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Cattle Pregnancy Determination Clinics Aim to Improve Reproductive Efficiency for Cattle Producers

Abstract

Profitability in beef cattle operations is driven by a cow's ability to produce and wean a calf annually. The LSU AgCenter's Cattle Pregnancy Determination Clinic is a one-day program that teaches multiple methods of pregnancy determination to assist producers in effectively making culling decisions and improving reproductive efficiency. A follow-up survey illustrated an 18% average increase in adoption of best management practices, with 52% of respondents reporting improved herd profitability. Strong participant feedback and widespread implementation underscore the clinic's success and the importance of its continuation.

Abbreviations: Louisiana State University Agricultural Center – LSU AgCenter

Keywords: cattle, pregnancy determination

Introduction

Profitability in both commercial and seedstock cow-calf operations is directly impacted by a cow's ability to wean a calf. An open cow, or one that fails to wean a calf,

drastically reduces profitability as she costs money to maintain while failing to produce a product. However, according to the United States Department of Agriculture (USDA) in 2017 only 19.3% of beef cattle operations implement pregnancy determination via rectal palpation, 3.5% utilize blood tests for pregnancy determination, and 8.8% determine pregnancy via ultrasonography (United States Department of Agriculture, 2020). These data, combined with repeated requests for education of pregnancy determination techniques from Louisiana producers, illustrated the need for an extension program focused on methods of pregnancy determination in cattle. Therefore, in 2019, the LSU AgCenter launched the one-day Cattle Pregnancy Determination Clinic. Key objectives of this program are to (1) gain basic knowledge in the techniques of rectal palpation, blood sample collection, and ultrasonography for pregnancy determination, and (2) understand the economic importance of implementing pregnancy determination in a beef cattle herd. It is important to note that this program is designed to assist producers in pregnancy determination for their own cattle to make effective culling decisions and improve overall reproductive efficiency of their herd.

Methods

This Cattle Pregnancy Determination Clinic is a one-day program that features foundational classroom lectures followed by a practical, hands-on lab. Demand for this course has led to it being offered twice, annually. Course enrollment is limited to 15 participants due to classroom size, as well as the number of stanchions and cattle available. Morning classroom lectures cover topics such as reproductive anatomy and physiology, the principles behind each method of pregnancy determination, as well as health and nutritional management strategies for enhancing reproductive efficiency. Classroom learning is enhanced using a bovine pregnancy simulator and reproductive tracts collected from a slaughterhouse. The laboratory component is designed to allow practice of (1) the basics of detecting pregnancy through ultrasonography, (2) the skills necessary to determine pregnancy via rectal palpation, and (3) the ability to collect blood through coccygeal venipuncture for analysis. Finally, it is essential that

participants possess a firm understanding of the Louisiana Veterinary Practice Act [La. R.S. 37:1511-1558] as it relates to diagnosis of pregnancy.

The Louisiana Veterinary Practice Act [La. R.S. 37:1511-1558] recognizes the determination of pregnancy status as a medical or veterinary diagnosis. Therefore, only veterinarians licensed in Louisiana may determine pregnancy in cattle for others. However, a producer may determine the pregnancy status of their own cattle. To educate participants on this, participants are required to sign a document stating their understanding of the Louisiana Veterinary Practice Act and that they will only utilize the knowledge gained from the Pregnancy Determination Clinic within their own herds. Additionally, local veterinarians serve as instructors during the program.

Post-clinic evaluation

At the conclusion of each Pregnancy Determination Clinic, participants are asked to complete an evaluation reviewing their experience, with an average completion rate of 94.25%. The evaluation includes five (5) questions and a concluding section for additional responses. The five (5) questions include:

- What part of the clinic did you feel was most beneficial to you?
- What part of the clinic, if any, did you feel was not of benefit to you?
- Were any areas that were not covered in the classroom sessions that you would have liked addressed?
- Please rank your overall impression of the clinic and how they would rate in on a scale of 1 to 10 with 1 being poor and 10 being great.
- How likely you are to use the practices in your cattle operation using a scale of 1 to 10 with 1 being not likely and 10 being very likely?

Follow-up survey

Previous participants of the Cattle Pregnancy Determination Clinics from 2019 through 2024 were contacted via email to request participation in a follow-up survey. A single reminder email was sent fourteen (14) days following the initial email and the survey closed fourteen (14) days following the reminder email. The survey was comprised of ten (10) questions and presented through Qualtrics software (Qualtrics, Provo, Utah). Additionally, a text box was included at the end for any comments participants wished to leave. Questions and their format are presented in Table 1. Answers to each question were not required or forced. Therefore, some questions were not answered by all participants. This survey was approved by LSU AgCenter's Institutional Review Board (IRB).

Table 1. Questions Included in Post-Clinic Evaluation Survey

Item	Question Text	Response (Page 1 of 2)
1	In what year did you attend the LSU AgCenter's Pregnancy Determination Clinic?	Multiple choice; single answer (2019; 2020; 2021; 2022; 2023; 2024; I cannot remember.)
2	Prior to taking the Pregnancy Determination Clinic, were you implementing any of the following management practices in your beef cattle operation?	Multiple choice; select all that apply (palpation for pregnancy determination; ultrasound for pregnancy determination; blood testing for pregnancy determination; breeding season of 90 days or less; record individual body condition; utilize EPDs or genetic markers as a selection tool; breeding soundness exams on bulls; separate and feed animals based on nutritional requirements)
3	After taking the Pregnancy Determination Clinic, were you implementing any of the following management practices in your beef cattle operation?	Multiple choice; select all that apply (palpation for pregnancy determination; ultrasound for pregnancy determination; blood testing for pregnancy determination; breeding season of 90 days or less; record individual body condition; utilize EPDs or genetic markers as a selection tool; breeding soundness exams on bulls; separate and feed animals based on nutritional requirements)

Item	Question Text	Response (Page 2 of 2)
4	After completing the Pregnancy Determination Clinic, who checks for pregnancy in your herd?	Multiple choice; select all that apply (I pregnancy check my own cattle; I hire a veterinarian; I do not check for pregnancy status.)
5	When do you determine pregnancy status in your cattle?	Multiple choice; select all that apply (after each breeding season; after weaning calves; only in cattle I plan to cull or sale; I do not check for pregnancy status; Other)
6	Did your profitability per head increase as a result of attending the Pregnancy Determination Clinic?	Multiple choice; single answer (yes; no; unsure)
7	If yes to the question above regarding increased profitability, please estimate how much profitability increased per head.	Multiple choice; single answer ($50 or less; $51-100; $101-150; $151-200; $201 or more; unsure)
8	Years Involved in Beef Cattle Production:	Multiple choice; single answer (5 or less; 6 to 10; 11 to 20; 21 to 49; 50 or more)
9	Type of Beef Cattle Operation:	Multiple choice; select all that apply (purebred/seedstock; commercial cow-calf; backgrounder/stocker; feedlot/finisher; retail fresh or frozen beef; other)
10	Average Number of Breeding Age Cattle per Year:	Multiple choice; single answer (10 or less; 11 to 25; 26 to 50; 51 to 100; 101 to 500; 501 to 1,000; 1,001 or more)

Results

Post-clinic evaluation

Together, the first ten (10) Clinics resulted in 123 participants completing the program. When asked to rate their likelihood of implementing pregnancy determination in their herd following completion of the program (Figure 1.; 1 = not likely and 10 = very likely), 83% responded “10,” 3.5% responded “9,” 5.5% responded "8,” and 8% responded "7.” When asked to rate overall impression of the clinic on a scale of 1 to 10 (1 = poor and 10 = great), 77.6% responded “10,” 21% responded “9,” 1% responded "8,” and less than 1% responded "7.”

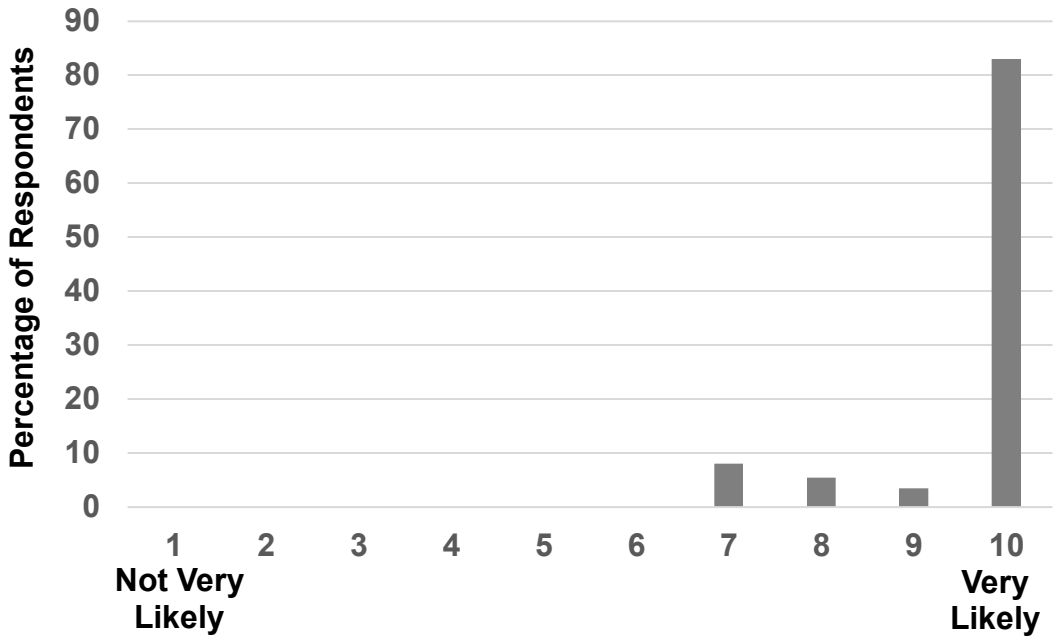

Figure 1. Likelihood of Participants Implementing Pregnancy Determination Following Completion of the Program.

When asked which portion of the program was most beneficial, most responses were reflective of this selected comment, “The hands-on part only because it tied into the classroom part and made a better understanding.” The only responses on topics of no benefit included one regarding the nutrition portion, and one saying blood collection

because they already had that knowledge. The inclusion of a chute-side pregnancy test demonstration and more information on herd health were requested for future clinics and then incorporated into the program in 2024.

Follow-up survey

From 2019 to 2024, a total of 136 participants completed the clinic. Of those 136 participants, four (4) did not list an email address when registering and 12 email addresses were invalid. This left 120 participants which received the evaluation survey. A total of 29 surveys were completed, equaling a 24% response rate.

Demographics

Most respondents run commercial cow-calf operations (83%) and/or purebred seedstock operations (35%). Likewise, 70% of participants own 100 head or less of breeding age cattle. This is consistent with the 2017 Census of Agriculture data illustrating that operations with fewer than 100 beef cows comprise 90.1% of all beef cattle operations in the United States (National Agricultural Statistics Service, 2019). Cattle operation demographics of all respondents are highlighted in Table 2.

Table 2. Cattle Operation Characteristics of Respondents

Item	Number of Respondents (n = 29)	Percent of Respondents
Years Involved in Beef Cattle Production		
5 or less	3	13%
6 to 10	3	13%
11 to 20	5	22%
21 to 49	11	48%
50 or more	1	4%
Type of Beef Cattle Operation		
Purebred/Seedstock	8	35%
Commercial Cow-Calf	19	83%
Backgrounder/Stocker	2	9%
Feedlot/Finisher	1	4%
Retail Fresh or Frozen Beef	3	13%
Other	1	4%
Average Number of Breeding Age Cattle per Year		
10 or less	2	9%
11 to 25	2	9%
26 to 50	8	35%
51 to 100	4	17%
101 to 500	6	26%
501 to 1,000	1	4%
1,001 or more	0	0%

Implementation of management practices

Overall, follow-up survey illustrated an 18% average increase in adoption of best management practices. Table 3 indicates the overall increase in adoption of each best management practice taught during the program.

When asked who was responsible for determining pregnancy after completion of the program, 16 participants (70% of respondents) stated that they checked their own cattle, 9 participants (39% of respondents) stated that they hire a veterinarian, and 2 respondents (9% of respondents) stated that they still do not check pregnancy status of their cattle (Figure 2). Of those respondents that do determine pregnancy status in their herds, the majority (57%) check after each breeding season, 43% check after weaning calves, 17% only check cattle they plan to sell, and 9% responded with “other” times (Figure 3). It is important to note that respondents could select more than one answer to these questions.

Table 3. Implementation of Management Practices Prior To and After Attending the Pregnancy Determination Clinic

Management Practices	Prior To (%)	After (%)	Increase (%)
Palpation for pregnancy determination	50	74	24
Ultrasound for pregnancy determination	5	17	12
Blood testing for pregnancy determination	35	70	35
Breeding season of 90 days or less	40	65	25
Record individual body condition scores	25	35	10
Utilize EPDs or genetic markers as a selection tool	35	39	4
Breeding soundness exams on bulls	65	83	18
Separate and feed animals based on nutritional requirements	15	30	15

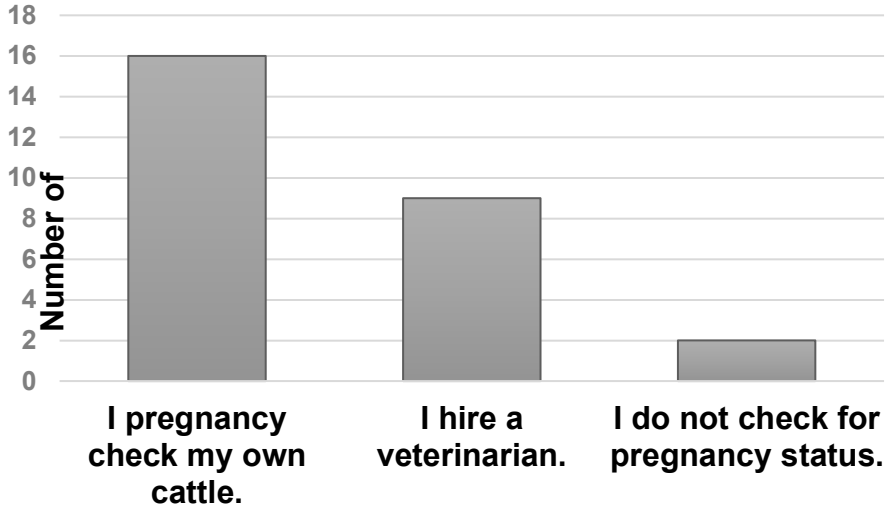

Figure 2. Person Responsible for Pregnancy Determination in Participant's Herd After Completion of the Pregnancy Determination Clinic

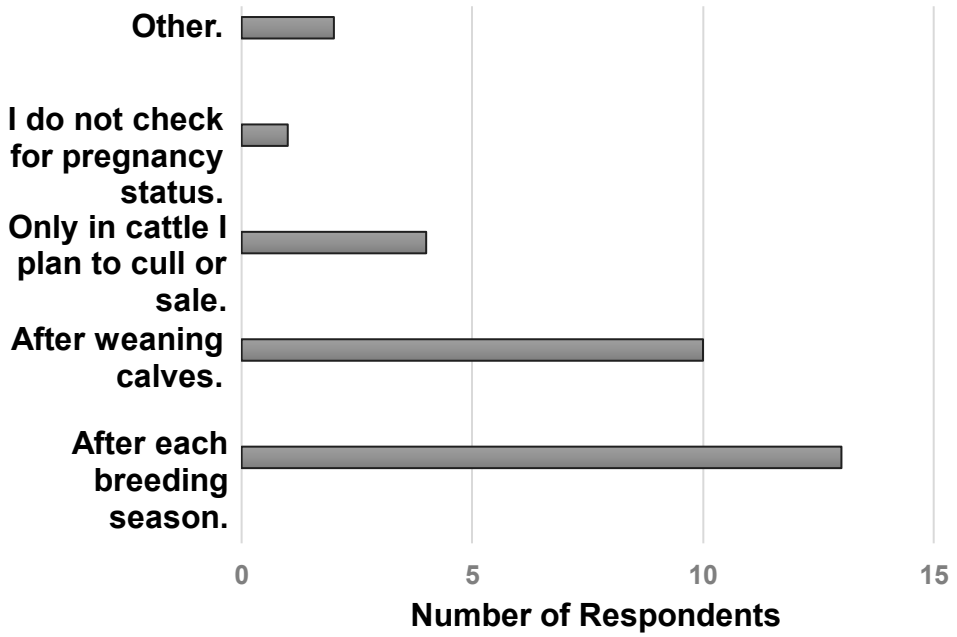

Figure 3. Timing of Pregnancy Determination within Participants' Cattle Operations

Profitability

Twelve respondents (52%) stated their profitability per head increased as a result of attending the Pregnancy Determination Clinic (Figure 4). Only 2 respondents (9%) stated that their profitability did not increase, while 9 respondents (39%) were unsure if profitability increased per head.

When asked to estimate the amount of increased profit seen per head following completion of the program, 3 respondents (16%) said $50 or less, 1 respondent (5%) said $51 to $100, 2 respondents (11%) said $101 to 150, 1 respondent (5%) said $151 to 200, 2 respondents (11%) said $201 or more, and 10 respondents (53%) were unsure (Figure 5).

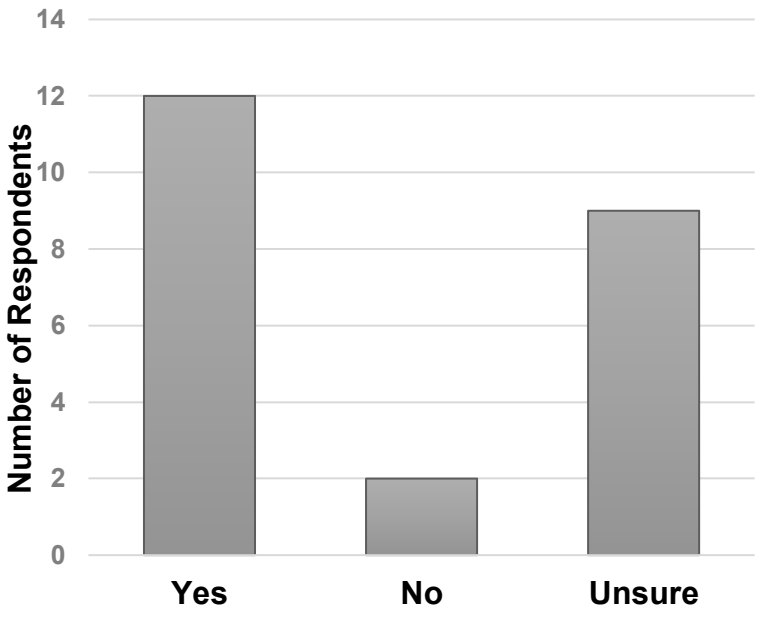

Figure 4. Number of Respondents that Indicated an Increased Profit Following Participation in the Cattle Pregnancy Determination Clinic

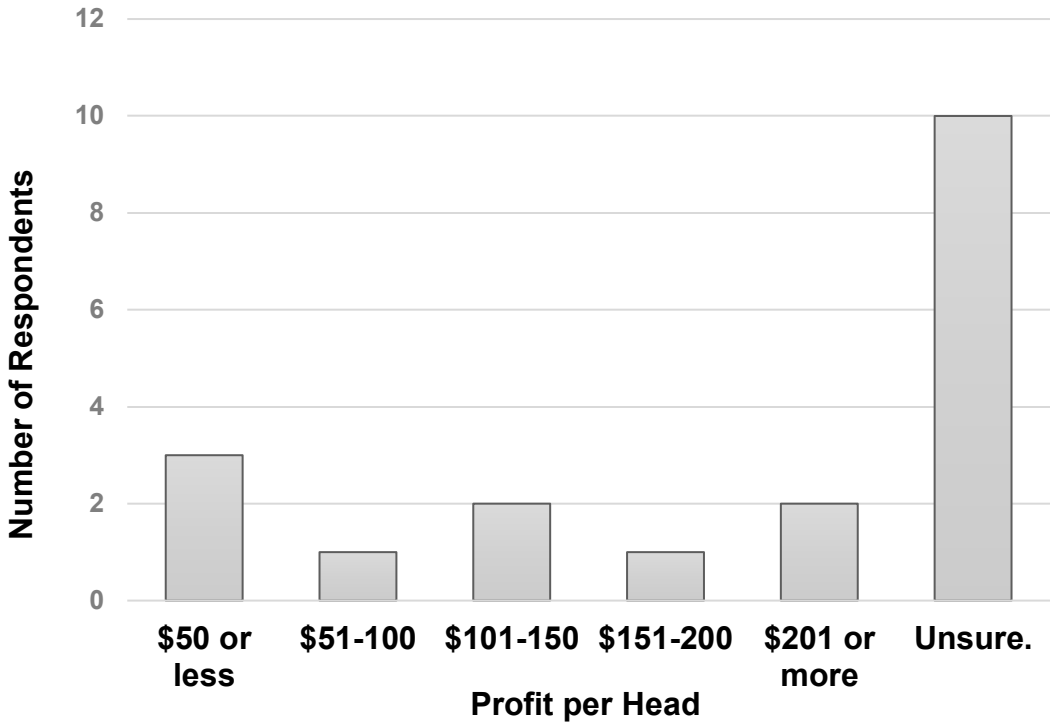

Figure 5. Estimated Increased Profit per Head After Completing the Pregnancy Determination Clinic

The follow-up survey concluded with the statement, “Please provide any additional information or comments regarding your experience with the LSU AgCenter's Cattle Pregnancy Determination Clinic.” Responses to this included:

- “Very nice class. Very thorough. Plenty of teachers nearby for help. Enjoyable atmosphere.”
- “A really great experience for cattle producers throughout Louisiana and beyond.”
- “Did not check prior to class. After class I checked 1st and 2nd trimester and did blood just to verify and I was 100% on results. The instructors were awesome.”
- “Excellent program, would like to take again as a refresher.”

Discussion

Nationally, only 19.3% of beef cattle operations reported the implementation of pregnancy detection via rectal palpation, 3.5% utilize blood tests for pregnancy determination, and 8.8% determine pregnancy via ultrasonography (United States Department of Agriculture, 2020). The reasons cited by producers for their minimal use

of pregnancy determination methods include labor and time, cost, a lack of facilities, and some believing it is too difficult or complicated (United States Department of Agriculture, 2009). The Cattle Pregnancy Determination Clinic aims to educate producers on the cost effectiveness of pregnancy determination, as well as teach the various methods that may be utilized. Through teaching the various methods of pregnancy determination available to cattle producers, participants can decide which method(s) are best suited for their operation based on their facilities and labor availability.

The idea of cost being a deterrent for pregnancy determination may be quickly dispelled through educating producers on the value of their cattle, estimated operating expenses, and low cost of pregnancy determination. In fact, the estimated cost of pregnancy determination ranges from $3 to 15 per head in beef cattle (Edwards, 2023). When compared to the cost of maintaining an open cow, it is obvious that it is cost effective to determine pregnancy status. Conversely, educating cattle producers on the methods of pregnancy determination can prove to be more difficult. Yet, a considerable waitlist for the LSU AgCenter's Cattle Pregnancy Determination Clinic illustrates their willingness to learn.

Estimated total direct costs of a beef cow in Louisiana in 2025 range from $340.81 to $997.94, with total income per head estimated at $1,203.62 (Guidry and Edwards, 2025). Therefore, implementing pregnancy determination methods and the sale of open cows can save a producer an estimated $340-997 per head when only considering costs of maintaining an open cow. This is further supported by 52% of survey respondents estimating an increased profit per head following completion of the Cattle Pregnancy Determination Clinic. Conversely, 39% of respondents were unsure if profitability increased per head. It is not uncommon for producers to be unsure of the costs associated with their cattle operations. This potentially illustrates the future need for extension programs associated with financial record keeping. Knowing financial costs can have a profound impact on adoption rate of various management practices and technologies.

Overall, demographics of producers enrolling in the Cattle Pregnancy Determination Clinic are reflective of all beef cattle operations in the United States (National Agricultural Statistics Service, 2019). Although only 70% of respondents to the follow-up survey stated they were responsible for determining pregnancy status of their cattle, an overall increase was seen in the implementation of pregnancy determination methods. Respondents reported a 24% increase in the implementation of palpation, a 12% increase in use of ultrasonography, and a 35% increase in blood testing for pregnancy determination. Importantly, increased implementation in other best management practices associated with reproductive efficiency was reported. This included 25% increase in respondents reporting a breeding season of 90 days or less, 18% increase in breeding soundness exams on bulls, and 15% increase in separation of animals to feed based on nutritional requirements.

As discussed, pregnancy determination allows producers to identify and remove non-pregnant cows, consequently improving reproductive efficiency. A defined breeding season streamlines calving, improves labor management, and produces uniform calf crops that are more marketable. Conducting breeding soundness exams ensures bulls are fertile and capable, again improving reproductive efficiency. Tailoring nutrition to each animal's body condition and production stage optimizes feed use, improves fertility, and supports overall herd health. Collectively, implementation of these best management practices can improve both sustainability and profitability of beef cattle operations by optimizing reproductive efficiency, reducing input costs, and enhancing herd health, productivity, and longevity.

Conclusion

The Cattle Pregnancy Determination Clinic has consistently received positive evaluations for its first six years. Moreover, an 18% average increase in adoption of best management practices and 52% of respondents reporting improved herd profitability is indicative of direct impact on individual beef cattle operations. This encouraging feedback is coupled with a waitlist of cattle producers interested in

enrolling in the program. Thus, the Pregnancy Determination Clinic, along with other programs such as the Louisiana Producer Artificial Insemination School, will continue to be offered with the objective of assisting producers with enhancing reproductive efficiency and profitability in their cattle herds.

Literature Cited

Edwards, Ashley K. 2023. Pregnancy Determination in Beef Cattle. Louisiana State University Agricultural Center. https://www.lsuagcenter.com/articles/page1684937777813.

Guidry, K.M. and A.K. Edwards. 2025. Projected Costs and Returns Enterprise Budgets for Beef Cattle and Associated Forage Production in Louisiana, 2025. Louisiana State University Agricultural Center. Agricultural and Economic Information Report Series No. 384. https://www.lsuagcenter.com/~/media/system/5/3/f/5/53f5e94d55f30ab6963ed24f5fa966c4/2025%20beef%20cattle%20and%20forage%20enterprise%20budgetspdf.pdf.

National Agricultural Statistics Service. 2019. 2017 Census of Agriculture: United States Summary and State Data. United States Department of Agriculture. https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_US/usv1.pdf

United States Department of Agriculture. 2009. Beef 2007-08 Part II: Reference of Beef Cow-calf Management Practices in United States, 2007-08. National Animal Health Monitoring System. https://www.aphis.usda.gov/sites/default/files/beef0708_dr_partii.pdf.

United States Department of Agriculture. 2020. Beef Cow-Calf Management Practices in the United States, 2017. National Animal Health Monitoring System. https://www.aphis.usda.gov/sites/default/files/beef2017_dr_parti.pdf