

MCA/MSU BULL EVALUATION PROGRAM

2018-2019 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 2018-19 MCA/MSU Bull Evaluation Program was the 31st 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 Programs¹ published by the Beef Improvement Federation (BIF).

**Table 1. MCA/MSU Bull Evaluation Program:
Committee Membership (2018-19)**

Breed Representatives (voting members)	Michigan Cattlemen’s Association
Bob Zellmer (Angus; Committee Chair)	George Quackenbush
Monte Bordner (Angus; Committee Vice	Michigan State University
Kevin Beckington (Angus)	Dan Buskirk
Mike Karweik (Red Angus)	Kevin Gould
G. Patrick White (Charolais)	Station Management
Larry Kindel (Simmental)	Brian Plank
Brian Plank (Simmental)	
Mark Sears (Commercial)	

BULLS AND MANAGEMENT

Twenty-five MCA members and seedstock breeders (24 Michigan, 1 Indiana) evaluated bulls in the evaluation. Ninety-two bulls born between September 3, 2017 and March 31, 2018 were delivered to the evaluation station (Plank Farms) on October 12 and 13, 2018. Bulls accepted for test 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.

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

Bulls must have previously tested negative for BVDV and bovine tuberculosis and have been vaccinated 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 contemporary group. The 19 oldest bulls (one pen) were classified by age as “senior”, with all remaining bulls classified as “junior”. Upon arrival, bulls were treated for internal (Safe-Guard® (fenbendazole) oral drench), and external (Synergized Delice® (permethrin and piperonyl butoxide) parasites (**Table 2**). The bulls were later administered a 5-day treatment for coccidia control (CORID® (amprolium)) and vaccinated for prevention of respiratory disease (Vista® Once SQ). 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 (2018-19)**

Date	Product	Purpose
10/13/18	Synergized Delice	Lice control
10/13/18	Safe-Guard	Internal parasite control
10/16/18	Corid 1.25%	Coccidiosis prevention/treatment
10/26/18	Vista Once SQ	IBR, BVD, PI ₃ , BRSV, <i>M. haemolytica</i> , <i>P. multocida</i>
1/5/19	Synergized Delice	Lice control
1/18/19	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 46.5% corn silage, 26% corn, 15% hay, 10.1% dried distillers grain and 2.4% supplement on a dry matter (DM) basis. Average nutrient content on a DM-basis was 12.5% crude protein and 0.51 Mcal NEg/lb. Also, in accordance with 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

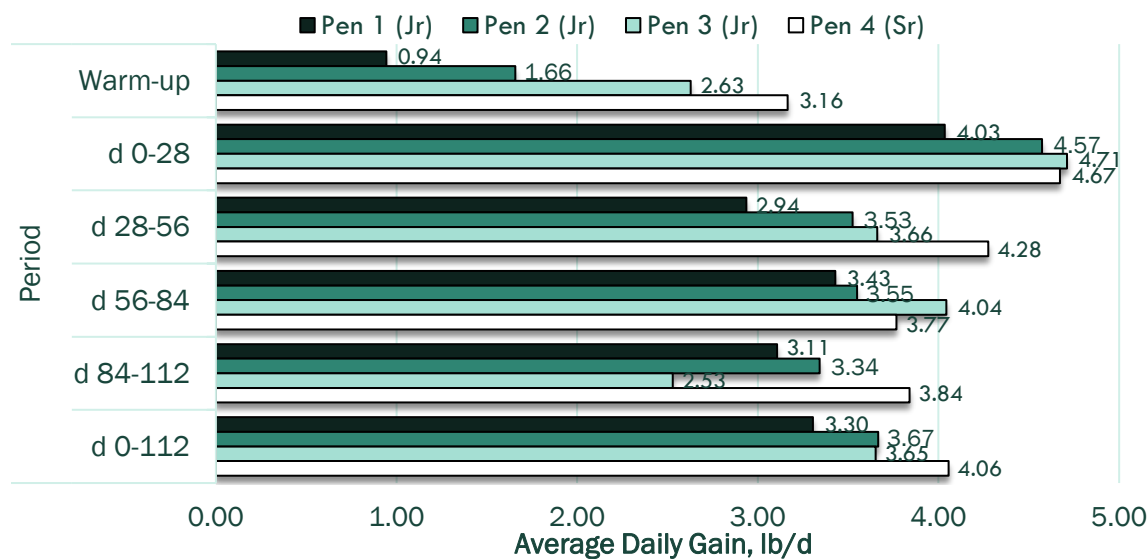
At the beginning of the gain test (14 days after arrival), bulls had hip height measured, and were weighed on two consecutive days. Bulls were then weighed each successive 28 days, to monitor growth rate. Interim performance reports were published and communicated to an email list. Following the 112-day 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.

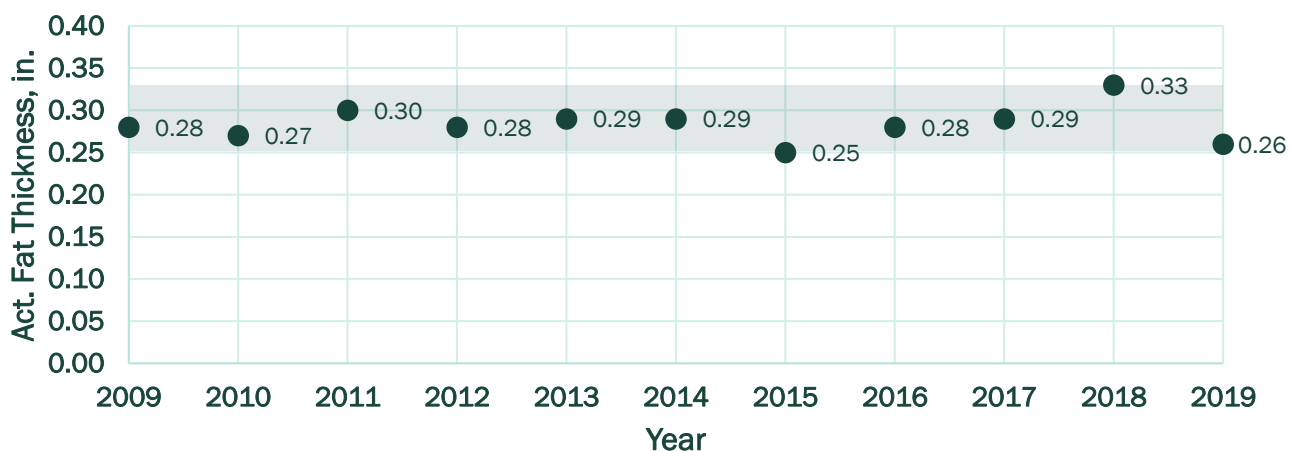
Table 3. MCA/MSU Bull Evaluation Program: Performance Measures by Age Division and Breed (2018-19)

	Farm			Evaluation measures							Ultrasound, 365-d		
	n	Act. BW	Adj. WW	Initial wt., lb	Final wt., lb	ADG, lb/d	WDA, lb/d	Frame score	Scrotal cir, cm	Pelvic cm ²	Fat, in	REA, in ²	IMF, %
Senior													
Angus	5	79	714	1035	1490	4.06	3.08	5.5	39.6	187	0.13	12.0	2.02
Red Angus	2	73	721	938	1349	3.67	2.76	4.9	39.3	152	0.14	9.9	1.90
Simmental	12	83	723	932	1394	4.12	3.13	5.3	39.7	199	0.21	13.7	2.48
Junior													
Angus	53	80	675	754	1159	3.62	3.12	5.2	36.2	197	0.29	12.2	3.59
Red Angus	8	81	700	738	1093	3.16	3.11	5.5	36.2	196	0.23	12.8	2.58
Charolais	1	81	770	783	1120	3.01	3.30	6.6	36.6	215	0.30	11.2	2.55
Simmental	9	85	734	790	1185	3.53	3.20	5.6	38.3	208	0.23	13.1	2.40
All bulls	90	81	693	800	1209	3.65	3.12	5.3	37.2	197	0.26	12.5	3.10

Figure 1. MCA/MSU Bull Evaluation Program: Growth Performance by Pen (2018-19)



**Figure 2. MCA/MSU Bull Evaluation Program:
Spring Ultrasound Act. Rib Fat Thickness (2009-19)**



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, 2018 had to meet all requirements of a BSE, except, the normal sperm morphology requirement was lowered to 50% (compared to 70% for those born prior to 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. Six bulls received a second breeding soundness exam before the sale. This included rechecks for white blood cells (WBC; n=5) and testicle abnormality (n=1). Four of five bulls with previous high WBC cleared upon recheck and were offered for sale. The bull with the testicle abnormality was worse, received a deferred status on BSE, and was not offered for sale. **Table 4** 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)**

	Program Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
Bulls passing BSE, total	43	28	21	21	56
Bulls passing BSE, 50 to 69%	6	6	15	15	6
Bulls deferred or failing BSE, total	9	11	13	9	17
Bulls deferred or failing BSE due to semen quality	6	3	11	5	14

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

	Program year				
	2014-15	2015-16	2016-17	2017-18	2018-19
Number of bulls	103	71	103	80	92
Number ineligible for sale	37	17	27	18	29
Reason for ineligibility					
ADG	6	1	6	7	4
ADG-WDA%	--	--	--	--	5
BSE	25	11	15	9	17
Semen quality	19	6	11	7	12
No semen	1	2	1	1	2
Insufficient scrotal	0	0	0	0	0
Genital warts	4	2	2	1	1
Repro structure	1 (sem. vesicle)	1 (testicle degeneration)	1 (penile laceration)	0	2 (testicle edema)
Structure	0	2	2	0	0
Temperament	4	0	1	0	1
Consignor request	2	0	2	0	1
Mortality	0	1	0	0	0
Other	0	2 (broken leg, shoulder abscess)	1 (eye scar)	2 (lethal genetic defects)	1 (lethal genetic defect)

This was the second year that bulls were objectively scored for foot structure in an attempt 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 was scored. The distribution of foot angle and claw set scores are shown in **Figure 3**. At the conclusion of the test, no bulls were identified with extremes in scores that met criterion for removal from the sale offering (<3 or >7). Additionally, all bulls were deemed acceptable for general structural soundness. One bull was removed for temperament.

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

After bulls were culled for all other ineligibility criteria, those cataloged were reduced to 65 by culling the 5 lowest bulls based on the average of ADG and WDA percentiles (85 to 95 percentile). For reference, the next 2 lowest bulls using this criterion were in the sale but did not receive the minimum bid (were no-sales).

Bulls that successfully met all sale criteria were freeze branded with the Bull Evaluation Program brand and fitted. Sale order was determined by 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 2, 2019, to give buyers an opportunity to view bulls and visit with consignors prior to the sale. The culmination of the program was the auction of 63 eligible bulls, at the station on March 16, 2019. All pertinent information was published in the sale catalog, including: consignor contact information, breed, breed percentage, hide color, horn status, registration number, DD status, 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 but two bulls offered for sale were sire-verified. All bulls had genomically enhanced EPDs.

Prior to 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. DVAuction was utilized to offer an online bidding option to buyers. A minimum floor price of \$2,250 was established for the sale, and 58 bulls of the 63 offered for sale, sold at or above the floor price. The historic number of bulls sold and average sale price is given in **Figure 4**.

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

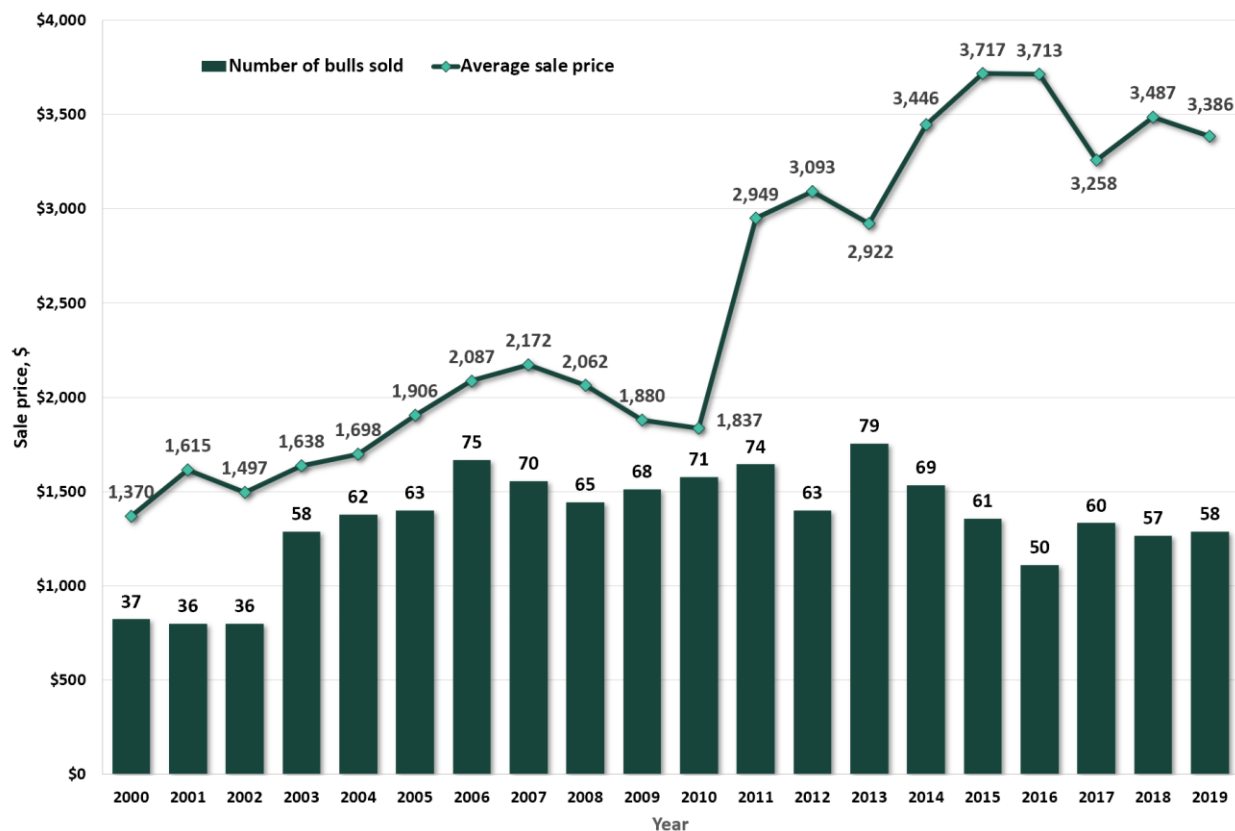


Table 7 includes sale averages for bulls by breed and Table 8 provides details of buyers, including onsite and online bidder numbers. Figure 5 displays the location for the buyers. Figure 6 depicts the open rate and click rate for emails sent to the MailChimp maintained list (n = 270 subscribers). Table 9 provides a summary of the posts placed and boosted on Facebook.

Table 7. MCA/MSU Bull Evaluation Program: Sale Prices by Breed (2018-2019)

Breed	Bulls sold	Sale gross	Average
Angus	33	\$111,250	\$3,371.21
Simmental	18	\$64,550	\$3,586.11
Red Angus	6	\$18,000	\$3,000.00
Charolais	1	\$2,600	\$2,600.00
Total	58	\$196,400	\$3,386.21

**Table 8. MCA/MSU Bull Evaluation Program:
Number of Bidders and Bulls Purchased (5 Year Summary)**

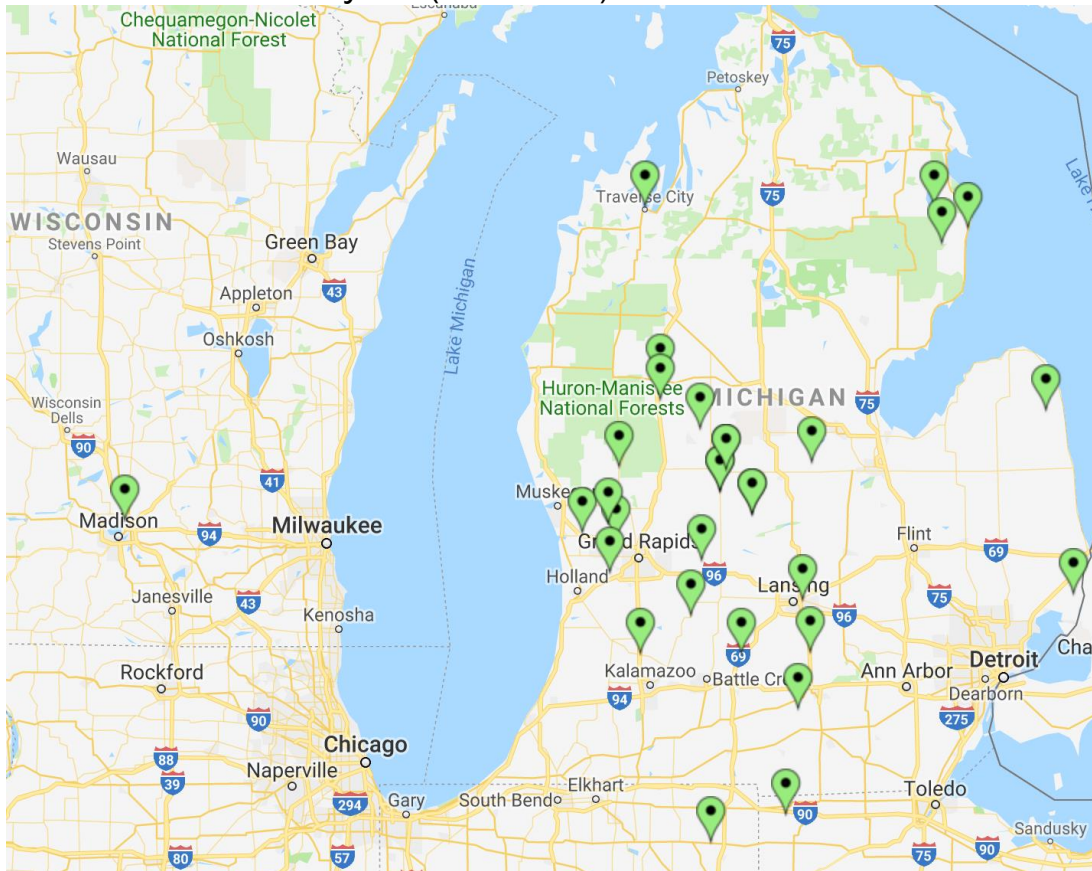
	2015	2016	2017	2018	2019
Total registered bidders	85	76*	77*	82*	67
New registered bidders	34	23*	23*	32*	29
Total bull buyers	51	36	45	47	32
Online bids	n/a	21	48	18	46
Bulls sold online	4	5	7	8	7
Online viewers	136	6**	20**	88**	92**,†

*Does not include internet bidders

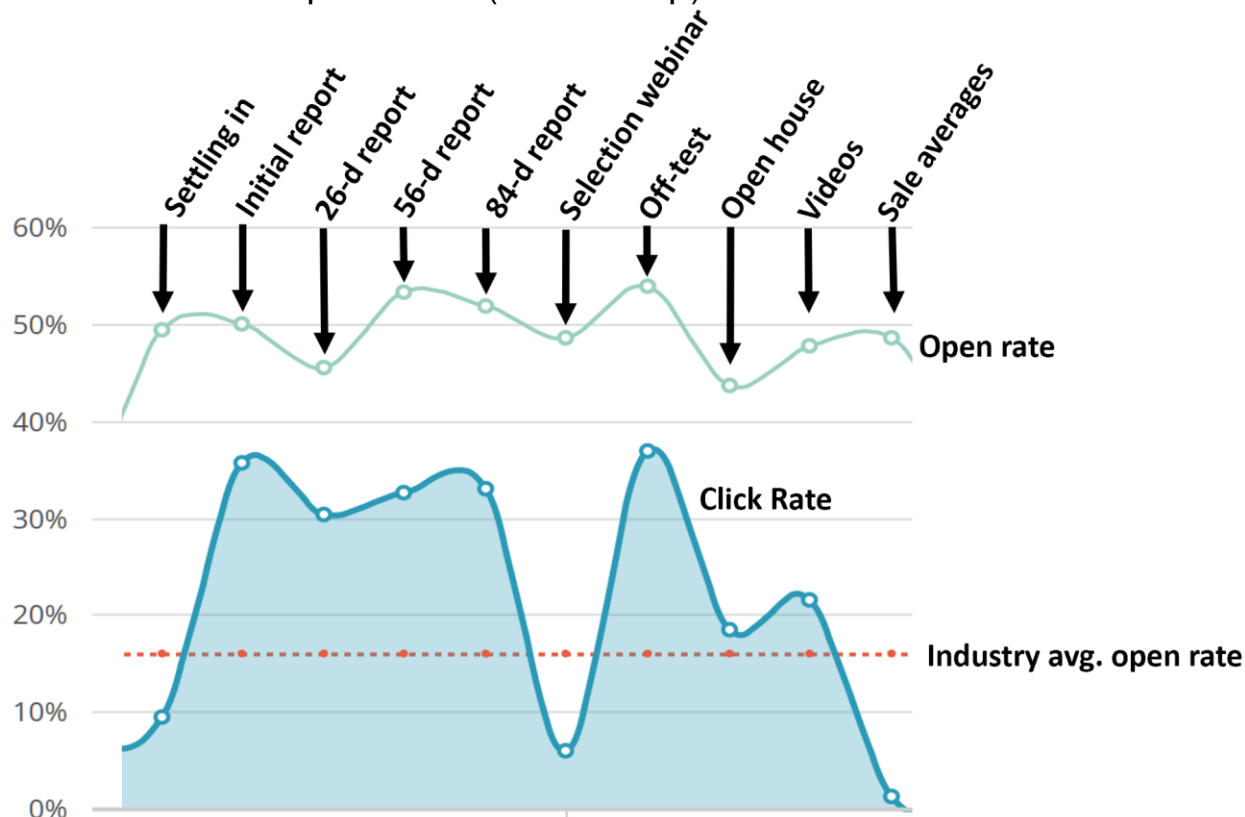
**Viewers that were online for more than 5 minutes.

†Online viewers were from FL (1), IA (1), IL (1), IN (2), KS (3), MI (53), MN (1), MO (3), MS (3), ND (5), NE (8), OH (3), ON (1), PA (1), SC (1), SD (1), TN (1), TX (2), WI (2).

**Figure 5. MCA/MSU Bull Evaluation Program:
Location of Bull Buyers (2018-19)**



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



**Table 9. MCA/MSU Bull Evaluation Program:
Facebook campaigns**

Boost date	Post	People reached	Post engagement	Boosted
3/15/19	MCA-MSU Bull Evaluation Sale Day Forecast: A flurry early in the morning; otherwise, cloudy most of the time; breezy and chilly. High of 37. Let's hear it Spartans...its a BEAUTIFUL DAY FOR A BULL SALE! www.MIBulls.com	1,022	117	\$15.00
3/11/19	WC Honor F313 P consigned by White Charolais sells at the MCA/MSU Bull Evaluation Sale! www.MIBulls.com	1,875	295 thruplays	\$10.00
3/11/19	LACAT COWBOY CUT E20 by Lattimore Cattle Co. is the highest indexing Simmental Bull. He sells March 16 at the MCA/MSU Bull Evaluation Sale. www.MIBulls.com	2,279	403 thruplays	\$10.00
3/11/19	Walnut Spring Farm's WSF JAXON 158Z 33F. This high-indexing Red Angus x Simmental sells on March 16th! http://www.mibulls.com/sale.html	1,767	276	\$10.00
3/9/19	Check out Highbanks Southside A22-F5 - the top indexing bull at the MCA/MSU Bull Evaluation Sale! See all 65 bulls at: https://www.dvauction.com/video_catalogs/4397	17,950	4,090 thruplays	\$88.00
2/26/19	MCA\MSU Bull Evaluation Open House Saturday, March 2, 2019, 10 AM - 2 PM	5,420	63 event responses	\$72.61