



## Newsletter 2017, Q2

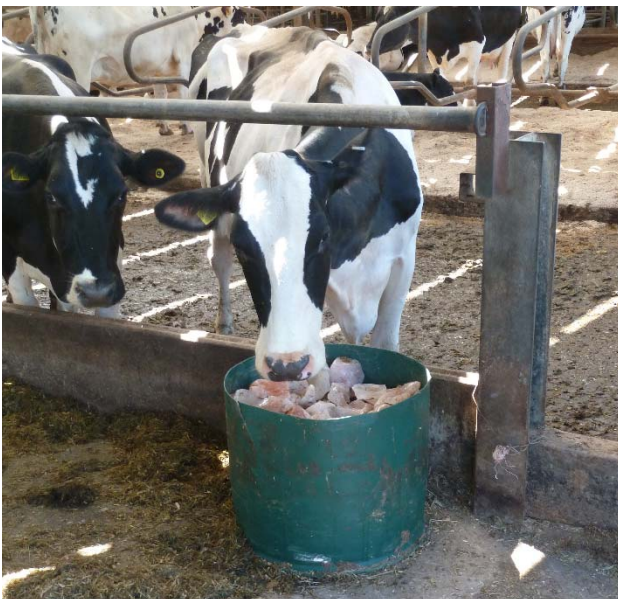
May 2017

### Sodium or salt deficiency in cows

It is not a condition that we come across often, but there have been a couple of cases of assumed sodium (or salt) deficiency recently, and it is worth highlighting some of the issues that have arisen.

Salt (or sodium chloride) is an essential element for all animals, required for a wide range of processes such as fluid metabolism and cell function. Cows' milk contains 0.5 grams of sodium per litre, and so **milking cows have relatively high requirements**. These needs are increased during hot humid weather, due to salt losses via sweating. A cow producing 30 litres of milk will need over 20 grams of sodium per day (or 51 grams of salt), equivalent to 0.12% or 1.2 g/kg DM sodium in the diet.

Sodium deficiency is most likely to occur due to a combination of **high requirements** (milking dairy cows) and **sodium/salt deficient diets**. In cows that are fully housed, this usually occurs in diets based predominantly on **maize silage** or **wholecrop** (both of which are relatively low in sodium) that have not been properly supplemented with minerals.



In cows outside at grass, forage mineral analysis shows that **many pastures are relatively low in sodium**, with some less than 0.1%. Repeated **potash (potassium) fertiliser** use will depress grazing sodium content, and this situation occurs with frequent application of slurry (as dairy cow slurry is very high in potassium). Grass staggers can occur in cattle and sheep secondary to sodium deficiency, and this poor magnesium absorption is often compounded by high potassium levels.

The clinical signs of sodium/salt deficiency are:

- Cows develop a **craving for salt**, and will lick or eat any available source – soil, wood, concrete, sweat on other cows etc.
- **Cows drinking other cows' urine** is usually described as a classic clinical sign.
- Reduced milk yield and ill-thrift.
- We have seen issues where the consigned milk **fails Freezing Point Depression (FPD) tests** (used to check for watered-down milk). Whilst we have not been able to definitively prove this, the theory is that it may be linked to low chloride content of the milk due to prolonged salt deficiency in the cows.

Fortunately, sodium/salt deficiency is relatively easy and cheap to sort. *Ad-lib* rock salt will enable cows to consume what they need, and if cows have been deficient, cows will actively consume it. However, **inclusion of granular salt** in mixed rations will ensure more consistent intakes. Proprietary minerals and concentrates also often have salt added for palatability. When correcting deficiency, it is important that cows have **unrestricted ad-lib access to water**, otherwise this could potentially result in salt poisoning as there is insufficient water for the cows to flush excess sodium from the body. Salt fertiliser use on pastures is also advised.

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## The Calving Cow

Approximately 8% of calves die within 24 hours of birth, and so planning plays an important role in minimising calf losses at this key stage. Some areas to consider include:

- Choice of bull - easy calving
- Aim for well-grown heifers at calving
- Aim to calve cows and heifers in Body Condition Score 2 ½ - 3
- Well-bedded dry and clean calving pens
- Use appropriate and clean equipment
- Ensure good colostrum intakes after a difficult calving

If the calf is normally presented (head with both forelegs) and the mother's pelvic area is large enough, most cows will give birth without assistance. Recognising the normal stages of calving is important:

### The Three Stages of Parturition (Labour)

**Stage 1:** Preparatory (typically lasts 2-6 hours) = Restlessness, separation from herd. Water bag expelled at end of Stage 1.

**Stage 2:** Foetal Expulsion (typically lasts 1-2 hours) = Calf delivery completed

**Stage 3:** Placenta Expulsion (typically lasts 2-8 hours)

The causes of a difficult calving (also called dystocia) can either be cow- or calf-related. Examples of cow-related problems include age, pelvic size, lack of uterine contractions and undilated cervix. Calf-related examples are high birth weight, sire breed and sex. Approximately 5% of calves are in an abnormal position at calving. Twins and calves with gross abnormalities can also cause dystocia. Common signs of impending calving include 'bagging up', vulval swelling, relaxation of pelvic ligaments, and a rise in body temperature, followed by a drop.

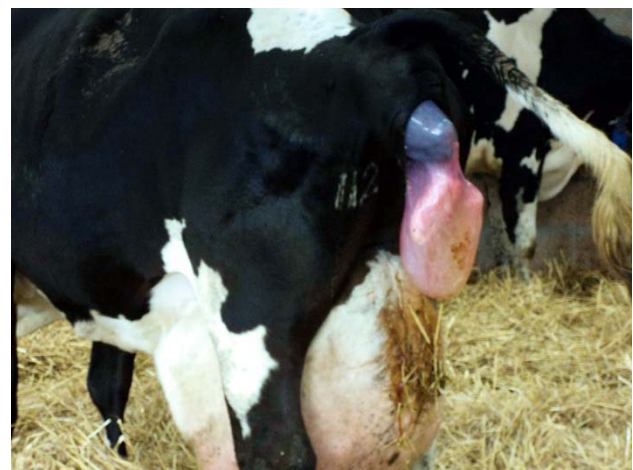
**When to examine the calving cow?** In an adult cow if no significant progress is made 30 mins after the waterbag or the calf's feet first appear

at the vulva, the cow should be considered for examination. Typically heifers would be allowed slightly longer – up to 60 mins. If examination is necessary, this should be done as cleanly as possible, and the waterbag should NOT be ruptured. An examination should also be considered if Stage 1 labour takes longer than 2-4 hours. **If you think the cow has started calving but nothing is happening: examine her. If something looks abnormal: examine her.** No progress could mean a twisted womb, early milk fever, foetal malpresentation or foetal oversize/maternal undersize. Some signs of a big calf relative to pelvic size are crossed front feet, swollen head/tongue and head back.

### When to intervene?

If the uterine discharge is yellow, this indicates that the calf is stressed and assistance is needed. An abnormal calf presentation, a calf with a swollen tongue, little or no progression of labour (either 1st or 2nd stage) or an abnormally large calf all indicate intervention is very likely to be needed.

**When to call the vet?** When you are not sure what is going on, if you are not sure that you can deliver the calf safely, and when you cannot sort out the problem within 10 minutes, then call for veterinary assistance.



Stage 2 parturition - Calf in normal (anterior) presentation. Both forelegs and nose of calf are visible within the waterbag.