research

Improving reproductive management of dairy cows using health monitoring

U of G researchers investigate the effects of post-partum health on estrus detection by activity monitors

By Vanessa Virgo

Like people using fitness trackers, more and more dairy farmers are using automated activity monitors (AAMs) as an important part of herd reproductive management. University of Guelph researchers are assessing how cow health in the transition period affects their fertility.

Dr. Stephen LeBlanc, a professor at the Ontario Veterinary College, and PhD candidate and DFO doctoral scholar Tony Bruinjé studied more than 1,300 cows in two commercial dairy herds to investigate the link between a cow's post-partum health and the likelihood of detecting estrus by activity monitors for first breeding.

"We want to optimize the use of activity monitors to achieve good reproductive performance with minimal interventions," says LeBlanc. "Monitoring the cow's health before and after calving can help us anticipate their performance in the breeding period two months later. In the longer term, this will allow for selective management of reproduction. We aim to be able to identify cows that can successfully be left for estrus detection by AAM."

In estrus, or heat, cows normally become much more active for about a day. This change allows for automated heat detection.

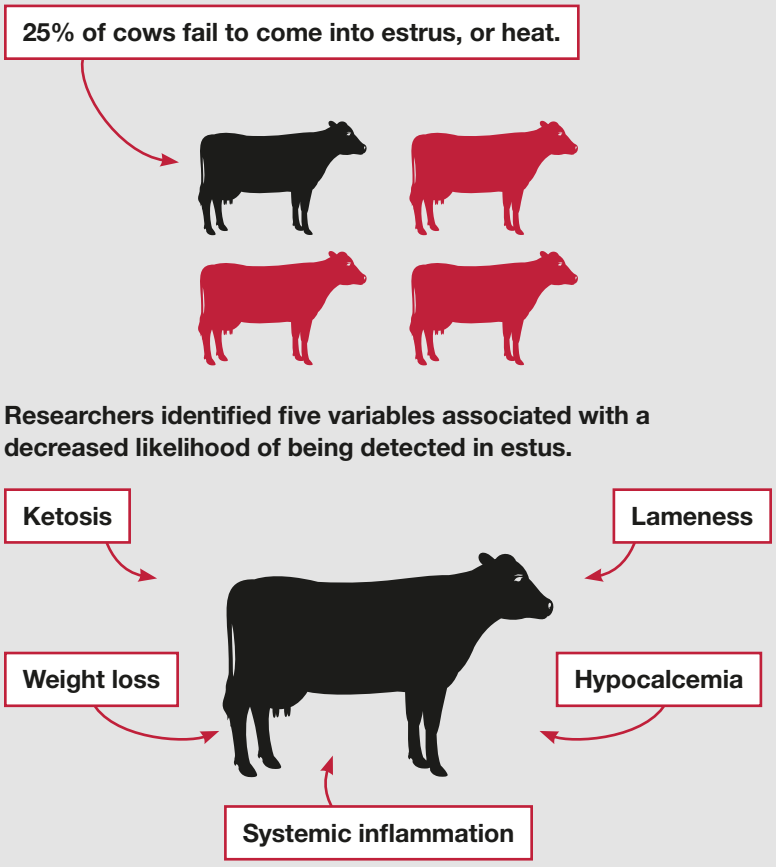
However, about 25 per cent of cattle fail to come into heat.

"Although many health problems are associated with reduced fertility, we wanted to figure out which health conditions around calving led to a decreased likelihood of coming into heat for first breeding. Once we have identified these key predictors, we could determine whether a cow is likely to be detected in estrus on their own, or whether they require further targeted intervention for timely first breeding," said LeBlanc.

The researchers' findings suggest that ketosis, lameness, weight loss, hypocalcemia, and systemic inflammation (high blood levels of the inflammatory marker haptoglobin) were all associated with a decreased likelihood of coming into estrus.

LeBlanc will soon start a study in ten additional herds to confirm the findings and test selective management applying the most useful criteria.

Factors associated with a decreased likelihood of being detected in estrus



This research project was funded by Dairy Farmers of Ontario, the Natural Sciences and Engineering Research Council and the Ontario Agri-Food Innovation Alliance, a collaboration between the Ontario Ministry of Agriculture, Food and Rural Affairs and the University of Guelph.

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Published by Dairy at Guelph
University of Guelph
ON N1G 2W1
dairyatguelph.ca

Written and produced by
Students Promoting Awareness of Research Knowledge (SPARK)
uoguelph.ca/research/spark

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