

Pregnancy Determination in Beef Cattle

Matthew Burns, PhD. - Extension Animal Scientist - Beef Specialist

Pregnancy diagnosis is a valuable tool to be used to identify those cattle that are open (non-pregnant). Non-pregnant cattle need to be identified as soon as possible after the breeding season in order for culling decisions to be made. I will discuss three procedures to diagnose pregnancy.

Rectal palpation is a simple procedure that requires little time or equipment to determine pregnancy. Most large animal veterinarians can perform this procedure. Rectal palpation can be performed accurately 35 d from the time of breeding. This is the most widely used form of pregnancy determination of the three. However, palpation cannot tell you if the embryo is viable or if the cow is beginning abort the embryo.

The second method of pregnancy diagnosis is transrectal ultrasonography. Ultrasound uses sound waves to project an image of the measure of density in certain objects. When utilizing ultrasonography, pregnancy can be determined as early as 28 d. Additionally, a skilled technician can detect a heartbeat and number of fetuses after 28 d, and can determine the sex of the calf after 60 d. Both rectal palpation and ultrasonography are reliable and relatively quick methods of pregnancy determination. Visit with your local veterinarian to decide which method is better suited to your operation.

The third method of diagnosis utilizes a blood sample. The producer takes a blood sample and ships it to a private lab or company, which then uses an assay to determine pregnancy status. The assay measures a protein, which is produced by the embryo. Accurate pregnancy results can be achieved as soon as 28 days after breeding as long as the cow is at least 60 days past her last calving date (which most cows are). The assays are accurate at determining pregnancy status, however, the test does not give days old, sex, or health of the embryo or fetus. It is a cost effective method of giving an accurate diagnosis of pregnant or open. Blood collection can be conducted by the producer or farm staff and mailed to a participating lab for pregnancy determination.

Early detection of pregnancy certainly is a benefit to producers, but it is important to remember most early embryonic mortality (pregnancy loss) occurs prior to day 60. Approximately 5% of cattle found pregnant on day 30 after breeding will lose the pregnancy by day 60. However, after day 60, pregnancy loss decreases significantly. Certainly we want to use the tools to your advantage, but understand how they work and the benefits of each method as you make your decision. For more information on pregnancy determination in cattle please contact your local livestock and forage Extension Agent.

Days of Gestation	Fetal Weight	Fetal Length	Fetal/Uterine Characteristics
30-35	1/100 oz	2/5"	One horn slightly enlarged. Uterus in position of non-pregnant uterus. Embryonic vesicle size of quarter
50-60	.25 - .5 oz	2 – 2.5"	Uterine horn oblong, soft and size of banana; fluid filled, and pulled slightly over pelvic rim. Fetus is mouse size.
100-120	.75 – 1.75 lb	10 – 12"	Both horns fluid filled, 4-5" diameter and pulled over pelvic rim. Cotyledons become palpable (quarter size). Fetus is large rat or small cat
180	10 – 16 lb	20-24"	Horns and fetus out of reach over pelvic rim. Cotyledons become enlarged (half dollar). Fetus is size of small dog.
210-240	20 60 lb	24 – 36"	Fetus is large enough to be felt just over the pelvic rim.

This fact sheet may be reprinted in its entirety for distribution. If sections are re-used in other states, credit must be given to Clemson Extension and the authors.