

HOW TO CREATE 10.5 MORE PREGNANCIES PER 100 COWS PER YEAR

If any member of the veterinary profession - known universally for its caution and insistence on evidence - says, "even on the very best dairy farms, this will create improvements," it is probably sensible to take a look. This is all the more so when the vet in question, Owen Tunney from Willows Farm Vets in Cheshire, is one of the country's foremost specialists in herd fertility and holder of the elite Diploma in Bovine Reproduction (DBR).

On the basis that calvings more than any other factor drive milk income, and submission rate drives calvings, he has carried out a study of early intervention fertility management with Richard Pilkington at Aintree Holsteins, Shordley Hall near Wrexham. On twice-a-day milking and year-round TMR, which includes fresh grass during the summer months, this 250-cow herd is producing 9,500 litres/cow at 3.9% butterfat and 3.25% protein.

At this level of performance, Owen Tunney says the fast rate of metabolism can accelerate the breakdown of oestrogen in the fertility cycle, markedly reducing the display of oestrus even though cows may be cycling normally.

"Despite a well trained, observant workforce and sophisticated 24-7 detection aids that monitor cow activity and rumination, heats can be missed because no outward signs are expressed," he explains. "When calvings drive milk income, and each missed heat costs you 21 lost days, this can be serious."

To tackle this, he developed protocols for early identification of potential missed and silent heats that is implemented by the workforce in conjunction with routine fortnightly vet sessions. After a 55-day voluntary waiting period (VWP) post-calving, this directs cows onto one of three action plans:

1) Cows observed bulling during the VWP: AI at next oestrus, then ultrasound PD by the vet after four to five weeks.

2) Cows (a) not seen bulling (NSB) during the VWP or (b) served previously followed by negative PD, in both cases examined by the vet and found with corpus luteum (CL) present and 8-10mm diameter follicle: An Ov-Synch protocol involving a sequence, under veterinary supervision, of prostaglandin and GnRH treatments, then fixed time AI.

3) Cows (a) treated after calving for reproductive infections, or (b) that are lame or with poor condition score, or (c) NSB with no CL present or a small, poor quality follicle: A CIDR® Sync programme, which combines a progesterone device with prostaglandin and GnRH, followed by fixed time AI.

Cows on protocols two and three are checked by the vet seven days after initial treatment for a satisfactory response to continue the programme.



Vet Owen Tunney says, "even on the very best dairy farms, this will create improvements."

Terminology

Submission rate: The percentage of eligible cows being inseminated or mated.

Voluntary waiting period: The number of days after calving before a first AI is performed.

Fixed time AI: Insemination a set number of hours (specified by the vet) after the final treatment without the need for observed signs of heat.

Over the study's four months of detailed monitoring, conception rates were 26%, 43% and 36% respectively for protocols one, two and three [ref 1]. Although all cows on protocols two and three were served by fixed time AI without the need for heat detection, signs of oestrus were present in 27% and 55% respectively. Average days to conception from starting protocols two and three were 32 and 39, implying that cows not conceiving to the initial service were likely to have done so at the next oestrus.

On a matter of detail, Mr Tunney warns against comparing conceptions rates of protocols two and three with each other. "Each protocol applies to very different circumstances so they are not directly comparable," he explains. "In fact, protocol three is for cows with the weakest fertility functionality, in which 36% conception is at the top end of what you might expect."

Compared with herd fertility before this early intervention programme began, he observes that the results offer potential to create 10.5 more pregnancies per 100 cows per year in cows that would simply not have been served without fixed time AI. "Clearly this offers a marked impact on financial performance, via earlier and more calvings and therefore increased milk income, together with fewer forced cullings for infertility," he adds.



"Before we did this, I didn't like the idea of serving blind, but Owen has proved this to be unfounded," says Richard Pilkington.

In contrast, the vet says two of the main motives for undertaking this trial were concern that, without fixed time AI, costs were being incurred to stimulate oestrus in NSB cows without a guaranteed service to follow, and lost revenue due to avoidably long open periods before conception.

For Richard Pilkington, the study has created confidence that cows can be served by fixed time AI following oestrus synchronisation, without observed signs of oestrus. "Before we did this, I didn't like the idea of serving blind, but Owen has proved this to be unfounded," he says.

For the vet, this is an understandable and commonplace view among clients until they see evidence to the contrary. "My concern is that we are missing opportunities to get cows back in calf because many are cycling normally in all respects

except heat

expression," he adds. "There is no perfect system for heat detection and even the best managed can miss up to 40%. This is not unique to this farm - it is present in most well managed high yielding herds."

On the important matter of justified medicine use, Owen Tunney reckons that successful early intervention based on evidence can result in a reduction in total cow treatments. "In NSB cows, a policy of wait and see beyond the voluntary wait is letting valuable time slip through your fingers," he says. "Without a fixed time AI fertility protocol for these, more cows will receive more treatments and the result will still be fewer and later calvings.

"In contrast, the study's detailed monitoring saw 100% of eligible cows being served. In the same way that calvings are a driver of milk revenue, submission rate is the primary driver of calvings. Serve more cows, get more pregnancies, it really can be that simple."

For farmers interested in the potential of oestrus synchronisation to improve herd fertility, details of suitable programmes are available from their own veterinary surgeon, under whose supervision they must be carried out.

¹ Owen Tunney, July 2015. Comparison of breeding programmes at Shordley Hall Aug'14-Nov'14. Willows Farm Vets, Northwich.

