



## Increasing Your Lamb Crop Series

# Test for Pregnancy Status

### Introduction

Pregnancy detection in the ewe provides the opportunity to adjust nutritional and lambing management to save on feed and labor costs. The old rule of thumb that “one open ewe takes the profits of five producing ewes” may be true when all costs are calculated. Early determination of fetal numbers and gestational stage gives the option of sorting for nutritional demands in late pregnancy and early lactation. Without this information, the single bearing ewe may be fed too much, or the twin bearing ewe too little. There is also an opportunity for open ewes to rob pregnant ewes of necessary nutrition when fed together in a large group. Grouping according to gestational stage will also save on labor and allow for better utilization of facilities and biosecurity.

The key in any of business is producing a quality product, or more simply put, production. The economic benefit of pregnancy testing in cattle, whether it be beef or dairy, has been proven time and time again. The product at the farm or ranch level from a cow is the calf and milk. Individual production must be taken into account in those businesses and simplified to pounds of meat or milk produced per cow. This is not only evaluated annually, but also over the lifetime of the cow. Early detection of viable pregnancy creates greater potential for higher profit by reducing production cost in underperforming animals.

Pregnancy diagnosis in cattle is conducted via rectal palpation by a veterinarian palpating the uterine tract for the presence of a fetus and determining age based on the size of the fetus. Due to the size of the ewe, this has not been an option. This left ewes being pregnancy tested, often referred to as bagging, to some degree at shearing, with questionable accuracy. Or ewes that have not lambed with group 1 get put in with group 2, and so on, until the end of lambing season. This was the case until ultrasound technology became more affordable, making it more beneficial to utilize.

### PREGNANCY TESTING METHODS

**Marker paint** – For a smaller, more intensively managed breeding system, the use of marker paint, or a harness on a ram, can possibly indicate pregnancy status of a ewe. It is not fool proof as not all ewes marked will become pregnant and remain pregnant. Recording each marked ewe is required on a daily basis and grease or chalk must be reapplied as needed, changing the color at 14-day intervals. A ewe may continue to be re-marked, even though she may already be pregnant. This is common with an aggressive ram, certain ewes and/or tight quarters. A noted benefit of using markers is the potential to see a ram breeding problem earlier if all ewes continue to re-mark.

**Blood testing** – Blood testing is another method for pregnancy checking ewes. Blood progesterone concentration has been used for early pregnancy diagnosis with success across the US. Unfortunately, there is the potential for false positive results, and may happen due to early embryonic death. However, most laboratories that provide pregnancy determination service use blood pregnancy-associated glycoproteins (PAGs) produced by the placenta, allowing for accurate results as early as 30-days after conception.



*Waves are transmitted from the handheld ultrasound probe to and from the specific body tissue forming the ultrasound image.*

**Ultrasound** – Ultrasound imagery is the most reliable form of pregnancy checking the ewe. More information will be gained by the producer, providing the tools to make better management decisions.

Ultrasound technologies were developed through the scientific study of sound waves. The older, A-mode ultrasound technology does not produce an image. It has a beep and/or light that goes on when the pregnancy is detected. What actually is being detected is fluid, therefore, accuracy is quite variable, and it cannot predict the fetal number.. The B-mode ultrasound technology has the capability of producing an image. Waves are transmitted from crystals in the handheld ultrasound probe to and from the specific body tissue forming the ultrasound image in gray scale on the screen. The denser the tissue the lighter or whiter the tissue appears, such as bone, whereas liquid appears black on the image. Real-time B-mode ultrasonography provides a simple, rapid, accurate and non-invasive method for pregnancy diagnosis and counting fetal numbers. More recently developed imaging approaches include three-dimensional (3D) and Doppler ultrasonography. In Doppler ultrasonography, the image is the result of waves being reflected on moving structures, such as erythrocytes moving within blood vessels.

## ULTRASOUND PROVIDES INFORMATION

The ideal window of pregnancy for transabdominal scanning is day 40-70. The following will help producers know what can be identified and some key points.

**Pregnant or open** – Save feed for the pregnant ewes; they are the ones that need it. Cull all open ewes as soon as possible to save on feed, labor and medicine costs.

- Ewes that are consistently open should not be retained. Without a lot of medical intervention, testing or hormonal therapy, these ewes will not get pregnant.
- Healthy animals are less labor intensive, saving time, medicine and money. When a ewe has aborted, or is a poor doer, they often have chronic problems preventing them from getting pregnant. An ultrasound image may detect the problem, depending on the severity of inflammation and damage. Producers are encouraged to cull those ewes to clean up the herd.
- Stop the spread of disease and cut your costs. When debilitating or reoccurring problems, such as footrot, are present, it is a great time to pregnancy test and cull open ewes.

- If producers incorporate aseasonal breeding, it is advantageous to know the pregnancy status as early as possible allowing open ewes to be put back into the breeding group sooner.

**Fetal counts** – Efficiently manage the proper care and nutrition of the pregnant ewe depending on the number of lambs she is carrying. A ewe carrying twin lambs requires 25% higher nutritional energy than ewes carrying a single. Proper nutrition can prevent fetal loss and/or prevent difficult lambing, poor colostrum, poor milk production, poor mothering and pregnancy toxemia.



*The portable ultrasound has been a game changer for the amount of reproductive information collected and utilized in livestock production.*

**Gestational dates** – Measurements of thoracic diameter, kidney length, femur length, stomach diameter, umbilical cord, and thoracic and cervical vertebrae can be used to estimate the number of days pregnant.

- Use this information to group animals according to when they will lamb when space is limited in the shed or corral for the close up group.
- Use the estimate to group according to nutritional needs.
- It is useful to have estimated day pregnant when a ewe gets marked multiple times by a ram.
- This is important information, as well, for 4-H or FFA shows and the purchase of a bred ewe.
- The estimate will also help you to simply get a full night of sleep when you know that no ewes will be lambing until the following weekend.

## DEFINED BREEDING SEASON

It is important to mention the importance of having a defined breeding season. This too will help with when to expect lambs, when to ultrasound the ewes and will aid in the formulation of a consistent lamb crop and weaning groups for marketing.

## TESTING EARLY

The earlier producers are able to pregnancy check the ewe, the earlier she can be managed correctly. Whether to cull, feed accordingly or put into a different breeding group, the advantages of pregnancy detection, especially through ultrasound technology, will save time and money.

The best time to schedule a flock's ultrasound is when the ram is turned out with the ewes. Timing is very important when counts and dates are needed. There are, however, limitations to the information an individual ultrasound technician can provide based on the technician's experience, the ultrasound machine used, the facility, the amount of help provided and the timing of the scanning after mating. Pregnancy can be detected as early as 35 days post-breeding, with optimal fetal counting between 35 to 90 days.

Producers should be prepared to follow any requests of the ultrasound technician prior to pregnancy checking ewes to ensure scanning accuracy. The experience and proficiency of the ultrasound technician is a big determinant of how accurate fetal counting will be,



*Ewes with multiple lambs can lamb in a shed, getting the added care for higher lamb survival.*

producers attention to determine fetal counts for the first time can expect to have higher error rates. Fetal death loss does occur and will vary greatly between producers, which can be the result of poor nutrition or diseases. Producers should be observant and notice what and how much animals are eating. They should also watch for signs of illness, injury and stress. Helpers on the farm or ranch should also know what is going on and why.

Ultrasound technology is the most useful and practical method for pregnancy checking the ewe. It will provide valuable information to help producers determine which animals to retain and which animals to cull based on lack of reproductive efficiency, productivity or the presence of disease.

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