Here are 10 ways to take control of heat detection

by Coleen M. Jones

TRAVELING around the world and working with dairy producers to solve reproductive problems has convinced Dr. Ray Nebel, professor of reproductive physiology at Virginia Tech, that heat detection plays the biggest role in successfully breeding cows. Nebel finds that eight times out of ten, poor heat detection is the number one problem in reproductive management. According to DHI records processed in Raleigh, N.C., producers observe only 40 percent of heats. This failure to catch cows in heat costs the industry an estimated $300 million each year.

With very few exceptions, spending a little more time and effort on heat detection would reduce average calving interval and cull rate on most farms. Nebel suggests the following 10 practices to improve heat detection rates.

Establish standard operating procedures: Each person responsible for heat detection should follow the same procedures. Observe cows at times and locations where they are likely to express estrus. Record the animal identification and what signs of heat were observed. Finally, notify the appropriate person of the heats detected. Heat detection should be standardized in when and where it occurs, what signs and which animals are observed, and who receives notification of heats detected.

Utilize records: All heat periods detected should be recorded, even if the cow or heifer will not be bred on this heat. A 50 percent conception rate means half of the cows bred will become pregnant and half will return to heat in 18 to 24 days. If all heats are recorded, the cows expected in heat can be watched with extra care. Breeding wheels, calendars, and heat expectancy charts are inexpensive and effective tools to predict future heats.

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Group interaction: Watch for sexually active groups of cows. Cows in heat and cows that will be in heat in the next 48 hours commonly congregate together. A group of cows shows more activity when more than one cow is in heat which boosts the opportunity for heat detection. Cows usually alter their normal routine of behavior when approaching heat.

Minimize sore feet: A cow with sore feet usually does not mount or permit other cows to mount her. Treating infected or sore feet as soon as possible is important. Allowing cows time off of concrete is also important to relieve stress on the feet and legs and to provide solid footing that encourages mounting activity.

A little is good but more is better: Nebel's research at Virginia Tech has demonstrated that cows come into heat throughout the day, mount other cows only 8.5 times on average, and stay in heat for only 7 hours. Consequently, it can be difficult to catch cows in heat, and two daily observation periods will miss many normally cycling cows. Cows should be observed as many times per day as possible. Nebel recommends at least three observation periods, spaced 6 to 8 hours apart, per day; four periods would be even better.

Timing is everything: Use time efficiently by observing cows when expression of estrus is most likely to occur. Feeding and milking times provide distractions that prevent cows from expressing heat. Observation during these times will probably result in missed heats. Instead, choose a time when cows have adequate space to interact with good footing and no disturbing interactions with people.

Location, location, location: Visual observations of cows in crowded areas with slippery surfaces will not produce good results. Provide cows with a hard-packed dirt or grass lot where footing is secure and there is room for cows to interact freely. Grooved concrete or another nonslip surface may provide secure footing, as well.

Use aids wisely: Heat detection aids, such as Kamar or Beacon heat mount devices, should be used to supplement, not replace, visual detection. The HeatWatch electronic heat detection system requires management decisions on suspect cows, interpretation of information for timely insemination, and weekly maintenance to keep transmitters on cows.

Induced heat or ovulation: Inducing heat and/or ovulation with hormonal treatments that include GnRH and $PGF_{2\alpha}$ increases the probability of detecting estrus or allows A.I. without estrus detection (timed insemination). However, these benefits will be greatly reduced if the elimination of heat detection allows cows to slip through the cracks. Be sure to have a program to catch the cows that return to estrus three weeks after hormone treatment or a procedure to resynchronize cows as quickly as possible.

Do not take shortcuts: Is she or isn't she? It should be as simple as looking up her last heat. Write down all of your observations so others will know and you will not forget. Spend the time to be sure cows are given the hormone injections correctly and the complete dose of hormone is administered.