DAIRY HERD HEALTH & PRODUCTIVITY SERVICE

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Risks of rumen acidosis this winter

All of the indications are that this winter may present a high risk for subacute rumen acidosis (SARA) in dairy herds. Whilst many farms in the north have plenty of silage, forage stocks remain low on farms in the mid and south of England, which will mean that forage intakes will be low. Those farms that have made extra cuts of silage in the autumn have some wet, acidic silage to feed as judged by the analysis. In addition, maize silage stocks have been low in volume but high in starch, which will put additional pressure on the rumen. All in all, not good for rumen health….

Signs of SARA to look for in the herd include:

- Loose or variable dung consistency, with undigested fibre in the dung.
- Low butterfat levels.
- Variable milk yields. Often herds affected with SARA will have sporadic cases of milk drop.
- Poor cudding rates. Ideally over 60% of the cows lying down in the herd should be cudding.
- The presence of cudballs at the front of the cubicles is often noted, although some advisors consider that this is an indication of poor forage palatability, rather than SARA specifically.
- High risk diets for SARA have low forage Dry Matter intakes, with over 60% concentrate and less than 40% forage on a DM basis. High levels of starch and sugar may also pose a risk, but this will depend on the overall constituents of the diet. Feeding more than 3 – 4 kg of parlour cake in one go may also result in "slug feeding" of concentrate, depressing rumen pH after feeding. Given the definition of SARA as "rumen acidosis", it would seem logical that measuring the pH of the rumen in the cow would be a good step for the diagnosis of SARA. However, there is a large amount of variation in rumen pH values, both in individual animals during the day, and between cows. Looking at other indicators of rumen function such as protozoal activity, is likely to be a better indication of how well the rumen is actually working.

If there are issues with rumen acidosis in the herd, potential options for correction include:

- Increasing intakes of effective long fibre. If clamp forage stocks are tight, then big bale silage, straw or baled lucerne would be potential options to consider. NIS is another option used as part of the overall diet.
- Reduce levels of highly fermentable starch and sugar in the diet (for example reducing levels of bread or ground wheat). Switching to "slow release" starch sources such as caustic wheat may be beneficial for the rumen.
- Increasing levels of digestible fibre from soyahulls, draff, brewer's grains or pressed pulp will also moderate carbohydrate digestion. However, it should be noted that such feedstuffs do not add effective long fibre to the diet, and so do not promote rumination in the cow.
- Rumen buffers can be a short-term solution as a "first aid" measure, but ideally the cow needs to be producing her own rumen buffer by ruminating more.

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Colostrum in beef calves

It is well established that the antibodies in colostrum are essential for the health of new born calves. When calves receive insufficient colostral antibodies, it is known as Failure of Passive Transfer (FPT). Calves with FPT have increased rates of pneumonia, navel/joint ill and other diseases in early life. FPT rates have been shown to be high in dairy calves, and this has resulted in many dairies implementing strict protocols for colostrum management.

Despite the major focus on colostrum management in dairy calves, suckler calves have received relatively little attention. For this reason, we set out to determine whether FPT is a problem in British suckler herds and, if so, what can be done to improve the situation.

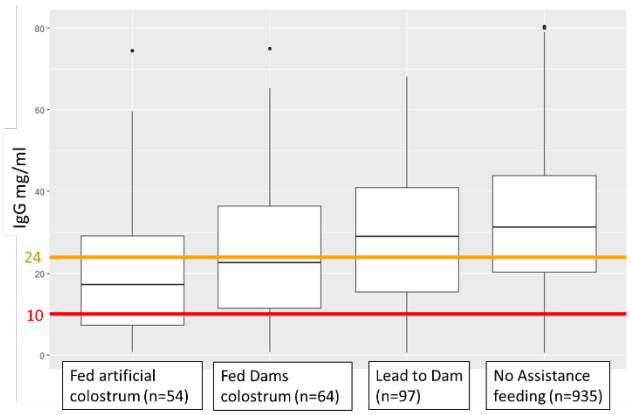
We analysed samples from over 1,100 calves born in spring 2018 and the results were striking:

- 1 in 7 calves had complete FPT i.e. they received no antibodies from colostrum, either because they did not get any colostrum at all or because they received colostrum too late
- 1 in 3 calves had partial FPT meaning that whilst they had been given some colostrum, the amount was either insufficient, or it was of insufficient quality to provide them with the antibodies they needed

A number of large studies in Ireland and North America have shown that suckler calves with partial FPT are approximately twice as likely to die or require antibiotic treatment than those with optimal passive transfer.

We found a lot of variation between farms, with some herds having excellent results, where all the calves had optimal passive transfer, whilst others had complete FPT in more than half their calves! Overall, 1 in 3 herds had a complete FPT rate of 20% or more. We are now going to explore what the main risk factors are for FPT in suckler herds, including whether the cows' metabolic status influences FPT rates.

Early signs from our analysis indicate that many calves who had received help with colostrum feeding still had insufficient antibody levels in the blood. This is shown in the figure below where calves that were manually fed either cow's or artificial colostrum were more likely to have low antibody levels:



Below the orange line is indicative of partial FPT, whilst below the red line is indicative of complete FPT

These results would suggest that we could do more to improve how we help calves. Looking at studies from Canada, it is clear that calves born with assistance (even a gentle pull without a calving aid) or that do not have a strong suck reflex at 10 minutes after birth are at increased risk of FPT. On this basis, we would recommend supplementing all calves that are born with any assistance or that do not have a strong suck reflex at 10 minutes old. These calves should be given 10% of their bodyweight of good quality cows' colostrum using either a bottle with a teat or stomach tube as soon after birth as possible and certainly within 2 hours.

We will continue to provide updates on our findings in this newsletter. We would like to thank all the vets and farmers who participated in this year's study, and AHDB Beef & Lamb and the University of Edinburgh for funding.

Agriscot 2018

As usual, the Royal (Dick) School of Veterinary Studies will have a stand at Agriscot on Wednesday 21st November. Please pop in for a chat if you are coming along to the show.