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When times are tough each and every management decision matters. Considering major management decisions largely depend on pregnancy in the beef industry, early and accurate detection can serve as competitive advantage. With additional days gained by diagnosing earlier can add to the producer's bottom dollar. Open cows can be quickly returned to breeding programs and or be sold at the peak of open heifer market, before the cow is too old or the market drops. The end result of early detection is improved production, less cost and more profit.

Pregnancy detection in the beef industry ranges from simply observing signs of estrus (heat), to rectal palpation, and more increasingly ultrasonic technology. Although the observation method is inexpensive, the extensive time commitment it requires pushes many producers to find faster methods. More accurate and less time consuming, rectal palpation is still one of the most relied upon form of early pregnancy detection for many beef producers. A less invasive form of detection in use now, more than ever, is ultrasonic applications of ultrasounds. The high cost and extensive training are still limiting factors for smaller operations.

The bottom line is pregnancy detection procedures should be easy to perform, inexpensive, highly accurate and fast. BioTracking LLC, Moscow, Idaho now offers producers with just that; a fast, accurate, non invasive, economical pregnancy detection procedure called BioPRYN® (Pregnancy Ruminant Yes/No). BioTracking was founded and developed by former University of Idaho Professor Garth Sasser. BioPRYN® is a blood pregnancy test, which measures the presence of pregnancy specific protein B (PSPB) found in the blood of pregnant animals. What sets this test apart from previous attempts of testing through blood or milk is the fact that PSPB is a protein is produced only by the placenta of the growing fetus. Therefore pregnant animals will have the protein in their blood. "Testing for protein B from the placenta is what allows this test to be so much more accurate," said Dr. Kim Brown of Bedford, IN. Brown went on to explain their lab results range 95%-99% accurate. Brown practices out of the Bedford Veterinary Labs which is the only Indiana affiliated lab, but the lab does add to the total of 19 labs across the nation.

This test is not only accurate but, fast too! BioPRYN can detect the presence of PSPB as early as 30 days

USE
EARLY PREGNANCY DETECTION

TO
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after insemination. Lactating cows can also be detected at 30 days after breeding, but because residual PSPB does remain in the blood until 90 days after calving the cow must be also 90 days into milk. Cows bred 60 days after calving can be tested at 30 days post-breeding, seeing that it would be 90 days after calving. "A good vet can give you about the same results, but at 30 days when compared to a rectal palpation the test is more constantly accurate," says Brown. From laboratory set-up to reporting the test only takes 27 hours. If the lab receives the samples by noon results ready the next working.

This test proves to be all three: accurate, fast and even economical. Tight calving seasons and even tighter budgets force producers rely on early and accurately confirmed pregnancies. The test itself costs \$2.25 plus the cost of a sample tube, needle and shipping. When comparing the cost of palpation and the BioPRYN test, the accuracy of the BioPRYN® test saves the most net dollars. Inaccurate detection of cows ultimately costs the owner money. Cows that are pregnant but, diagnosed non-pregnant and then induced with hormones will abort

the fetus, which ultimately results in net loss. Rectal palpation can also result in loss, due to embryonic injury. Unlike rectal palpation, the test serves as non-invasive approach eliminates any loss due to invasive injuries caused by palpation.

Industry Use

On a large scale the economics of the test prove to be an advantage. When compared to rectal palpation the blood testing is requires less experience, is less invasive and still cost less. Eliminating rectal palpation also frees up more time; the amount of time and level of effort palpation takes is no comparison to the quick and easy method of blood drawing.

Industry use is on the rise according to BioTracking. Despite tough economic times the numbers indicate that the demand for the data bioPRYN can provide is at all time high in the reproductive management programs for cattle. In 2008, the first quarter cattle numbers assayed were 103,612. In 2009, the numbers have grown to stand at 129,362 without the last two days in March.

The Process

The user-friendly approach Sasser developed allows producers, managers, and on-farm personnel to simply draw blood from tail vein and ship blood samples themselves. This allows producers to get results sooner rather than waiting and trying to work around their vet's schedule.

The process begins by drawing the blood from the tail vein. Samples should be at least 2 mL per animal in individual vacuum tubes and must be labeled with the animal's identification number. To avoid cross-contamination it is important to draw samples using individual, disposable needles (1 inch, 18 or 20 gauge).

The starter kit offered on the BioTracking Web site provides producers with all necessary tools for about \$15.00. The starter kit is a practical way to go the first time, it includes; needles, vacutainer tubes, needle holder, submittal form, postal shipping instructions, tube labeling instructions.

The samples should then be packaged in a well-padded container. No ice is needed. If you already have all the supplies remember, a submittal form must be enclosed with the samples, it can be downloaded from the BioTracking Web site, www.biotracking.com. Visit this site for more information about the process.

Results

In times of economic instability, the bottom line is what it all comes down to. In most livestock operations, culling infertile may be the number one decision that affects the bottom line. Early detection allows producers to sell open animals earlier, therefore saving feed costs, and increase profits by selling culled animals in a higher market. Early detection can cut cost by improving herd synchronization.

"This is a great tool for those producers with aggressive breeding programs, it can save wasted months of feed," says Brown. "The main advantages are being early and accurate."

The end result: more cows pregnant, less loss and more profit for producers.