LIVESTOCK

Improved technologies will aid heat detection techniques in suckler herds

- Two beef herds in research projects
- Calving prediction still in its infancy

By Wendy Short

THE technology to accurately identify suckler cow heats is producing some good results, although the use of the same systems for cost-effective calving prediction is still in its infancy.

Producers who attended an Eblex-organised event were however told the latest techniques might encourage more beef producers to make use of heat detection technologies, which in turn, would also allow them to take advantage of better genetics available through AI.

Vet Dan King, of Bishopton Veterinary Group in Ripon, North Yorkshire, explained two beef herds in Yorkshire had been chosen to host a research project, aimed at finding the most successful method of heat detection in suckler cows.

The results from a remote telemetry activity meter and a ruminal temperature bolus were measured against each other, as well as against visual observation by the herd managers.

Cows were blood or milk progesterone-tested, to confirm whether bulling results were correct. In addition, the technologies were compared for their ability to accurately predict calving.

"Heat detection for dairy cows has needed to become highly sophisticated, due to reduced oestrus expression and limited skilled labour, but it is much more of a challenge in beef herds," said Mr King.

"Our study showed the activity meter system was more effective than the ruminal temperature boluses at heat detection on both trial farms.

"On the first holding, it alerted the herd manager to 63 per cent of oestrus activity, while the ruminal temperature bolus and visual observation methods achieved equal results of 44 per cent The use of all three methods combined produced a figure of 75 per cent heat detection in this herd.

> **Heat detection is much more of a challenge in beef herds**
> DAN KING

Cows on the activity meter trial were fitted with a collar which transmits information, building a picture of the cow's behaviour.

"The rumen bolus technology did not transmit and receive successfully on the second farm, possibly due to local radio interference. However, the activity meter achieved a level of 86 per cent heat detection in cows at grass on this holding."

Activity meter

Cows on the activity meter trial were fitted with a neck collar containing a motion sensing tag. It transmits a signal to a mounted control box, connected to a personal computer or stand-alone control unit.

The system builds up a picture of the cow's 'normal' activity behaviour and alerts the operator (by email or text) to any significant changes in activity, which could indicate the onset of heat. It can also highlight low activity, which could point to a health problem. Widely used in the dairy industry, it has not yet been perfected for beef herds, said Mr King.

"Dairy cows can be walked past the reader several times a day on their way to and from the parlour, but naturally this routine cannot be replicated in suckler cows.

"Historically, success with beef herds has been limited, but we looked at modern systems, which have a longer signalling range and therefore hold much greater potential for commercial use. But in this study, we concluded current activity meter equipment could not consistently detect whether a cow is about to calve."

Bolus

It is recognised a cow's temperature rises as it comes on heat and decreases as it is about to calve. The rumen bolus is designed to pick up these changes and relay the information to a personal computer and mobile phone. The bolus, administered by dosing gun, settles in the rumen and transmits data via radio signal to a reader box, sited close by.

"Early issues with the cows regurgitating the boluses were overcome by attaching the bolus to a magnet. This increased its weight and held it in position more effectively," reported Mr King. "To achieve accurate temperature readings, the bolus must be in place for at least three weeks before heat is due, to generate a temperature baseline for each cow.

"On the plus side, one rumen bolus should last the cow a lifetime, which means the system is cheaper than the activity reader. The bolus also showed potential as a way of predicting the onset of calving; a change in temperature was noted across several calvings.

"Since the end of the first year of the study, a more advanced model of the bolus has been installed. The range has been extended and it also has a memory function, so read frequency has significantly improved. This makes it much more suitable for use in the field."

AI best practice

PRODUCERS considering the use of AI for their suckler herds will stand a better chance of success if they follow a number of recommended guidelines, said Jonathan Statham, a partner at Bishopton Veterinary Group and chairman/director of the vet research and consultancy company, RAFT Solutions.

"Conception rates from AI are usually higher in heifers, as they do not have to cope with the demands of producing milk and are therefore are under less stress, compared with cows," said Mr Statham.

"It is advantageous to use oestrus synchronisation techniques, so all the females in the selected group are cycling at the same time; this can improve the timing of AI. Operating a block calving system is also beneficial for other aspects of management, although it is important to ensure there is adequate housing and labour, if cattle are to be block-calved inside."

Jonathan Statham

Females targeted for AI should be moderate in body condition, with a condition score of 2.5 in spring being a good target to aim for. Animals which are too thin are less likely to conceive, while over-fat cows risk calving difficulties. A good handling system was another essential, to keep cattle quiet during service.

"An effective way to manage serving heifers is to give them one straw of semen and then use a bull to sweep up. Good quality semen is another crucial factor and we check doses regularly. Every care must be taken to preserve quality both before and during service, with only one straw removed from the flask at a time.

Opportunity

"AI presents an important opportunity for beef herds and at present, the technique is underused. Some producers who have attempted it may have been put off by poor conception rates, but great strides have been made in the veterinary procedures involved.

"I would urge anyone who wants to take advantage of the high quality genetics available to try using AI, perhaps by starting off with a small group of heifers," said Mr Statham.