

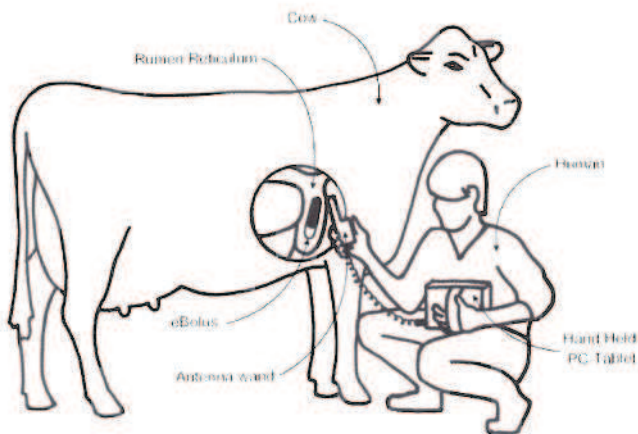


Rumen pH bolus trial results

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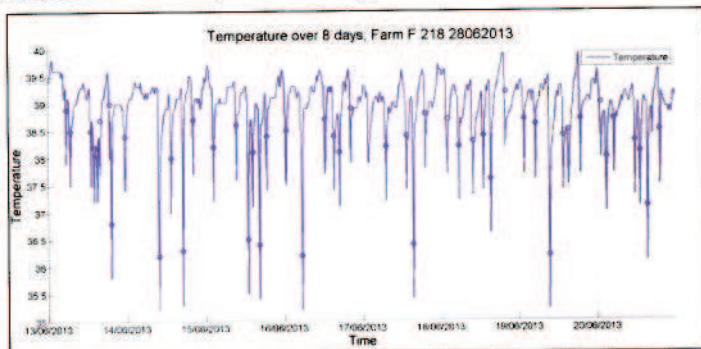
What is a Rumen pH bolus?

Invented right here in Devon, the rumen pH bolus is the latest in the wave of technology which is improving our ability to manage farmed livestock. Incorporated inside the bolus is a pH sensor and thermometer, combined with the computer technology required to record the information and beam it to a reader outside the cow. Therefore, the result of the pH bolus is a record of the pH and temperature inside the cow's rumen every 15 minutes for 5 months.



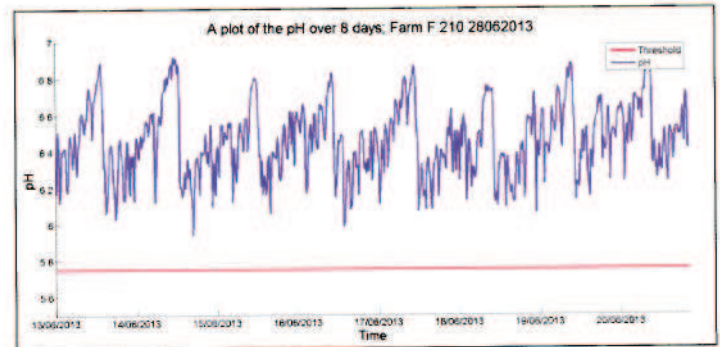
What does a pH Bolus tell us?

There is an optimum pH for the function of the bacteria and protozoa which ferment the food a cow eats. When a cow eats any feed, but especially highly fermentable feeds the pH drops until such time as the natural buffering caused by salivation increases the pH once again. The rumen of a cow is in a constant flux of up and down determined by feeding and ruminating behaviour. And because those rises and falls are fundamental to the health and production of ruminants, the pH bolus as the first farm level measurement of this information promises to be very useful for the health and production of our cattle. The added function of temperature measurement essentially records drinking behaviour as this is when cold water pours into the rumen - again revealing information on cow behaviour. The graph below shows dips in temperature which represent drinking bouts.

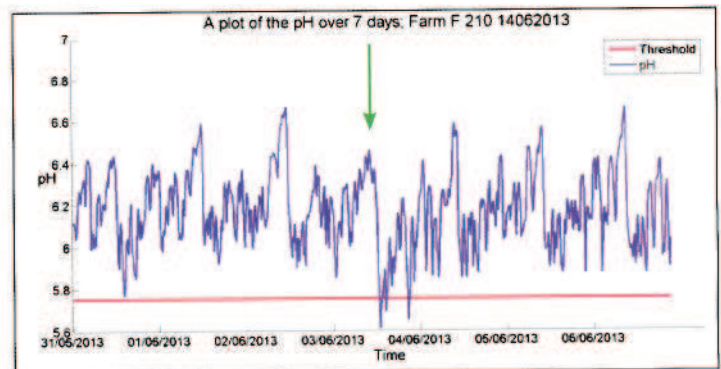


What have we learnt so far?

We are now getting lots of information back from rumen pH boluses inserted on customers farms in the South West, and the results are proving interesting.



The daily cycle of cows is really highlighted by the information. Look at the regular pattern of this cow above over 1 week. Each vertical line is midnight - her main feeding period is during middle of the day when fresh buffer is fed and causes a fall in pH. She has a regular, stable and safe pH.



Management changes which disrupt this daily routine alter the rumen pH by altering feeding behaviour. In the example above from the same farm the arrow indicates a change to a different area with better grazing which caused a change in routine, feed intake and so pH. The bolus trial is adding a lot to our 'cow point of view' knowledge of the dynamics of feed intake in different situations.

Is the dip below target pH harmful for this cow? A short fall into low pH's such as here is unlikely to be harmful, however more prolonged or severe falls are definitely detrimental to health and productivity. More knowledge of the dynamics of rises and falls in pH on commercial herds can only help avoid the management and feed factors which lead to low rumen pH issues.

Information is coming in thick and fast, watch this space.

