DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

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Fat cows and beer bellies….

Many vets will be familiar with the situation of doing an LDA operation in a thin freshly calved cow, and then finding lots of abdominal fat causing problems during the surgery. Is there a difference between fat on the outside (subcutaneous fat – which we assess by body condition scoring cows) and fat on the inside (which is much more difficult to assess)?

Recent research work suggests that there is. Overfeeding cows over an 8 week period resulted in more fat being deposited in the abdominal stores, even though the body condition score (BCS) of the cows remained the same. Internal fat stores associated with the gut (omental and mesenteric fat depots) are mobilised to a greater extent in early lactation than subcutaneous fat. The problem is that this internal fat is taken directly by the venous circulation to the liver, which results in problems with fatty liver syndrome.

The connection with beer bellies is that similar factors are thought to be involved with obesity in humans. "Apple" shapes (people with more abdominal fat) are more likely to develop insulin resistance, diabetes and harmful metabolic syndrome, compared to "pear" shapes (people with more subcutaneous fat). This is not to say that "pear" shaped abdomens are "good": being overweight is bad news whichever way you look at it! However having more abdominal fat makes a bad situation worse…..

This also does not mean that body condition scoring cattle is not relevant. Similar to the human research, being overweight is not good. All of the research work shows that fatter cows (BCS > 3) have a greater drop in Dry Matter intakes and mobilise more body reserves precalving compared with cows at optimal BCS (BCS 2½ - 3 for Holstein Friesians). Therefore body condition scoring cows at key points of the production cycle (for example 2 months prior to drying off, at dry off, calving, prebreeding) is an easy and effective way of monitoring nutrition. The DHHPS has just released a new BCS leaflet, which is available from the office and website.

Consuming too much energy (particularly in late pregnancy) exacerbates this BCS effect, to the extent that issues with fatty liver can develop in cows at target BCS (as they can lay down more abdominal fat which is difficult to see). This is where blood testing is invaluable, as the markers of excessive fat mobilisation (BOHB and NEFA) are raised in cows with negative energy balance, and these markers are more sensitive than BCS measurements. "Ask the cows" by blood testing – they are always right!

Course on use of internal teat sealants

The RDSVS is putting on a short course for farmers at Langhill Farm, Midlothian (EH25 9ST) on Thursday 18th August 12-2pm on Dry Cow Therapy and internal teat sealants. It will discuss best practice, and attendance will comply with milk purchaser requirements on the use on internal teat sealants. If you wish to attend, please contact the DHHPS office by 15th August to register

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Selective Dry Cow Therapy (SDCT)

It is hard to miss the increasing concern surrounding antimicrobial resistance in human medicine, and the lack of any "new" antimicrobial drugs to the market in the last 30 years. It is therefore not surprising that increasing scrutiny has been focused on antimicrobial usage in agricultural sections, especially their prophylactic use.

The use of antibiotic dry cow therapy in a cow categorised as **UNINFECTED** (low SCC cow with no clinical mastitis cases in the last 3 months of her lactation) is classified as prophylactic use. There is no arguing that the best time to treat a **HIGH** somatic cell count (SCC) cow is at dry off, as antibiotic treatment at this time offers the best opportunity for cure. However on the flip side, it is worth pointing out that in most herds with a bulk tank cell count within milk purchaser premium payment bands, over ¾ of the cows at drying off will have a low cell count and so are uninfected, and so do not require antibiotics.

What are the advantages of SDCT?

- Reduction in overall antibiotic usage
- Reduction in medicine costs by not "double-tubing" all cows at drying off
- There is some research that using antibiotic DCT unnecessarily in low cell count cows may result in more severe mastitis after calving.

What information is needed before undertaking SDCT?

Prior to drying off, individual cow status must be categorised into "**healthy**" or "**infected**" which then allows for appropriate individual treatment decisions to be made. Individual cow information needed to do this includes:

- **Monthly individual cow somatic cell count records** (from NMR, CIS or QMMS). This represents the best method of determining the infection status of cows, and should be analysed for the last 3 months of recordings before drying off.
- **California Mastitis Test (CMT)** on cows in the week prior to drying off.
- **Clinical mastitis records**. Cows with an episode of clinical mastitis in the last 3 months of lactation (or indeed the whole lactation) are more likely to have existing udder infections.

The bulk tank somatic cell count can also be useful. Although this does not tell you about individual cows, herds with a high bulk tank cell count (over 200,000 cells/ml) will have a higher proportion of individual high cell count cows, and treatment of existing "infected" cows will take a higher priority. Therefore in herds with a higher bulk tank somatic cell count, lowering the individual cow cell count treatment threshold is likely to be appropriate, in order to treat as many potentially infected cows as possible.

This decision on which cows get antibiotic DCT and/or internal teat sealants must be done in conjunction with your veterinary surgeon. Decisions on which thresholds are appropriate and which products to use will depend on factors such as milk production at drying off,teat end damage, the main mastitis pathogens present on the farm, dry cow environment, age of cow etc. **You must speak with your vet first.**

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