

Iowa Beef Industry Council • Iowa State Beef Checkoff Program

Final Report

TITLE

Beef producer education for implementation of technologies to improve reproductive performance of the cow herd.

TIMELINE

July 2025 - June 2026

TOTAL FUNDS SPENT

\$20,532

RESEARCH PRIORITIES

Beef Producer Education and Development

- Understanding and implementation of new technologies

Background

As the U.S. cow herd is at a record low for inventory, there are indications of local expansion for the Iowa beef herd (USDA-NASS, 2025). As producers consider expansion, the need to grow the cowherd without compromising genetic advancement requires the utilization of strategies to improve reproductive efficiency. A prime management tool available for genetic advancement is artificial insemination (AI) although its use remains low in the U.S. with only 11% of beef producers implementing it (USDA, 2020). Implementation has lagged due to cost, labor requirements, and lower conception rates from AI compared to natural service. The success of AI programs hinges on the ability and knowledge for effective heat detection and execution of estrus synchronization protocols (Mercadante et al., 2024). Increasing the understanding of estrous cycles, synchronization protocols, and subsequent impacts on reproductive efficiency as well as informing producers on the latest research and technology could improve conception and adoption of AI.

With these factors in mind, the Iowa Beef Checkoff funded an ISU proposal for the following objectives:

1. Deliver quality education programming to Iowa beef producers on beef reproductive, specifically artificial insemination and strategies to improve reproductive efficiency through a series of meetings that emphasize hands-on learning.
2. Equip the Iowa Beef Center with teaching tools that foster an effective, interactive learning environment for Iowa beef producers striving to improve the reproductive efficiency of the cowherd.

Program Outputs

Objective 1: Five “Breed Back Better Workshops” were hosted in different regions of Iowa. These 3-4 hour programs featured a life-size beef breeding simulator to practice basic AI skills and concepts. These workshops were held in January of 2026 in Creston, Dunlap, Fairfield, Hampton and Calmar. In total, 114 attendees participated in workshops on tools to improve reproductive success, appreciation and depreciation of the cowherd, benchmarking your herd, and a short beef market outlook. In addition to practicing with a life-sized breeding simulator, producers took a set of calving and breeding records to summarize key performance indicators and compare herd performance to industry benchmarks. Producers were also challenged to think about the value of a female in the herd over her lifetime, and identify where true appreciation and depreciation occur to leverage the knowledge for sound financial management decisions. These programs secured additional sponsorships from Ever.Ag, and ABS Global as well.

Objective 2: The Iowa Beef Center purchased the Bovine Breeder™ AI Simulator from Reality works. The simulator facilitated hands-on interactive learning and fostered an environment to encourage discussion from workshop attendees. For attendees who had never used AI or were

considering AI, the simulator provided an opportunity to experience palpation and AI in a low-risk environment.

Outcomes

Evaluation data was compiled from 82 attendee responses. One topic emphasized in the program was the utilization of artificial insemination of the cow herd for genetic progress. Although 25% indicated that they do not plan to use AI in their cowherd, 100% of respondents indicated an intent to utilize estrus synchronization in the future. When asked to rate their knowledge change on topics with a 1 – 5 scale, respondents increased their knowledge on appreciation and depreciation by 1.3 points, increased their knowledge on how to benchmark their herd to evaluate performance by 1.2 points, and increased their knowledge on practical tools for improving reproductive success by 1.3 points.

All respondents also indicated an intent to implement management strategies to shorten calving distribution, improve record keeping for utilizing benchmarking and better decision making, and to modify heifer and cow retention to manage true depreciation costs.

When asked what the estimated dollar value attendees expected to see retained or generated based on the knowledge gained during the program, survey respondents indicated an average expected return of \$1350 or approximately \$14/breeding female. Of the 46 that responded to this question, 65% indicated a range of \$5-20/head, with 24% estimating an impact over \$20/head. In total, this reflected a \$62,000 impact on the 46 respondents when accounting for the number of breeding females each respondent influences annually. If that result is extrapolated to estimate the economic impact of the entire 114 attendees, that would equate to \$153,900.

In the coming years, this impact is expected to increase. Producers were asked how many cows they would calve in 2026, 2027, and 2028 in order to gauge intentions to expand the regional cow herd. None of the respondents indicated that they intend to decrease herd numbers in the next three years. Only 14 of the 46 respondents said that they do not have an intent to expand the herd. The respondents indicated a ~30 head increase, from an average of 100 cows to 128 cows from 2026 to 2028.

Registration cost attendees \$20. After program costs were covered, an additional \$1,750 was generated. As stated in the proposal, this revenue generation is being used to expand the equipment the Iowa Beef Center has to further beef reproduction education in Iowa. One being a kit with different model cervix's that can be used in tandem with the AI breeding model.

This program also led to the development of additional reproduction focused education coming to Iowans. Extension specialists leading this effort utilized this program experience to apply for and secure a Risk Management Education Grant to develop another program series and excel based decision tool designed to help Iowa producers reach reproductive efficiency goals in their cowherds.

Spending report

Spending categories	Budget	Balance
Equipment	5,000	\$326.00
Salary/Wages	9,914	\$56.52
Payroll Benefits	3,633	(\$56.53)
Supplies/Materials	1,000	\$318.86
Travel	1,287	(343.19)
Total	20,834	\$301.66

Photos on following page.



Large group sessions covered a market outlook and using benchmarks for data driven decisions.



Small group activity for producers to calculate appreciation & depreciation over a cow's lifetime.

Eval answers: What ideas did you learn about today that you plan to use or implement in the future?...

“ Learned about & want to use a CHAPS format for record keeping. The appreciation/depreciation is something I HAVE ALWAYS THOUGHT about, but never put it on paper. Plan on doing it yearly now. ”

“ New way to look at herd and profit . ”

“ More structured understanding of hidden costs to better understand economics of my operation ”

“ Excel AI program very handy, there are some other record keeping methods might look into just from view and listening ”



At all meetings, Randie Culbertson led each attendee through a simulated AI scenerio.



In small groups, attendees designed multiple breeding plans using the Estrus Sync planner.