Test Your Heat Detection Knowledge

By Sarah Thorson

Training Programs Manager, Genex

An artificial insemination (A.I.) program is an investment in the future of your herd. You need proper procedures to achieve a return on your investment. Accurate and efficient heat detection is one way to maximize the performance of A.I. and boost the profitability of your dairy.

Unfortunately, heat detection can easily get pushed to the very bottom of the "to-do" list or it never makes the list at all. In fact, estimates based on DHI information place the level of detected heats at 50 percent. Said another way, one of every two heats goes unnoticed!

The good news is lack of attention to heat detection is relatively easy to fix. A little extra time and knowledge can go a long way to improving the heat detection rate on your dairy.

Take a few minutes to test your heat detection knowledge:

---

1. The average duration of estrus is:

    a. 2-6 hours

    b. 6-10 hours

    c. 8-12 hours

    d. 16-20 hours

Answer: The average duration of true estrus or standing heat is *eight to 12 hours*; of course, this is quite variable. Studies have shown that about 30 percent of cows will have heats less than four hours in length.

---

2. The primary sign of estrus is standing to be mounted. What about the animal mounting? Is she in heat also?

    a. Yes, she is also in heat.

    b. No, she is not in heat.

    c. Maybe, she could be in heat.

Answer: The answer is *maybe, she could be in heat*. About 65-70 percent of the animals mounting are in heat. Another 18-20 percent are in the preheat period and will likely be standing in another 10-20 hours. About seven to nine percent of the mounting animals will be in their post-heat period. You may observe these animals bleeding off. The remainder of the mounting is done by females in the luteal phase of their cycle.

---

3. The best times to check for heats are:

    a. Early morning and late evening

    b. Late morning and early evening

    c. Noon

    d. Whenever you get around to it

Answer: *Early morning and late evening* are the best times to check for heat. Studies have shown the frequency of mounting activity begins to increase around 8 p.m. and remains high through the late evening and early morning hours. The lowest level of mounting activity has been shown to happen between 10 a.m. and 7 p.m. By checking for heats during periods of the day when mounting activity is most likely to occur, you increase your chances of observing a cow in estrus. It is best to take a minimum of 20 to 30 minutes early in the morning and late in the evening to check for heats.

---

4. True or False: If you are watching for heats while you are doing other chores such as feeding, cleaning pens and milking, it is not necessary to take extra time during the day to heat detect and only heat detect.

Answer: You cannot satisfactorily perform heat detection while doing other chores, so the answer is *false*. Heat detection is too important! You must take sufficient, exclusive time to observe all animals. A period of 20-30 minutes, two times per day, is recommended to allow enough time to assure animals in heat have the opportunity to be mounted.

---

5. The primary sign of heat is when a cow stands and allows herself to be mounted by herdmates. However, there are many other indicators, called secondary signs of heat, which may help identify cows that should be observed closely. Identify at least five secondary signs of heat you may observe while heat detecting:

a. _____

b. _____

c. _____

d. _____

e. _____

Answer: Some of these secondary signs of heat are: riding other cows, bellowing or bawling, displaying signs of nervousness, sniffing the vulva or urine of other animals, having a pink and swollen vulva with a clear mucous discharge, having a rough tailhead, chin rubbing, or they seem to be searching for something. Observing two or more of the secondary signs can help you catch cows in heat that you may not have observed in standing heat.

---

6. True or False: Animals that are being moved, are in a confined space, or are being fed tend to show frequent mounting activity. This makes it a good time to heat detect.

Answer: False. Mounting activity may often occur in cattle being moved that are not in heat. In many of these situations, the animal being mounted has no route of escape and could, therefore, be falsely identified as being in heat.

---

7. True or False: Insemination should occur within 24 hours of the first time a cow stands to be mounted to optimize the chances of her conceiving.

Answer: *True*. Ovulation occurs 25-30 hours after the beginning of standing heat. To increase the chances for a pregnancy, viable sperm should be at the site of fertilization awaiting the arrival of the freshly ovulated egg. Before sperm are capable of fertilizing the egg, they must be in the reproductive tract at least six hours and go through a process called capacitation. Sperm cells can live in the reproductive tract of a healthy cow for up to 24-36 hours; however, the freshly ovulated egg is only fertile for a short window of time. For this reason, sperm should be introduced into the reproductive tract, go through capacitation and be ready to fertilize the freshly ovulated egg. When in doubt about the beginning of standing heat it is better to breed early rather than late during estrus.

---

8. True or false: If a cow is observed in standing heat and inseminated, then bleeds off one to three days after standing heat, she has not conceived.

Answer: *False*. One-to three days after heat many cows will exhibit a bloody discharge. After estrus, small blood vessels which grew in response to elevated levels of estrogen regress. Some of these vessels rupture, releasing small amounts of blood into the uterus. This blood, mixed with mucus, makes its way out of the uterus and appears as a bloody discharge, commonly called bleeding off. This discharge is a good indication ovulation has taken place and should be recorded, but it is not an indication of whether a female has conceived or not.

Accurate and thorough heat detection is vital to maximizing the performance of A.I. on your dairy. While nothing replaces actually seeing and identifying the cow in heat, Genex offers several heat detection aids to help make the job a little easier. These heat detection aids include DETAIL™ Tail Paint, KAMAR® Heatmount® Detectors, Estrotect™ and PaintStiks. If you have questions about these products or would like to know more about making heat detection a priority on your farm, contact your local Genex representative. He or she will be able to provide powerful information on how to boost your heat detection performance or may be willing to do it for you!

Author Bio: Sarah Thorson is a graduate of Montana State University. She served as a Genesis MOET inern before accepting her current position. As a Training Programs Manager, Sarah conducts reproductive and education programs as well as trains Genex employees and producers who breed their own cows.