

Heat Detection

ASK AN EXPERT

Experts:

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QUESTION

I want to improve my heat detection rate and am wondering if I should try something other than visual observation. Are there any methods that you would recommend and that wouldn't add significantly to my bottom line?

ANSWER

Estrus detection rate is an important factor for reproductive performance. If you are not detecting heat accurately, then you are likely not breeding cows at the right time (or at all) and your 21-day pregnancy rate will suffer. While visual estrus detection is the cheapest option, it still requires time and labour everyday to make sure you are actually observing cows in heat. It is recommended that you observe cows for at least 20 min, 3 times a day for signs of heat. There are a number of tools out there that can be used to increase your heat detection rate, all with pros and cons. It is important to figure out what will work best for you, for your operation and your bottom line.

Visual detection aids: these are tools that will help you visually identify heat more accurately. They are generally lower cost, but again require diligent visual observation to ensure you are breeding at the right time.

- Tail chalk/paint: look for paint removal due to mounting
- Estrus detection patches (i.e. Estrotect) – look for colour change on the patches due to mounting





Hormone intervention: synchronization of estrus can increase the heat detection rate by bringing a group of cows into heat around the same time. This will give you a better idea of when to observe your cows; however, some cows may not respond to treatment, and you will still have to diligently observe your cows for heat. Estrus synchronization can also be combined with visual detection aids to increase your detection rate. Synchronization of ovulation, or timed-AI protocols, can remove the need to detect estrus altogether, by influencing the time of ovulation and pre-determining when to breed. Ovulation synchronization protocols can perform well in cows, but require strict adherence to a hormone administration schedule and increased cost. Discuss what protocols might work best for you with your veterinarian.

- Estrus synchronization: a common protocol is 2 doses of prostaglandin (PG; i.e. Bioestrovet) given 14 days apart. Estrus is likely around 3 days after the 2nd dose.
- Ovulation synchronization: a common protocol is Ovsynch - gonadotropin releasing hormone (GnRH; i.e. Fertaline) on d -10, PG 7 days later on d -3, GnRH 2 days later on d -1 and AI 16 to 20 h later (day 0). However, the performance of Ovsynch is improved by adding additional protocols, i.e. Presynch-Ovsynch or Double Ovsynch.

Automated monitoring systems: there are a number of devices available that can automate the heat detection process and improve detection rates. While these methods also perform well in cows, they do require a larger up-front cost. The least costly would be devices that are pressure-activated by mounting with more costly devices being automated activity monitors. Both kinds of systems are designed to alert you when a cow is in heat. So, while you don't need to spend time visually looking for estrus, you do still need to spend some time checking the system.

- Pressure-activated mounting devices (i.e. HeatWatch)
- Activity monitoring systems (i.e. SCR, Afimilk, Nedap, etc.)

In the end, it's up to you to decide what will work best for your operation. If you are really struggling with visual observation, you might want to consider protocols/tools that remove the need for visual heat detection to improve pregnancy rates. However, if you can improve your heat detection rate with less costly visual detection aids, you can still improve overall reproductive performance for less cost.