

Many hands can make light

# Partnerships, pregnancy

We ask a fertility expert and a nutritional specialist how a joint approach to fertility and nutritional management can help get cows back in calf as soon as possible this winter.

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**W**ith a national average pregnancy rate of 12%, which equates to a calving interval of more than 425 days, improving fertility is a key focus on dairy units across the UK right now as the main breeding season gets underway.

“Farm business account records show that herds with the highest calving percentage can generate significantly higher gross margins than other herds where the calving percent and pregnancy rate are lower,” says Northern Ireland’s Genus RMS manager James Woods. “The most obvious benefit of improved cow fertility is more litres of milk sold per cow per annum, which is a key driver of farm profitability,” he adds.

Fertility is a complex issue. Many factors, including the environment, cow type, semen management, labour, nutrition and herd health, form important pieces of the fertility jigsaw puzzle.

“The reproductive management system (RMS) works as a partnership. Everyone – the producer, the vet and the nutritionist – works together” says Mr Woods.

RMS is a focused approach to heat detection provided by a dedicated and highly trained technician who uses a tail chalking system to identify standing heats. Any disturbance of the chalk – which is topped up every day – is an indication that the cow may have displayed bulling behaviour and the technician will then check for secondary signs of heat before inseminating.

*Table 1: Pregnancy rates and related calving intervals*

pregnancy rate	calving interval
over 20%	below 365 days
18-20%	365-380 days
16-18%	380-400 days
13-16%	400-420 days

“Visiting the farm daily means that the technician has a detailed awareness of which cows should be due to show signs of heat.

As a result, the technician can detect significantly more heats, in particular more ‘marginal’ heats. Trials, involving several thousand dairy cows, showed RMS is more effective than other common heat detection aids, achieving a calving interval that is 23 days shorter than the other methods,” Mr Woods adds.

In order to manage pregnancy production effectively and allow for management

changes to be made, there needs to be a reproductive measure that assesses performance quickly and effectively.

“The most effective measure of reproductive performance is the 21-day pregnancy rate. This combines the ability to identify cows that could be potentially bred with our effectiveness at getting them in calf, during a 21-day period.

One of the problems with the new measure is getting familiar with it and knowing what particular results mean. According to Mr Woods, Table 1 relates typical pregnancy rates to calving intervals. The average pregnancy rate figure for RMS herds is 18.

Optimal nutrition has long been recognised as a key factor towards improved fertility performance.

“Central to so much of a dairy cow’s health and performance – including fertility – is being able to minimise the negative energy balance (NEB) in



work of dairy cow fertility

# s and plenty of progress

early lactation, which has become an unavoidable problem in the modern dairy cow," says Thompsons' Richard Moore.

## Nutritional advice

"Accurate nutritional advice, combined with the appropriate ration, will both encourage DMI and minimise the NEB in its length and severity. Early lactation cows need to be fed so that no more than 0.5kg of body weight per day is lost."

Keeping track of the individual daily weights of each cow is not practical so other means of assessment must be used. "Recording body condition score and making a note of DMIs can help to ensure that the ration meets the cow's requirements and, therefore, improve fertility," says Mr Moore.

Once recorded figures are available, parameters can be set. "A loss of between 0.5 and 0.75 in body condition score during the first 60 to 70 days of lactation



James Woods: "RMS offers a calving interval 23 days shorter than other systems"

should be the maximum. Early lactation cows should be consuming 3.5% of their body weight in dry matter per day.

"Rumen fill, manure consistency and cudging behaviour are other areas that require observation in freshly calved cows, to give an insight into the DMI of these animals," adds Mr Moore.

There are many systems and rations to promote good DMIs in early lactation. But



Richard Moore: "Good transitional nutrition is key to maximising fertility"

most begin with the transition period and require issues, such as a forage type/quality and feed barrier access, to be addressed.

The key areas, according to Mr Moore, are ensuring a BCS of between 2.75 and 3.0 at drying off and calving. Cows at BCS 3.5+ will have a significantly reduced DMI post calving.

## Poor BCS

In many herds, a reduction in grazed grass intake in September and October has resulted in poor BCS at drying off. So assess BCS eight weeks prior to the drying off date to allow for some correction.

Transition management is key. Between three and four weeks pre-calving feed coarse silage plus 2kg of straw and 2kg of pre-calving ration to promote rumen fill and avoid milk fever and displaced abomasum at calving.

Cows require 45cm of feed space/head to maximise intakes.

Ensure true ad-lib system. A 5% feed refusal should be left every 24 hours and this should then be fed to lower yielding or young stock.

Clean, fresh water should be available at all times. This is particularly important with some of this year's drier forages.

While the above points can assist the nutritional element of herd fertility, they cannot replace basic herd management.

Adopting fertility management programmes, such as RMS, can offer a system that ensures the basics of fertility are adhered to.

It also provides data that is of significant benefit to those involved in maximising herd fertility – the nutritionist, vet and the producer. |

