DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

Newsletter 2014, Q1 February 2014

Dairy Herd Fertility: What are you looking at…??

The biggest loss associated with poor fertility is reduced milk sales…..when peak yield is traded for lower late lactation yield. When a cow is in the second half of her lactation (over 200 days in milk), her feed conversion efficiency is considerably lower than when she is in her first third of lactation. A dairy cow should ideally spend most of her time in early lactation…..

Recent results from 500 NMR milk recorded Holstein/Friesian UK dairy herds showed that the median (middle) value for calving interval was 414 days. In 2009, the cost of having a calving interval in the bracket of 396-425 days was calculated at £4.07 per cow per day for a 9,000 litre cow using a milk price of 26ppl. In 2014, this figure is likely to be considerably higher.

How can dairy fertility be monitored?

The limitations of traditional measures such as average calving interval need to be highlighted. Firstly the actual calving interval is a year out of date, it does not include cows that have been culled, and the average figure can be easily skewed in small herds. If you are monitoring this figure in herds that have a considerable number of non-pregnant stale cows to get back in calf, this figure will get worse before it gets better due to the considerable lag effect.

What we should be focusing on is how quickly cows are getting **pregnant**, and looking at figures that take into account **ALL** of the eligible cows in the herd. Provided that the figures are accurate (ie. all services and PDs are recorded), there are a number of different figures that could be potentially used, for example;

- 80 day submission rate (ie. number of cows served by 80 days calved)
- 100 day in calf rate
- 200 day not in-calf rate

Another figure that can be very useful to look at is Pregnancy Rate (PR), which is a measure of the number of cows eligible to be served that actually get in calf. This figure gives relatively up to date information on ***CURRENT*** herd fertility.

PREGNANCY RATE =
Heat Detection Rate x Conception Rate

One component of PR is the Heat Detection Rate (HDR), which is the proportion of animals submitted for insemination (where a genuine attempt has been made to detect heat before insemination). The HDR itself depends on heat expression by the cows in the herd (ie. cow issues) and the ability to detection oestrus accurately (ie. people issues).

HEAT DETECTION RATE =
Number of cows inseminated over 21 days/
Number of cows eligible to be bred over 21 days

The 21 day periods of Pregnancy Rate can either be expressed by calendar weeks, or by days in milk. For the average UK dairy herd with a 40% heat detection rate and a 35% conception rate, this equals a PR of 14%. If you are getting Pregnancy Rates closer to 20%, then you are getting more cows in calf, which means more milk next year...

Monitoring can be as complicated or as simple as you want it to be. If you need to keep a year round calving pattern for level supply, you can work out A) how many cows need to calve each month, B) how many cows need to become pregnant each month (the same as A), and C) how many cows you need to serve each month.

The above figures are some examples of how fertility data can be used to help monitor fertility progress on farm, and make informed fertility management decisions. It goes without saying that accurate data is essential. “Rubbish in = Rubbish out” has never been more correct!

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Feeding suckler cows this spring

We start to do a substantial amount of blood testing of pregnant suckler cows and sheep in February and March, and some recent articles from SAC Consulting have caught our eye on preventing calving difficulties in suckler cows. The articles are well worth the read, and are available at www.sruc.ac.uk/news/20005/sac_consulting

One article from Basil Lowman was warning about problems with overfat cows at calving, and the potential benefits of slimming obese cows down on a suitable straw-based ration (supplemented with protein and minerals) prior to calving. Another article from Gavin Hill was discussing the prevention of calving difficulties by feeding extra magnesium in the last 2-3 weeks prior to calving to prevent subclinical/clinical milk fever problems, which prevent the womb contracting properly at calving to expel the calf.

A basic checklist for suckler cow feeding this winter/spring is:

- If you have not already done so, get your cows pregnancy diagnosed now. Winter is not the time to be carrying expensive passengers!
- Work out what feedstuffs you have available, and have a plan with your nutritional advisor.
- Body condition score your cows, to see which cows are at the target body condition score (2.5 for a spring-calving suckler cow).
- Overfat cows (over BCS 3.5) can be slimmed down on low energy rations, but this approach should be stopped in the last month of pregnancy, otherwise calf health and colostrum may be affected.
- Thin cows (less than BCS 2) need to be fed good quality forage and some concentrates to gain condition. Do this gradually to avoid getting over-sized calves. Speak to your vet about investigating for underlying disease problems such as liver fluke.
- In the last month of pregnancy, cows will need adequate mineral and vitamin supplementation for both cow and calf health – especially magnesium, selenium, iodine and Vitamin E. How much is required will depend on what forage(s) you are feeding.

Regardless of your feeding system in late pregnancy, blood testing remains a rapid and cost effective method of "asking the cows" what they think of winter rations before it is too late. For example, rations based on straw or mature big bale silage can often be short in protein, and this can result in reduced rumen function (in severe cases even rumen impaction), poor colostrum production and milk production after calving. Likewise diets that are short in magnesium can result in staggers in cows with calves at foot. Blood testing can help identify such risks before it is too late by assessing energy, protein, mineral and trace element status in a representative group of 5-6 cows at key stages of the production cycle. There are two main periods for blood testing in suckler herds:

- Sampling once the cows have been on full winter rations for at least 2-3 weeks, which will check the adequacy of the base ration.
- Sampling a group of the first cows due to calve in the last fortnight of pregnancy before calving starts, followed by a repeat blood test 2-3 weeks after calving. This will check on nutritional status during the critical periods around calving.

Two green top (lithium heparin) tubes are needed from each cow, along with details of predicted calving dates, body condition score and current ration. As with all blood testing for nutritional status, the results need to be interpreted as one part of the jigsaw of assessing nutritional management, rather than looked at in isolation.

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