

# Managing dairy herd fertility – how case study proved a winner

**DAIRY** herd fertility is challenging, given a background of declining conception rates and poor heat expression. Fertility is even more of a challenge for high-yielding large dairy herds, given the metabolic demands on the cow and the complexities of running a 1,000 cow dairy unit.

Despite this, how to achieve high fertility was demonstrated by a Shepton Veterinary Group farm client, which won dairy industry The Cream Awards High Fertility Award in 2013.

Success was down to a holistic approach, involving the management team of farm manager, dairy manager, business consultant, nutritionist and vet that has driven increased fertility, with the percentage in calf at 100 days improving from 30 per cent to 44 per cent on an annual rolling basis. Milk per cow per year has increased from 8,650kg to 10,243kg.

## First steps

The first step was to create simple targets that all staff could see and identify. These key performance indicators are the number of cows calving, number of serves, and number of pregnancies diagnosed each week. These are displayed outside the farm office so all staff can see them, and coloured red and green to identify if targets are hit, whatever the worker's native language.

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WEEK	CALVED	SERVES	PD+	DIED Cows/Calves	MAMMITS	CELL COUNT	PROBES
JANU	15+	40	12-15	0/6	5	180	30
14-20 Feb	17	50	(11)	1/0	0	128	23
21-28 Feb	18	40	12	0/0	3	135	25
28 Feb - 3 Feb	18	47	10	1/0	1	127	24
6-10 Feb	16	48	17	1/0	1	132	20
11-18 Feb	24	48	10	0/0	2	120	23
19-25 Feb	12	54	11	1/1	2	132	23
26 Feb - 3 Mar	21	61	18	1/1	3	128	30

Figure 1. Key performance indicators – colour coded.

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in the first of a two-part article, recounts how a client farm improved its herd fertility enough to win an award and passes on tips to how it was achieved

The targets are based on the need to achieve consistent numbers of cows calving week in, week out to maintain milk production (Figure 1).

High submission rates to first service have been a consistent and significant achievement, with a calving to first service interval of 62 days.

No change was required to the calving to first service interval, but low conception rates in 2011 resulted in comprehensive veterinary investigation. This showed no problems with the DIY AI approach, but there were underlying disease problems of infectious bovine rhinotracheitis (IBR) infection and sub-acute rumen acidosis (SARA).

Health problems are only likely to reduce fertility and cause increased embryonic loss and abortions. Vaccination for IBR was implemented for both the milking herd and for replacement heifers. The ease of a single annual booster, along with reduced cost, meant adoption of the Rispoval IBR (Zoetis) vaccine range.

Nutritional advice was taken to reduce the risk of SARA, and use of free-access sodium bicarbonate has been adopted

as a novel approach to monitor recurrence. The expected outcome was improved health in early lactation and a resultant increase in fertility. Some dips in performance were seen, reflecting episodes of milk fever. These were dealt with promptly by having good communication channels between farm manager, vet and nutritionist (Dave Hinkins, Countrywide).

## Staffing

In August 2012, staff levels and skills were reviewed and adoption of a technician breeding service, Genus Reproductive Mating System, was judged to be appropriate for the farm. The aim was to use a skilled external service to not only achieve high first service submission rates, but also better detection of returns to service, as well as correct skilled staffing levels, given increased herd size and need for attention to managing youngstock and forages.

A committed approach from Carmel Clark at Genus really helped with the attention to detail, with cows clearly chalk-marked for treatment, lists checked and any anomalies resolved, way beyond what was expected of her.

The fertility approach to the not seen bulling cows and non-pregnant cows was reviewed, and a timed AI approach using sequential injections of gonadotropin-releasing hormone GnRH and PGF2 $\alpha$  to control luteal



Figure 2. Percentage pregnant by 100 days calved.

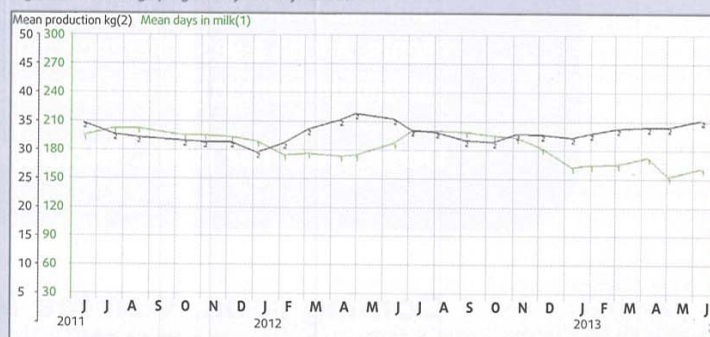


Figure 3. Milk yield at milk recording and average days in milk.

regression and ovulation for timed insemination, (GPG protocol) adopted. This was for use in cows not observed in oestrus seven days after prostaglandin treatment, with the aim of further tightening fertility performance. All of the above have resulted in improvements in the percentage pregnant by 100 days calved to exceptionally high levels, given herd production level and size (Figure 2).

The health problems outlined had resulted in a number of empty cows with extended lactations.

A timed breeding programme involving a double progesterone PRID treatment was devised to give these cows the best chance of getting in calf, in as short a time as possible. Despite this being a problem group, one-third of enrolled cows became pregnant after 24 days from first service. This timed AI approach, in addition to the measures previously mentioned, has resulted in a reduction in the numbers of non-pregnant cows at 200 days.

Adopting a broad ranging approach to fertility that used the skills of farm staff, vet, nutritionist and business consultant in this herd has steadily built fertility over the past two-and-a-half years.

There are now robust approaches in place that

are delivering:

- calving to first service interval of 61 days;
- percentage in calf at 100 days of 56 per cent; and
- percentage not in calf at 200 days of 16 per cent.

As important is that the farm is meeting targets for service and pregnancies, with numbers due to calve in excess of the 50 cows expected each month. This fertility performance is driving milk production, as can be seen from the milk recordings, which show a low average number of days in milk (161 days) combined with high production (Figure 3).

## VetSkills course

Shepton is holding a Managing Dairy Herd Fertility VetSkills CPD course on May 15 and 16 in Gloucester.

The tutors are Paddy Gordon, vet to the 2013 Cream Awards High Fertility award-winning farm, a 1,000 cow herd; Chris Watson, who has been involved in InterHerd training over many years; and Michael Head, who regularly carries out AI training and assessment of DIY AI and flask management.

The two-day course will enable delegates to understand and evaluate the key indicators, and then manage and monitor herd fertility in a structured approach. Delegates will analyse

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InterHerd data from real farms and carry out problem solving working in small groups. The course will give delegates the confidence to tackle fertility problems and gives practical insights into many aspects of fertility.

To book or for further information, visit the VetSkills website <http://vetskills.co.uk/course-details/?courseid=1924>, telephone 01765 608 489, or email [paddy.gordon@sheptonvet.com](mailto:paddy.gordon@sheptonvet.com)

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is a director of Shepton Veterinary Group, where he carries out routine fertility and herd health visits to dairy herds with up to 850 cows. He works to improve fertility, production and health on farm through targeted advice based on farm performance from InterHerd software, with attention to staff skills and focus.

