



STEVE BORSBERRY, 608 FARM AND EQUINE VETERINARY SURGEONS

The 'Fresh' Cow

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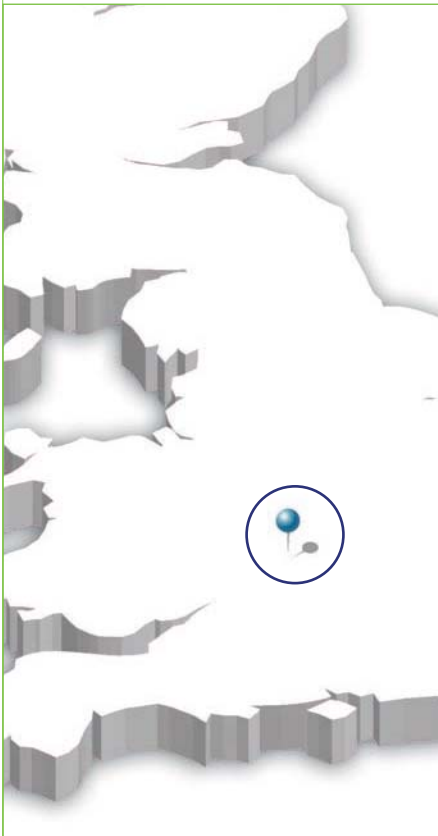
Peri-parturient diseases have a huge effect on the longevity of a cow; they can have an effect on lactation, fertility, lameness, mastitis, milk yield and thus lifetime production, reducing the profitability of the cow and the herd while also increasing the carbon footprint of the farm.



The diet supplied to the close-up cow needs to:

- Be palatable
- Provide sufficient energy and protein to maintain body condition
- Be provided at an energy density to maximise rumen size
- Provide some post-partum components in order to initiate changes in the rumen bacteria to maximise fermentation and utilisation of the lactation diet.

Reducing the incidence of peri-parturient disease can be complex, however, attention to the diet and management of the transition cow may well be the key for many enterprises.



Veterinary Surgeon Steve Borsberry

XLVets Practice 608 Farm and Equine Veterinary Surgeons



MAXIMISE RUMEN FUNCTION

Figures 1a, 1b and 1c are an estimation of the rumen size of many cows at calving and then four weeks and ten weeks post-calving. With appropriate feed management of the pre-calving cow it is possible to create a rumen size shown in 1b at calving; such a cow will obviously have a far greater DMI than 1a. A 1a cow has a greater disadvantage; not being able to eat enough and thus is more likely to suffer from a greater negative energy balance (NEB). Whenever discussing diets for the dry and fresh cow it is vital to reduce competition at the feed face; I would suggest a minimum of 3 feet/cow and the feed needs to be fresh, and available 24 hrs/day.

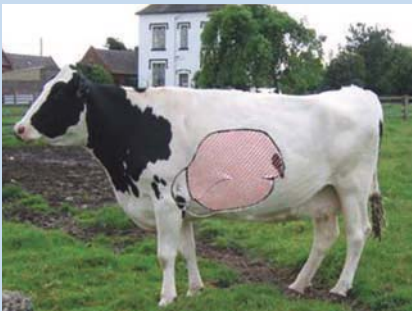


Figure 1a: An estimation of rumen size at calving

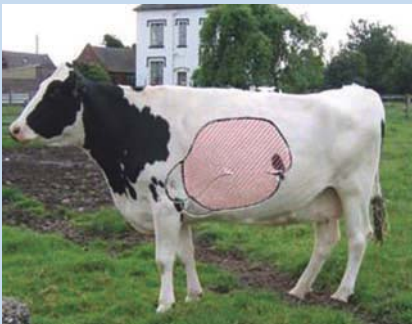


Figure 1b: An estimation of rumen size at 4 weeks post-calving

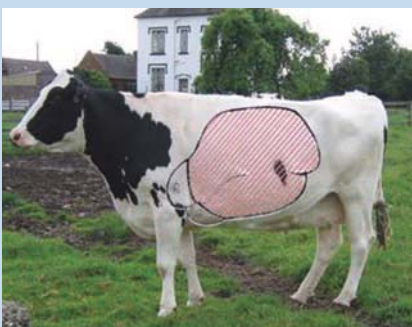


Figure 1c: An estimation of rumen size at 10 weeks post-calving

Calving is routinely the most stressful time of a cow or heifer's life (see Figure 2). Around this time there are tremendous hormonal and metabolic changes. One consequence of this is that the cow's/heifer's immunological system is suppressed making her more susceptible to disease. A complicating factor to this increased susceptibility is that the modern Holstein cow has a reduced innate immunity compared with a cross-bred animal. Added stressors such as inappropriate nutrition of the transition cow will undoubtedly increase the susceptibility to infections such as mastitis, metritis and endometritis. Work in North America has shown that diseases will have a negative effect on the lactation yield (see Table 1.)

Table 1: The effect of disease on lactation yield	
Disease	Loss in yield*
Metritis	250 kg milk
Ketosis	1,100 kg milk
Left displaced abomasum (LDA)	1,700 kg milk

*These are average figures and delayed treatments can greatly increase the loss of yield



Figure 2: Calving is the most stressful time in a cow's production cycle

It is difficult to compare herds simply by recording disease incidence, as the more examinations/investigations that are performed, the more disease will be diagnosed. Provided the same protocols are carried out, it is possible to compare farms, and year to year variations. Metritis and endometritis can 'only' be confirmed by a vaginal examination; it is vital they are diagnosed early and treated promptly. Metritis may have a lesser effect on milk production compared with Left Displaced Abomasums (LDA's) but the influence on future fertility can be dramatic, increasing the chances of being culled as barreners.

One farm has installed a 'S C R H R' system' which records both activity and rumination time of individual animals. It has been noticed, from observing the rumination time, that fresh calvers, which are developing a problem, 'cope' for the first four days post-calving and then suddenly reach a 'breaking point', when the rumination time reduces to half, compared with the previous four days. Examination of these cows reveals some have an elevated temperature and many have a foetid metritis.

Careful observation of individuals in the fresh group, including milk yields, followed by clinical examinations of 'suspect' cows will provide early diagnosis of problems; rectal temperature is only a guide to a cow's health.

The use of 3rd and 4th generation cephalosporins in veterinary practice has received much comment and their future use may well be restricted. We have a metritis problem on one farm where we believe the feeding of the transition cow is satisfactory and our protocol for the future is to use antibiotic uterine pessaries (Bovocycline) for all assisted calving and retained foetal membranes.

If we endeavour to maximise rumen function, reduce stress, treat cows as individuals, examine if we have any suspicions and treat promptly, always looking after the cow, the cow will then look after us.

