The Importance of Accurate and Efficient Heat Detection

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The accurate and efficient detection of heat (estrus) in dairy cattle is an important and essential component of a good reproductive management program. Failure to detect heat and errors in heat detection are the two primary causes of poor reproductive performance and low reproductive efficiency. Inadequate heat detection affects herd profitability in a number of ways:

1) Undetected heats result in longer calving intervals, lower lifetime milk production and fewer calves.
2) Breeding cows unsuitable for insemination leads to decrease conception rates and wasted semen and time (both are very costly).
3) Combinations of unrecognized estrus and low conception rates may lead to culling of normal cows.
4) Insemination of pregnant cows mistakenly identified in heat may cause abortion.

Detection of estrus is necessary for planned insemination programs for dairy cows and is the key to successful use of artificial insemination. While A.I. can provide exceptional genetic progress in a herd it also places greater responsibility for heat detection on farm personnel.

The initial step to improve estrus detection is to analyze and evaluate the existing heat detection program. Adequate identification of animals and good records (all heats, breedings, reproductive problems and results of regular veterinary exams) are needed to accurately evaluate how well heats are detected into the herd. It is extremely useful to take the information from the records and compute some indices of heat detection performance. It is also useful to compare herd heat detection indices to target goals and indices based on other herds that have excellent detection.

There are several ways to calculate heat detection efficiency. The one listed below can be calculated very quickly.

The Heat Detection Rate

If we assume all cows cycle every 21 days, then dividing 21 by the average interval between heats gives an estimate of the proportion of heats detected. This is expressed as a percentage and is called the Heat Detection Rate. For example if the average interval between heats is 30 days then the Heat Detection Rate is 21 divided by 30 x 100 which equals 70%. Seventy percent is a good goal. The Heat Detection Rate is also reported on the DHI-202 Herd Summary as "% Heats Obs.".