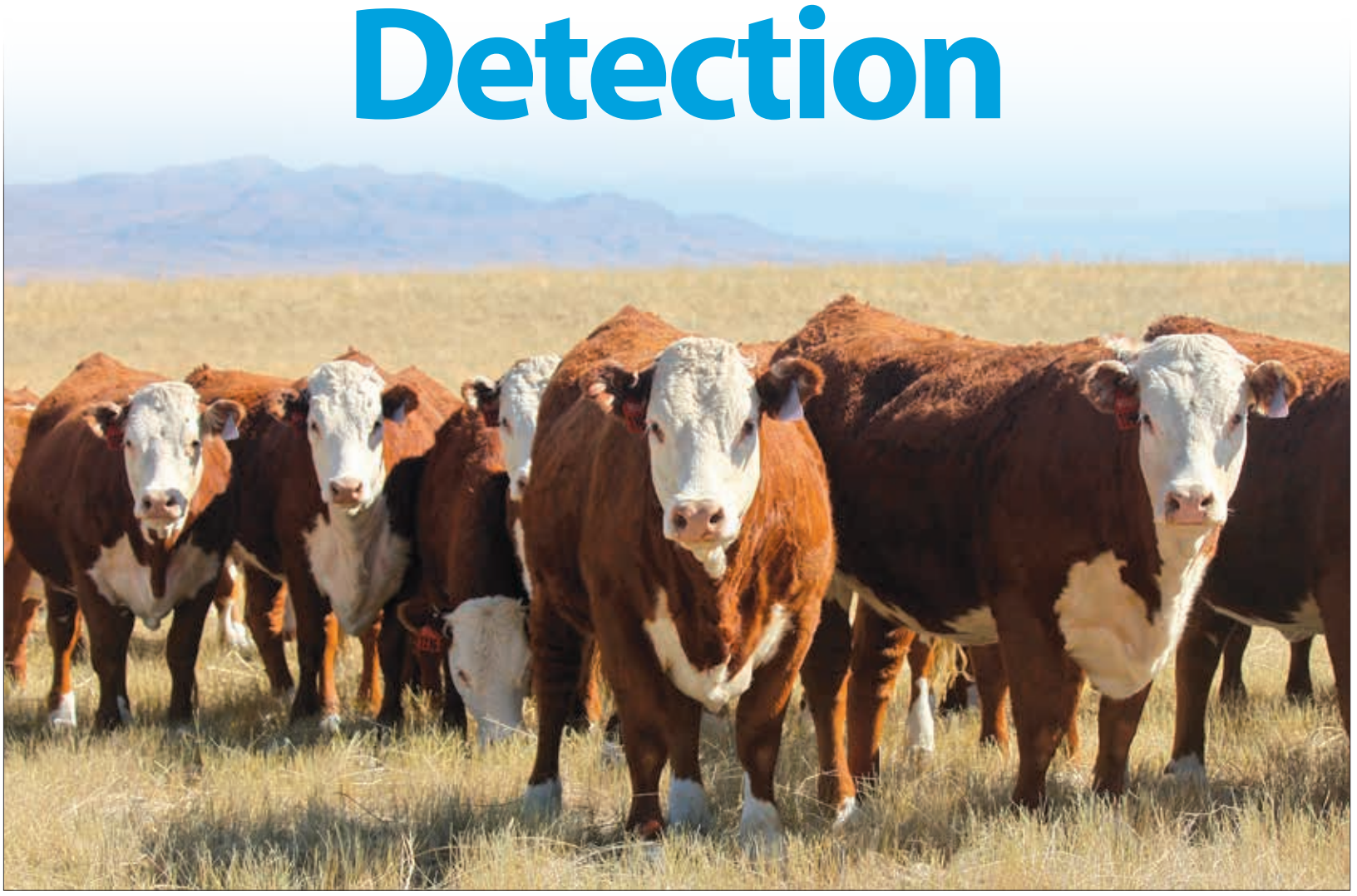
Early Pregnancy Detection



Early pregnancy detection in heifers or cows provides cattlemen marketing options.

A tool for managing and marketing in the cow herd.

by ***Aaron Berger,*** *University of Nebraska-Lincoln Extension educator, beef.unl.edu*

Early pregnancy detection in replacement heifers or cows is a tool producers can use to increase profit. Traditionally, cows and replacement heifers are pregnancy tested in the fall of the year and then nonpregnant cows and cull cows are marketed at that time. This is also the time when cull cow prices are seasonally at their lowest.

Timing of pregnancy testing

Pregnancy can be detected in cows as early as 30 days using ultrasound and blood tests.

For cows to be identified as pregnant utilizing the palpation method, cows often need to be at least 35-50 days pregnant. Experience of the person palpating can make a significant difference in how early in this range that pregnancy can be detected.

Producers should realize that stress to heifers and cows early in pregnancy can result in loss. Research has shown a pregnancy loss of 1-3.5% when palpation or ultrasound is used for pregnancy diagnosis at 40 to 75 days of gestation.

Selling nonpregnant cows in August

For cow herds calving in January through April, cows can be pregnancy tested in late August and nonpregnant cows sold at that time. Marketing at this time provides two advantages.

Cattlemen with cow herds calving January through April may find advantages in marketing nonpregnant cows in August.

The first is that cull cow prices in August tend to be 5-10% higher than they are in October or November.

The second is that cows that are nursing a calf will typically lose weight from August through the time that calves are weaned because of forage quality having matured and decreased in its nutritive value.

Selling nonpregnant cows in August, when they weigh more and prices are seasonally higher, provides the opportunity for producers to capture more value from these cows than leaving the calves on the cows and waiting to pregnancy test at weaning.

Early weaning calves from cows in August will require additional high quality feed and management. However, calves at this age are very efficient, and the

cost of supplemental feed is often not much more expensive than the cost of carrying the pair.

Comparing methods of pregnancy testing

There are several advantages and disadvantages to each of the three methods of pregnancy testing. In some instances, using a combination of these methods within a herd may be a valuable tool to accomplish marketing goals. The sidebar "Three methods of pregnancy testing" further explores the differences.

Other considerations

For producers whose first-calf heifers calve in the January to May time frame, utilizing early pregnancy diagnosis on these heifers as yearlings provides producers the opportunity to timely market nonpregnant heifers. These nonpregnant heifers can be marketed as soon as they are identified, or a producer may choose to continue to put weight on them and to market later if conditions warrant. These nonpregnant heifers may also be implanted provided that ownership will be retained long enough for producers to see the benefit of the implant.

For producers, leaving bulls with the cows for a long breeding season provides the opportunity to potentially get a higher percentage of cows pregnant. Cows that will calve later than desired can be sold to someone else whose calving season fits that time frame. This strategy can be a way to capture additional value from later calving cows that would otherwise be sold as nonpregnant females in a short breeding season — provided feed resources allow this option.

Nonpregnant heifers and cows as well as cull bred cows can provide as much as 20% of the gross income to a cow-calf operation on an annual basis. Taking advantage of opportunities to effectively add value to and market these cows through the use of timely pregnancy diagnosis along with an understanding of market seasonality can allow producers to capture more profit from this segment of the cow-calf operation. **HW**

Three methods of pregnancy testing

University of Nebraska-Lincoln Extension Educator Aaron Berger said there are numerous advantages to identifying nonpregnant cows as early as possible. Removing nonproductive cows and heifers saves cattlemen feed costs and expenses, and being aware of market seasonality will help producers use that information to explore marketing opportunities and options not only for open females but for ones bred later.

	When pregnancy can be detected	Age of calf	Sex of calf	Experienced technician needed?	Cost per cow	When results known
Palpation	35-50 days	Yes	No	Yes	$3-$10	Immediately
Ultrasound	30 days	Yes	Potentially	Yes	$7-$15	Immediately
Blood test	30 days	No	No	No	$3-5	2-4 days

The three options Berger noted were palpation, ultrasound and a blood test. Palpation is the most traditional method, and cows or heifers can be accurately preg-checked, on average, at 50 to 60 days, or as early as 30 to 45 days. Advantages include knowing results immediately, the low cost and not needing special equipment.

"Realize that when we have those cows pregnancy tested, depending on when we pulled those bulls, some cows may be early in their pregnancy but not far enough along to be identified by palpation," Berger said. "I think it's worth the time and expense to have those cows re-checked and utilizing a tool like ultrasound or getting a blood test to help us know if those cows are indeed open."

Not being able to detect pregnancy as early as with other methods is considered a disadvantage for palpation. Scheduling with a veterinarian or technician can be troublesome and rectal palpation can cause abortions of around 1 to 3%, based on the pregnancy age and technician's experience.

Berger said ultrasound allows producers to diagnose pregnancy as early as 28 days. Additional information can be gleaned from ultrasound including age and sex of the calf. Twins can also be identified, therefore, allowing cattlemen to make management adjustments based on the information. Results are also known immediately.

Berger added that ultrasound costs more than palpation and requires an ultrasound technician.

The blood test method was developed within the last few years, according to Berger. "In this case, the rancher can pull that blood himself and it's less expensive than palpation or ultrasound," he said. Pregnancy can be determined as early as 30 days, and a blood test is less invasive than the other methods. Blood testing allows scheduling flexibility because blood can be pulled over a number of days if needed.

"It does take some time to become familiar with procedure," Berger said. "And the turnaround is a real negative at two to four days."

The accuracy of this method is 99% for open cows and 95% for pregnant cows. "Some cows early in pregnancy may naturally experience early embryonic loss," he said, accounting for the lower accuracy for pregnant cows. Also, this method does not identify age of fetus or sex. **HW**

Editor's note: *A webinar titled "Early Pregnancy Diagnosis, a Management and Marketing Tool" was recorded to highlight pregnancy diagnosis methods and how they can be utilized. The webinar can be found at* beef.unl.edu/early-pregnancy-diagnosis.