Methods to Determine Pregnancy

There are several alternatives to determine pregnancy.

*by **Kasey Brown,** associate editor*

Reproductive Strategies

Knowing whether cows are pregnant is incredibly useful for making management decisions, and there are several methods to determine pregnancy, Dee Whittier, professor and Extension veterinarian for Virginia-Maryland Regional College of Veterinary Medicine, told attendees of the 2013 Applied Reproductive Strategies in Beef Cattle (ARSBC) Symposium in Staunton, Va., Oct. 15-16.

Whittier described four methods of determining a cow's pregnancy status, starting with rectal palpation. In open cows and very early in a pregnancy, the bovine reproductive tract is small enough to manipulate and close enough to examine through the rectum, he noted, explaining that by feeling for the "membrane slip," veterinarians can feel whether a cow is pregnant 65 days into a pregnancy.

Whittier mentioned four golden rules for rectal palpation:

- You must examine the entire tract before declaring the cow open.
- You must find one of the positive signs of pregnancy before you call a cow pregnant.
- Pregnancy examination must always be the first step in your examination. If you are not sure, recheck the cow later.
- The only positive signs of pregnancy in the cow are a fetus, cotyledons/caruncles, amniotic vesicle and fetal membrane slip.

Rectal ultrasound is another means to determine pregnancy status, said Whittier. The technology has gotten to be affordable and portable enough to be done chuteside. Ultrasound could allow pregnancy detection at 25 days, though it is clearer at 30 days or later. It is also possible to determine the sex of the fetus with this method.

BioTracking LLC provides a blood test to detect pregnancy called bioPRYN, which stands for Pregnant Ruminant Yes No, Whittier explained. The test, developed by Garth Sasser, detects a pregnancy-specific protein B (PSPB) from the placenta. Genex has a test called DG29, which is said to detect pregnancy at 29 days. Both of these tests require blood samples to be sent to the respective company's lab, he said.

The IDEXX Visual Pregnancy Test allows a veterinarian to buy a testing kit, perform the test in a controlled environment (like the vet clinic) and make a diagnosis quickly. Whittier said that IDEXX also has a milk test, which is useful in the dairy industry, that screens the milk for a specific protein.

Test pros and cons

As to deciding which test is best, "best" must first be defined for your operation, Whittier said, offering controlled research showing mistakes can be made with each method. He described advantages and disadvantages of each method.

Rectal palpation advantages include immediate diagnosis, which allows for quicker management decisions. Little equipment is needed. The technician can estimate the stage of pregnancy, offer some assessment of fetus viability and offer a good to fair assessment of the normality of the fetus. Rectal palpation is also low to moderate in cost.

►There are four methods to determine pregnancy, said Extension veterinarian Dee Whittier. These include rectal palpation, ultrasound and two types of blood test.

PHOTO BY SHAUNA ROSE HERMEL

Its disadvantages include being invasive; a very long learning curve for the technician; potential for damage to dam or fetus; availability of veterinarian or technician; and potential for error.

Ultrasound advantages include immediate diagnosis for quick management decisions, staging of pregnancy, and excellent assessment of viability and normality of the fetus and dam. However, it also is invasive.

► **Extension veterinarian Dee Whittier described four methods of determining a cow's pregnancy status, detailing the pros and cons of each method.**

It involves expensive equipment and a long learning curve for the technician. There is potential to damage the dam and/or the fetus, potential for error, and it could take more time. The cost is moderate to high, and availability of a qualified veterinarian or technician could cause complications and extra planning.

Blood tests are noninvasive. Less skill is needed and the blood can be drawn when no technician or veterinarian is available. The equipment to perform the test is relatively inexpensive equipment, there's a shorter learning curve and probably less potential for error. However, it has a moderate to high cost and offers no immediate diagnosis, no staging of pregnancy, and no assessment of viability or normality.

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Editor's Note: *Whittier spoke during the ARSBC session focused on special issues on beef cattle reproduction. Visit the Newsroom at* www.appliedreprostrategies.com/2013 *to listen to his presentation and to view his PowerPoint slides and proceedings paper. Comprehensive coverage of the symposium is compiled by the* Angus Journal *editorial team. The site is made possible through sponsorship by the Beef Reproduction Task Force.*