	3/17/2024	62	4
Photographer thank you	3/29/2024	119	14
Bull Sale final numbers	4/4/2024	68	6
Total Number of Posts: 13			
Average engagement: 66			

Table 8 continued.

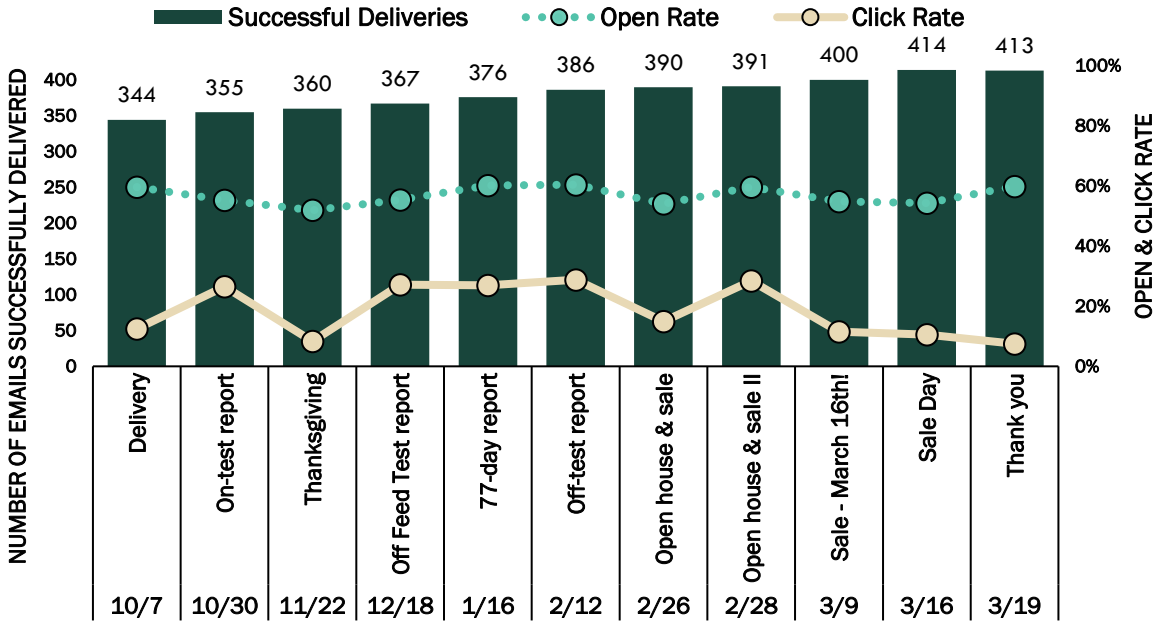
Facebook					
Caption	Post Date	Reach	Likes	Comments	Shares
Nominations due	8/16/2023	2,880	47	1	18
Nominations due	8/27/2023	2,199	32	1	12
Bull start video	11/1/2023	1,316	39	0	6
Thanksgiving feed eff	11/23/2023	2,288	52	0	5
Mid-test report	12/18/2023	1,584	35	0	8
New bull? Feed eff	1/1/2024	2,726	63	2	17
Happy winter video	1/12/2024	581	28	0	0
d-77 report	1/16/2024	1,390	32	0	4
Test end, weights today	2/9/2024	3,948	65	0	29
Off test report	2/12/2024	1,610	27	1	9
30 day countdown	2/15/2024	1,018	18	0	6
Crew at the bull station	2/16/2024	747	22	0	4
Best earn a brand	2/18/2024	1,693	48	2	8
Pics and videos soon video	2/22/2024	593	30	3	5
Open House map	2/25/2024	1,982	45	2	15
Open House reminder	3/1/2024	1,707	33	3	10
Infographic	3/7/2024	642	11	0	0
Top WDA bull	3/8/2024	1,565	22	2	3
Cows calling	3/9/2024	2,190	57	1	11
One week away	3/9/2024	685	16	0	2
Rural Route 5 Top indexing bull	3/9/2024	846	19	1	3
Top indexing video	3/10/2024	1,943	50	1	14
Longcore spotlight	3/11/2024	1,366	39	1	3
Sale is… (MiBulls / BullPen)	3/12/2024	624	9	1	2
Sale lots	3/14/2024	2,491	35	0	15
Sponsors	3/14/2024	850	24	2	2
Bull sale tomorrow	3/15/2024	838	17	0	4
Infographic (2)	3/16/2024	3,402	35	1	20
Top Indexing video (2)	3/16/2024	252	6	0	0
Thank you attendees	3/17/2024	1,491	26	2	2
Photographer thank you	3/29/2024	1,284	29	1	0
Bull sale final numbers	4/4/2024	819	25	0	1
Total number of posts: 31					
Average engagement: 32					
Average reach: 1,548					

*As of 4/29/24, the MCA has 3.6k Facebook and 185 Instagram followers.

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 2023-24 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 MiBulls.com, and sale data was posted within the BullPEN mobile app for sorting bull data (**Figure 5**).

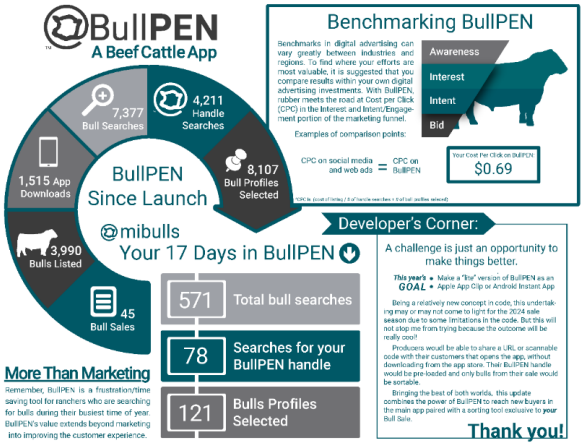
Figure 4. MCA-MSU Bull Evaluation Program: Email open and click rates (2023-24)*



*As of 4/29/24, the MCA-MSU Bull Evaluation MailChimp account contained 443 contacts.

Figure 5. MCA-MSU Bull Evaluation Program: Use of BullPEN mobile app (2023-24)*

The graphic to the right is BullPEN data from 2022-23. Complete BullPEN 2024 benchmarking was not available for this report, however, in 2024, there were 135 hits to the @mibulls handle, and there were additional "non-handle" searches based on buyer locations that would have shown MCA-MSU Bull Evaluation bulls.



SALE RESULTS

Approximately 75 potential buyers attended an open house on March 2, 2024, to view bulls and visit breeders before the sale. The culmination of the program was the auction of 67 eligible bulls, at the station on March 16, 2024. All pertinent information was published in the sale catalog, including consignor contact information, breed, breed percentage, birth date, registration number, actual birth weight, adjusted weaning weight, actual and adjusted scrotal circumference, claw set, foot angle, 365-day adjusted measures for ultrasound intramuscular fat percentage, ribeye area, and fat thickness, test average daily gain, DM intake, RFI, RFI percentile, off test weight, off test weight per day of age, 365-day adjusted pelvic area, frame score, a two-generation pedigree, and Expected Progeny Differences (EPD), breed specific economic indexes, and their calculated percentiles. In addition, a graph was included that displayed the percentile rankings of the primary EPDs. 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 $3,000 was established, and there were ten bulls (15%) that did not bring the minimum bid. **Table 9** includes bulls sold and sale averages for bulls by breed. The number of bulls sold, and average sale price is shown in **Figure 6** compared to past sales. **Table 10** provides sale averages and number of bulls sold at regional bull test programs. **Table 11** provides historical details of viewers, bidders, and buyers. **Figure 7** displays the location of bull buyers from the 2023-24 sale.

Table 9. MCA-MSU Bull Evaluation Program: Bull sale prices by breed (2023-24)

Breed	Bulls sold	Sale gross	Average
Angus	28	$143,200	$5,114.29
Red Angus	2	$7,500	$3,750.00
P. Hereford	2	$6,900	$3,450.00
Simmental	24	$114,500	$4,770.83
Total	**57**	**$275,100**	**$4826.32**

Figure 6. MCA-MSU Bull Evaluation Program: Bulls sold and average sale price (2000-24)

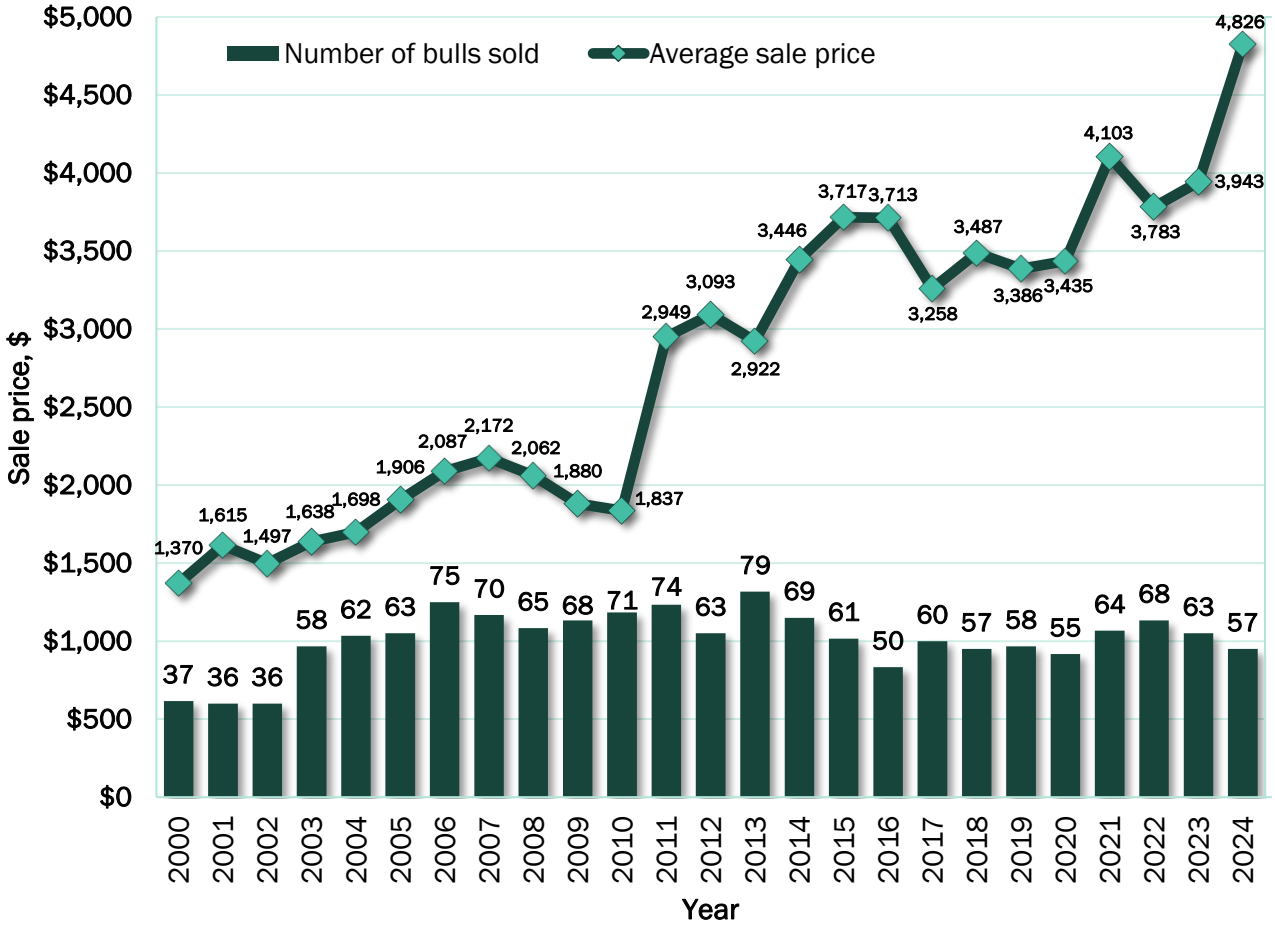


Table 10. Regional bull test sale statistics (Spring, 2024)

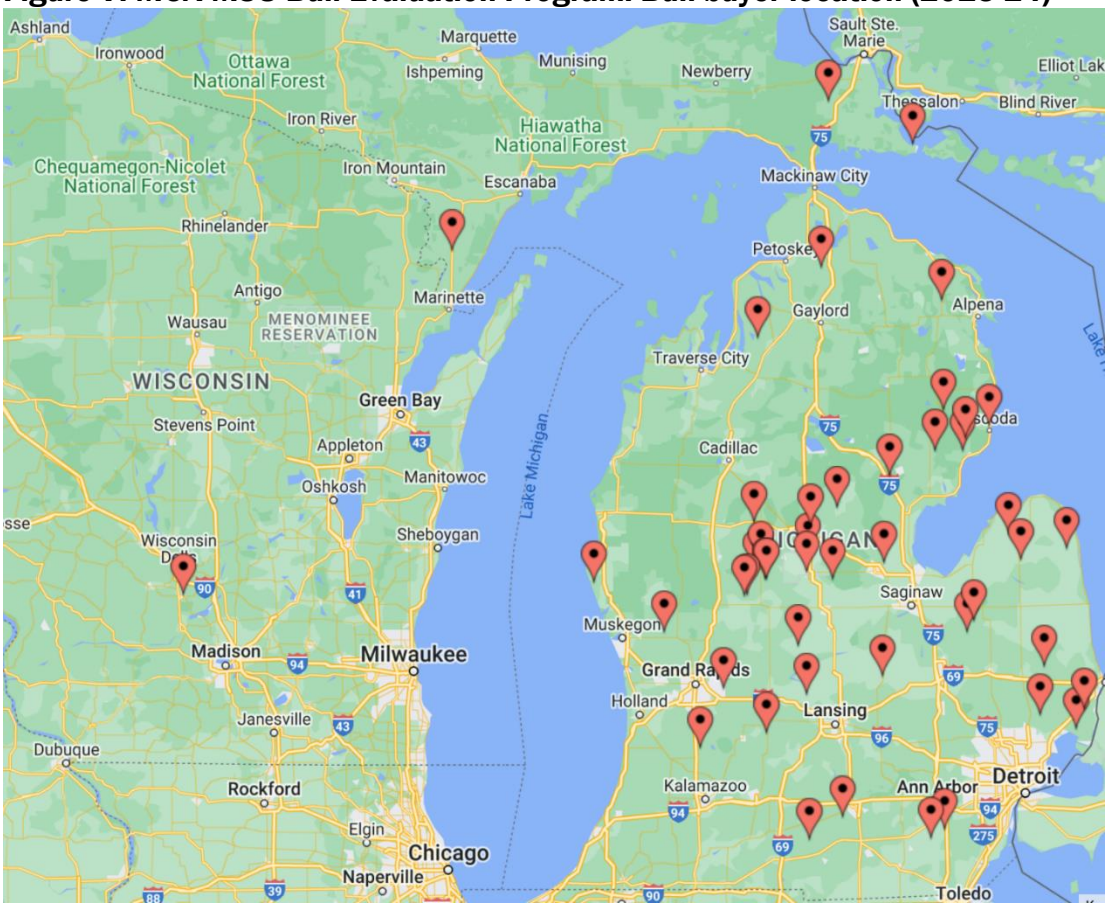
		Bulls				
Bull test	Sale date	# Cataloged	# Offered	# Sold	No sales, %	Avg. sale price
Western Illinois University Bull Test	Mar. 8	33	33?	26	21%	$4,511
Pennsylvania Performance Bull Test	Mar. 29	95	95	88	7%	$4,880
Wisconsin BIA Bull Test	Apr. 6	60	60	55	8%	$4,786
Indiana Bull Evaluation Program	Apr. 13	77	72	72	0%	$5,580

Table 11. MCA-MSU Bull Evaluation Program: Number of bidders and bulls purchased (5-year summary)

Item	2020	2021	2022	2023	2024
Registered on-site bidders	31	99	55	60	66
New registered on-site	12	n/a	n/a	42	45
Online viewers*	235	151	130	161†	149†
Online bids	210	89	98	111	95
Online active bidders	30	18	13	19	19
Bulls sold online	28	15	17	26	15
Total bull buyers	48	54	47	46	49

*Viewers that were online for > 10 min (prior to 2022 this category was > 5 min).
†Online viewers were from AL(2), AR(1), GA(1), IA(1), ID(1), IL(2), IN(3), KS(2), KY(1), LA(1), MI(97), MN(3), MO(2), MT(1), NC(2), ND(7), NE(6), OH(6), SD(2), TN(2), TX(3), WI(3).

Figure 7. MCA-MSU Bull Evaluation Program: Bull buyer location (2023-24)*



*Buyers from West Plains, MO and Muenster, TX not shown

Confidential program, consignor, and individual bull costs and revenues are included in the report for consignors and program staff.