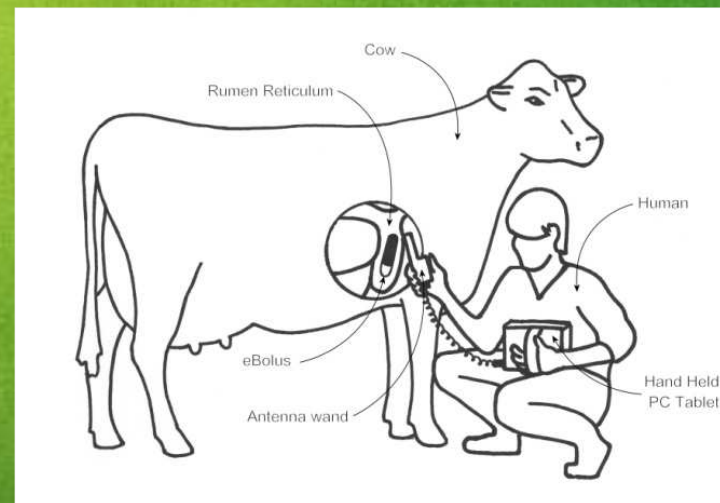
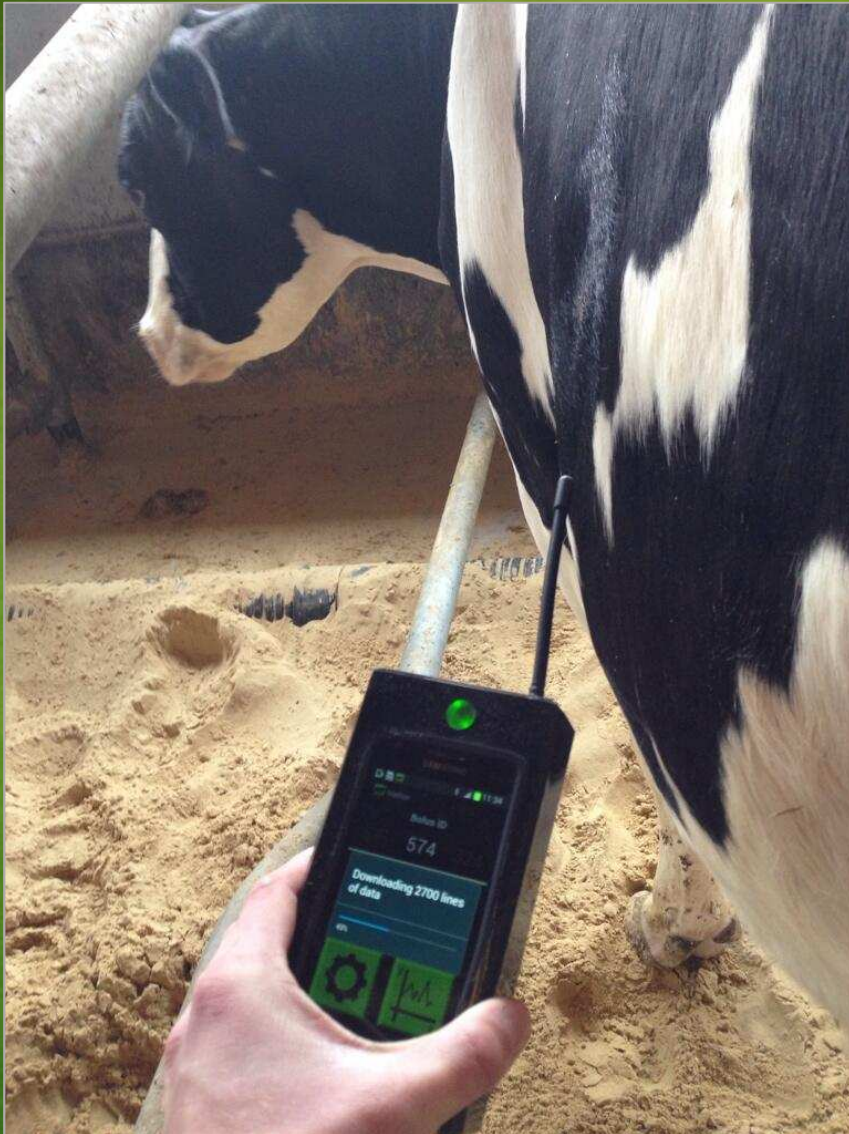


eCOW

Our Product

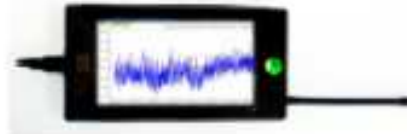


3 ways to view data

Data download from cow



- Use Data Viewer on handset
- View data immediately on handset
- No internet required
- Small screen
- View data on handset only



- Plug handset into PC using USB cable
- Start eCow software and select 'Import Bolus Data'
- View data immediately on PC
- No internet required
- View data on handset only

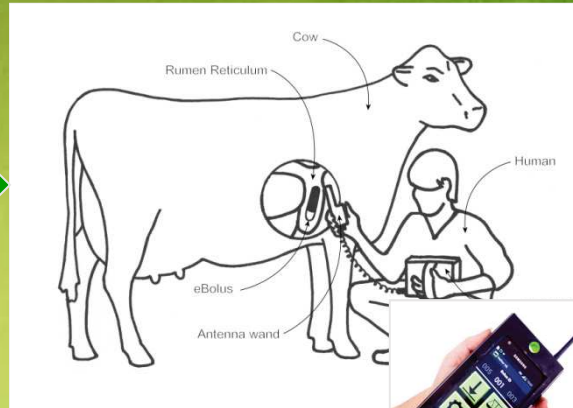


- Connect to internet via wifi/3G with handset
- Data will send automatically to eCow server
- Connect to eCow server using Client software on PC
- View data anywhere on a PC
- View all data from first until last day of data logging
- Requires internet connection



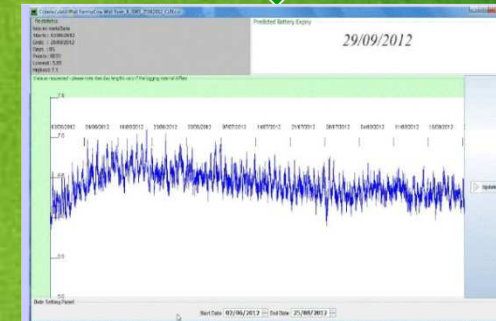
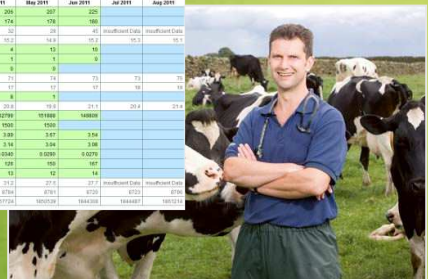
Our Data

Advice and feedback based on data review



Raw data collected by farmer, vet or nutritionist

| | Mar 2011 | Apr 2011 | May 2011 | Jun 2011 | Jul 2011 | Aug 2011 |
|-------------------------------|----------|----------|----------|----------|----------|----------|
| Cows in the Virtual Herd | 211 | 206 | 207 | 205 | 205 | 205 |
| Cows in Milk | 190 | 176 | 178 | 186 | 186 | 186 |
| Cows Dry | 21 | 30 | 29 | 19 | 19 | 19 |
| Cows Dry (Rising %) | 19.1 | 14.2 | 14.3 | 10.2 | 10.3 | 10.1 |
| Cows Calfed | 162 | 147 | 151 | 149 | 153 | 153 |
| Calves Calfed | 4 | 1 | 1 | 1 | 1 | 1 |
| Cows Bought | 8 | 9 | 8 | 8 | 8 | 8 |
| New Calves (Rising %) | 22 | 7.1 | 7.1 | 7.2 | 7.3 | 7.3 |
| Replacement calv. (Rising %) | 12 | 17 | 17 | 17 | 18 | 18 |
| Total Herd (Cows and Calves) | 21 | 8 | 8 | 8 | 8 | 8 |
| Calfing Rate (Rising %) | 10.3 | 20.8 | 18.3 | 14.1 | 20.9 | 21.2 |
| Milk Sold in Month | 187000 | 182700 | 181800 | 188800 | 188800 | 188800 |
| Milk Produced per Cow | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Bullifer % | 3.92 | 3.89 | 3.87 | 3.94 | 3.94 | 3.94 |
| Milk Protein % | 2.82 | 2.81 | 2.84 | 2.86 | 2.86 | 2.86 |
| Milk Urea % | 0.020 | 0.018 | 0.020 | 0.020 | 0.020 | 0.020 |
| Bull Milk (Tonnes) Calf count | 188 | 189 | 189 | 187 | 187 | 187 |
| Bullifer | 18 | 18 | 18 | 18 | 18 | 18 |
| Milk Sold per Cow per Day | 27.4 | 27.2 | 27.1 | 27.7 | 27.7 | 27.7 |
| Milk Sold per Cow per Year | 8720 | 8740 | 8710 | 9220 | 9220 | 9220 |
| Milk Sold per Head per Year | 101420 | 100710 | 100000 | 104430 | 104430 | 104430 |



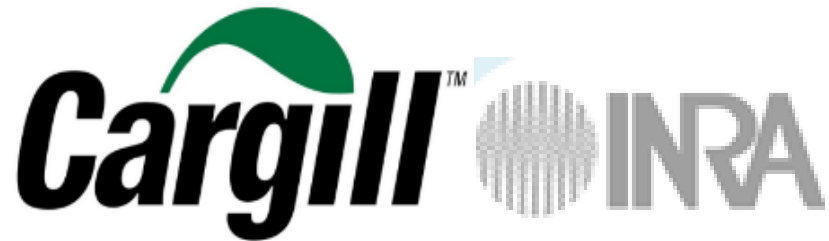
Data published to online dashboard



Data uploads to eCow server automatically

Our Customers

Research



Feed & Nutrition



ebvc
evidence based veterinary consultancy



— innovators in agriculture —

Where did it come from?

- eCow founded in 2007 by Professor Toby Mottram
- In-dwelling rumen pH sensor first developed at Silsoe 2003, first prototypes lasted one week
- A pH and temperature measurement bolus born from a research project with Pfizer
- Has undergone multiple design iterations and improvements to maximise life and durability

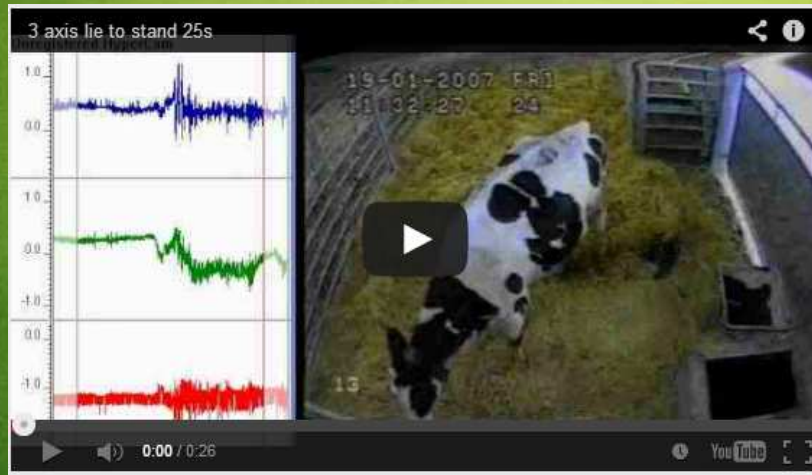


Inventor - Professor Toby Mottram

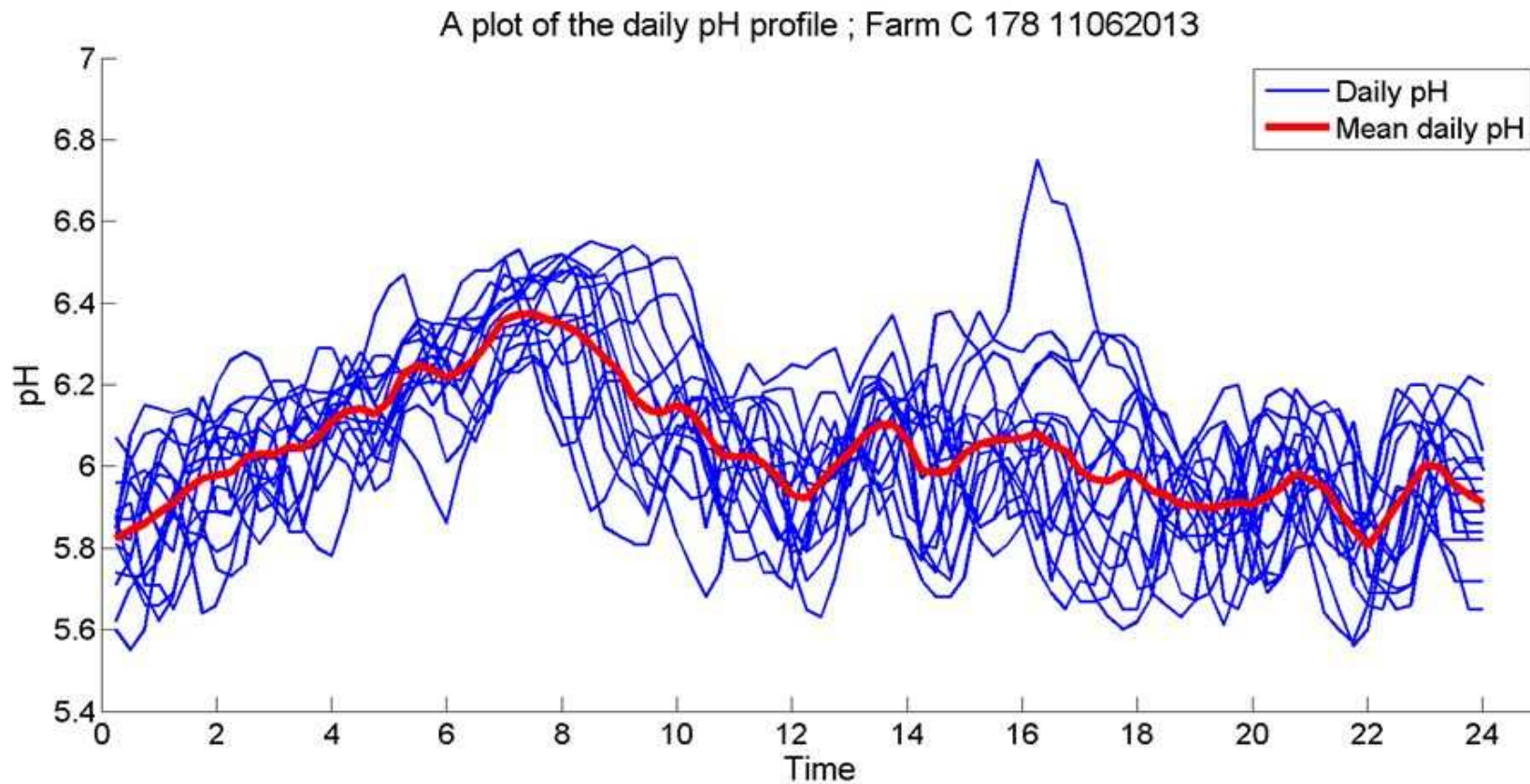
Royal Agricultural University



- Breath Sensing
- Milk Progesterone Analyser
- Lameness Detection
- Calving Detection
- Rumen pH Monitoring



3 data outputs



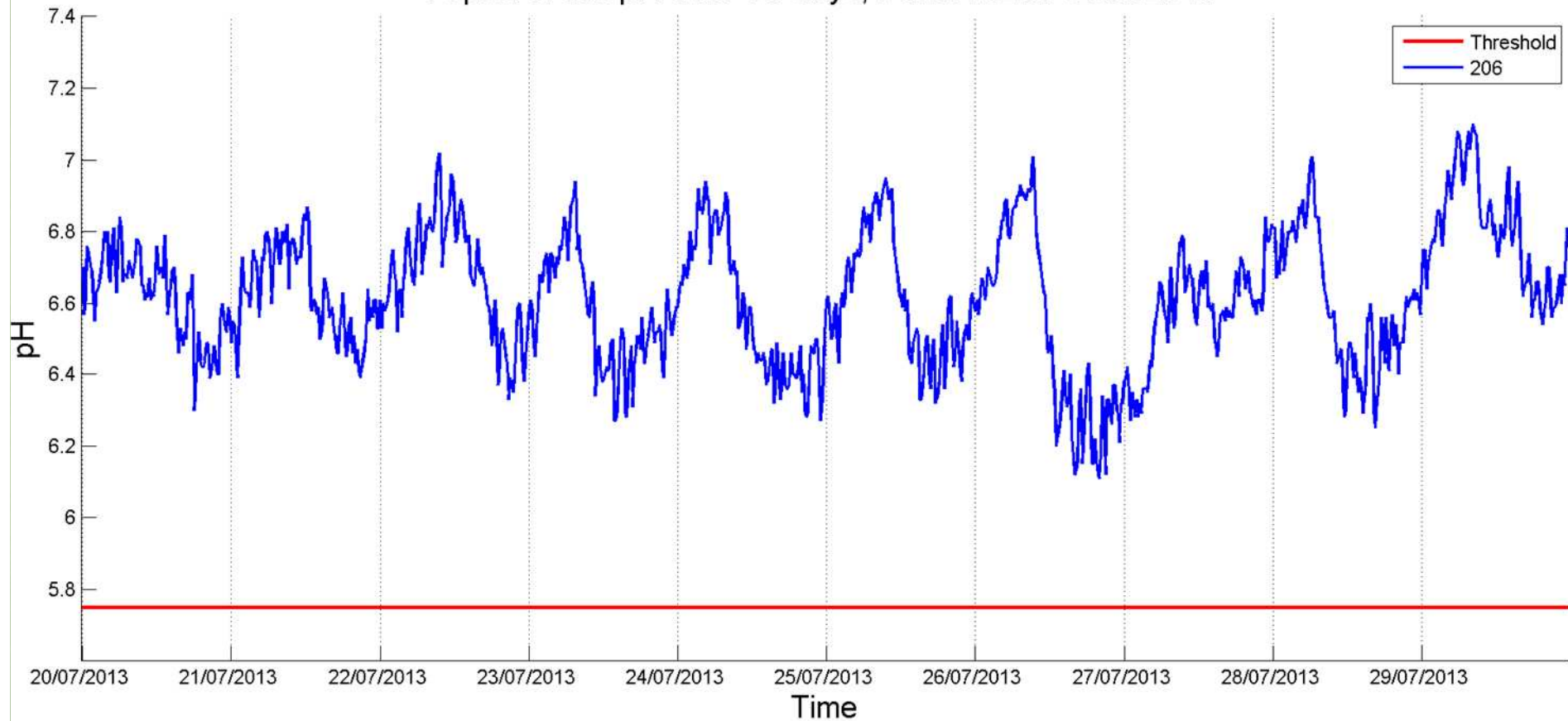
What have we seen from UK herds

- May 2013 - limited experience in commercial herds
- TCF, MVF & ebvc farms – 12 farms – various types for trials
- Now up to 30+ farms
- Roughly 3-5% of cows within groups monitored
- Original trial turned into offer to be exclusive sales channel

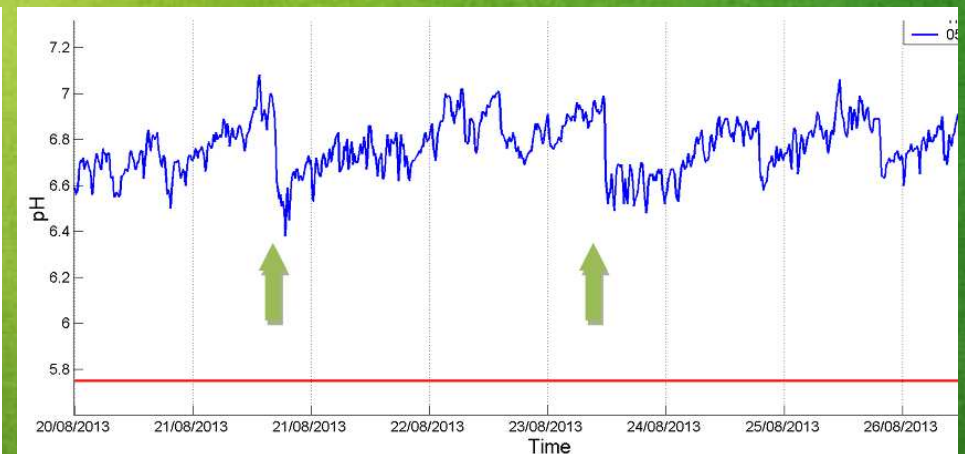
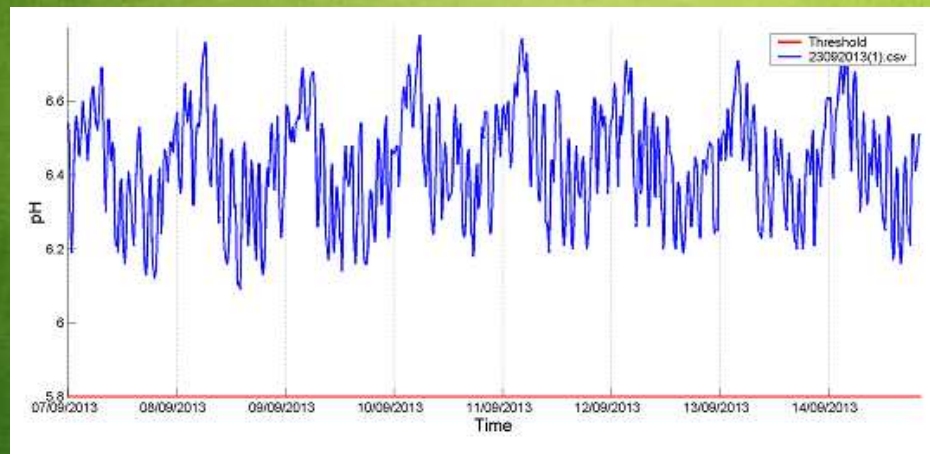
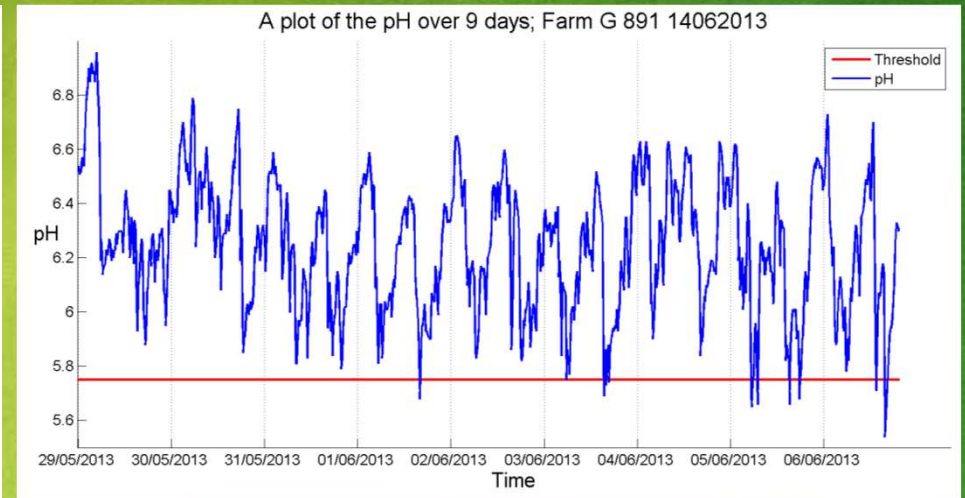
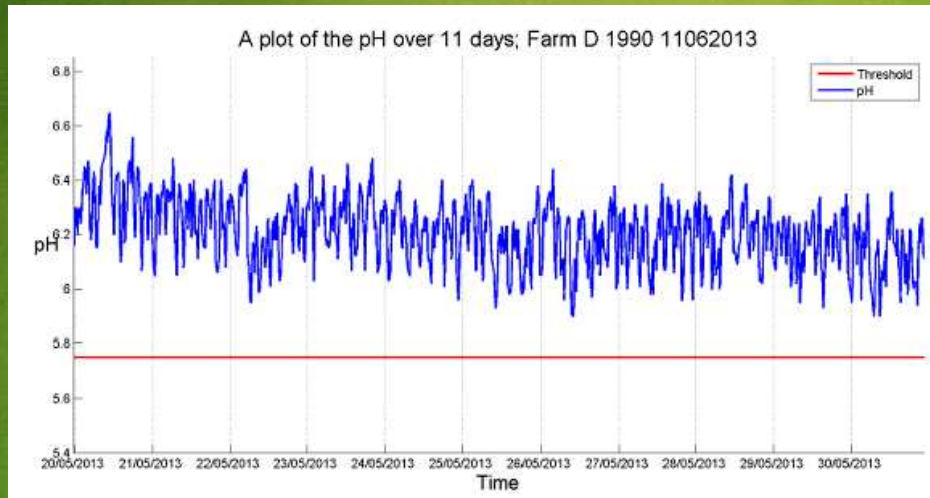


Monitoring intake - grazing

A plot of the pH over 10 days; Farm K 206 09082013

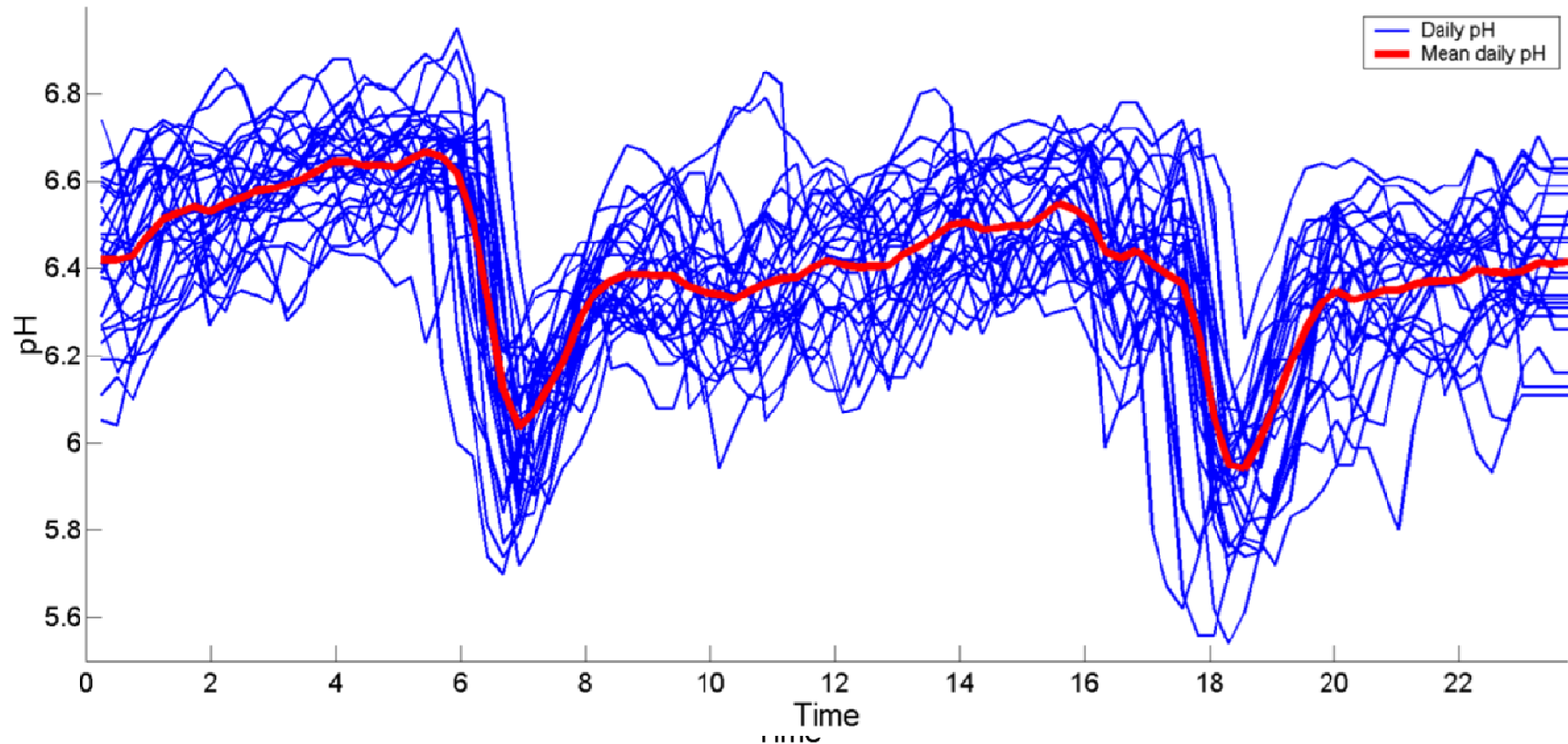


Different systems show distinct patterns

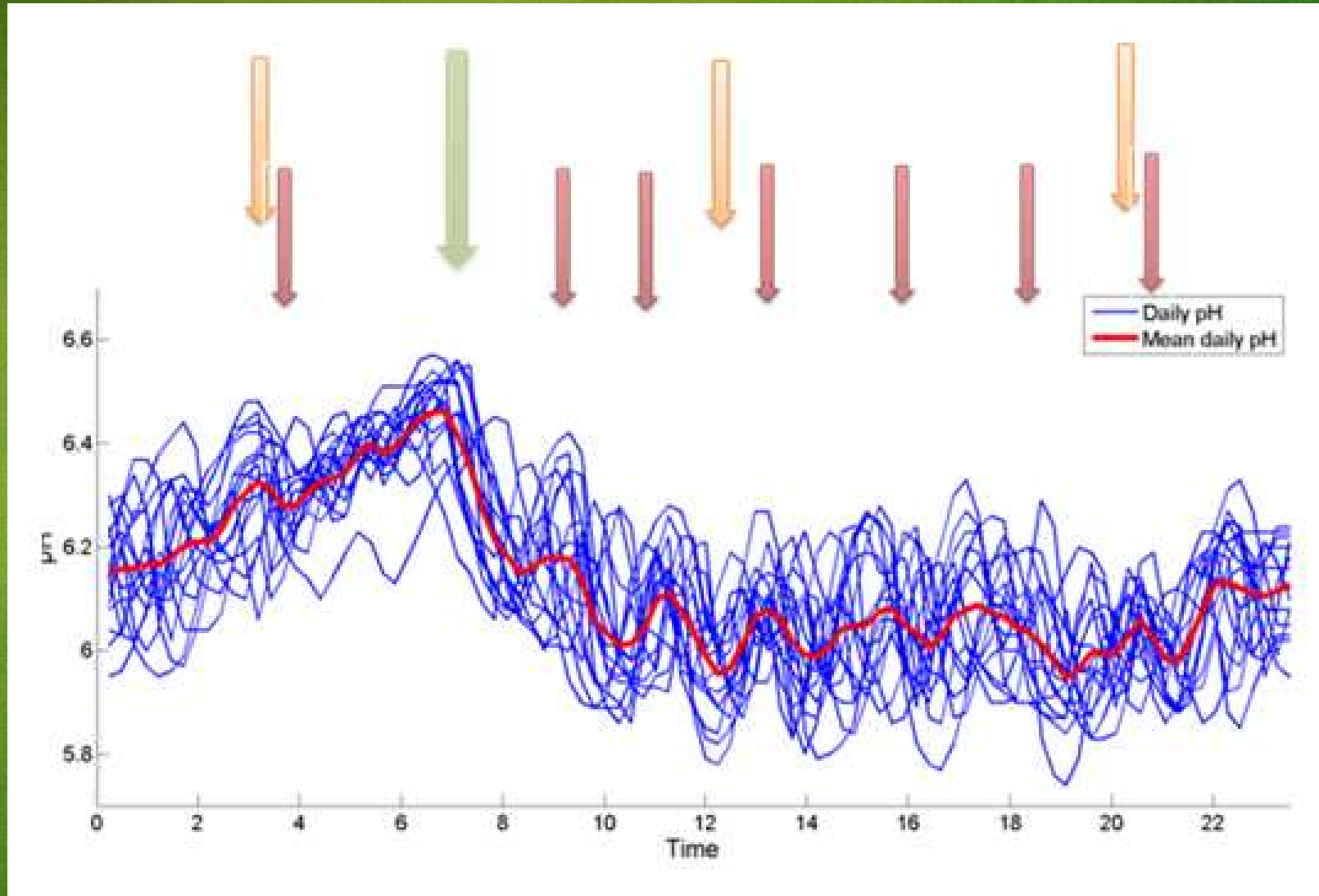


Daily Routine

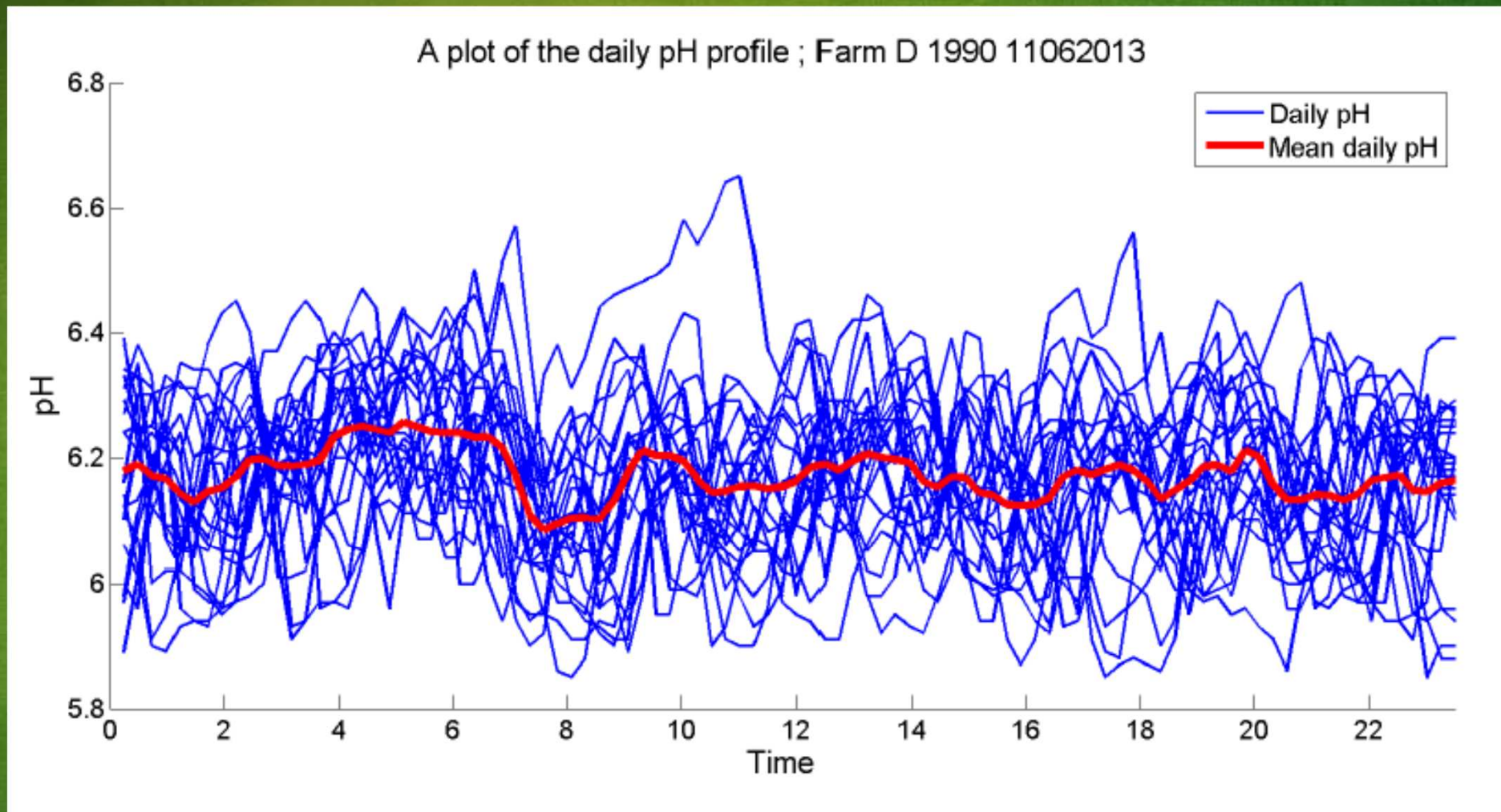
A plot of the daily pH profile ; Farm K 0479 206 11092013 XXX



TMR herd milked 3 x per day

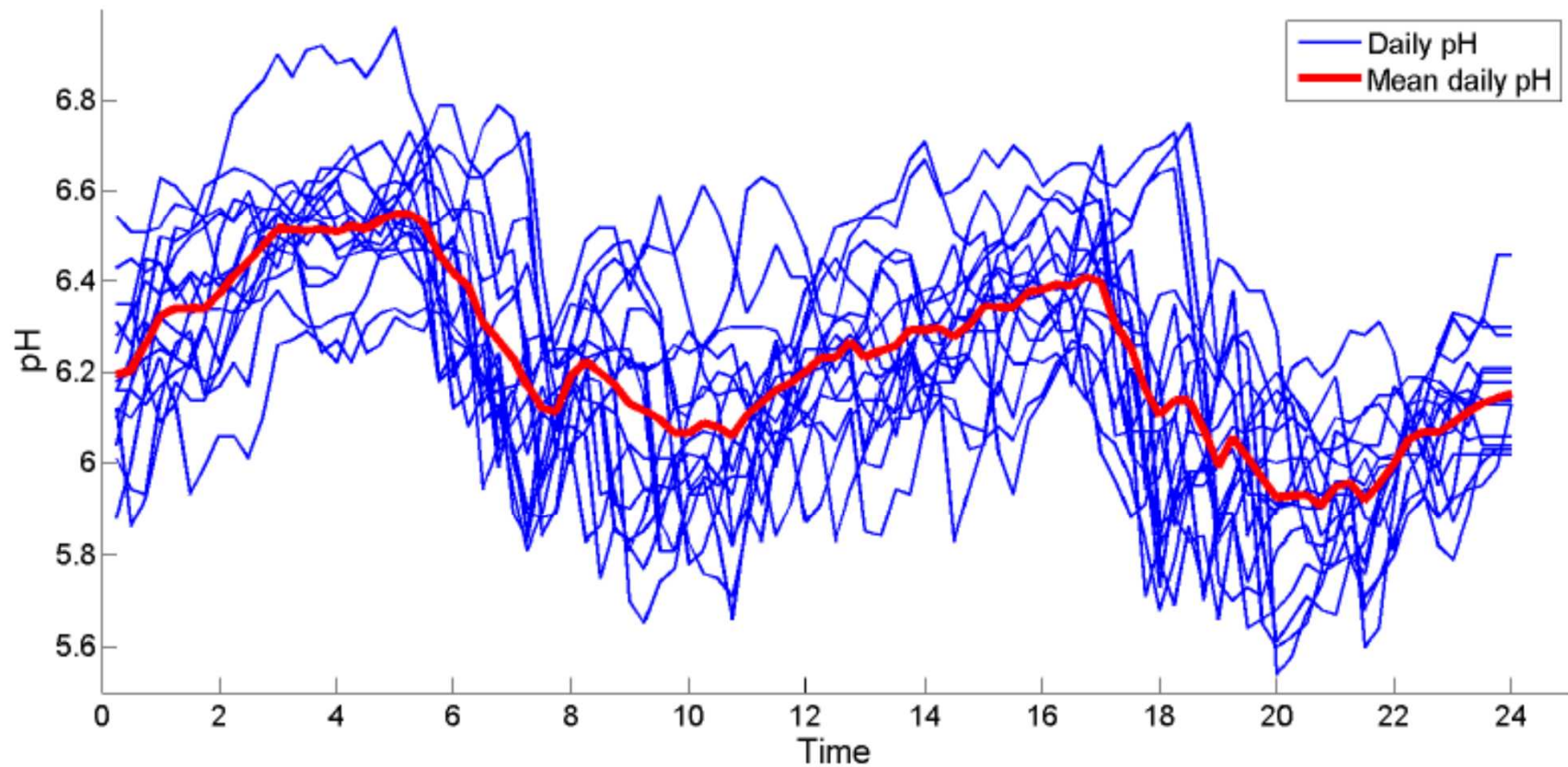


Robot routine

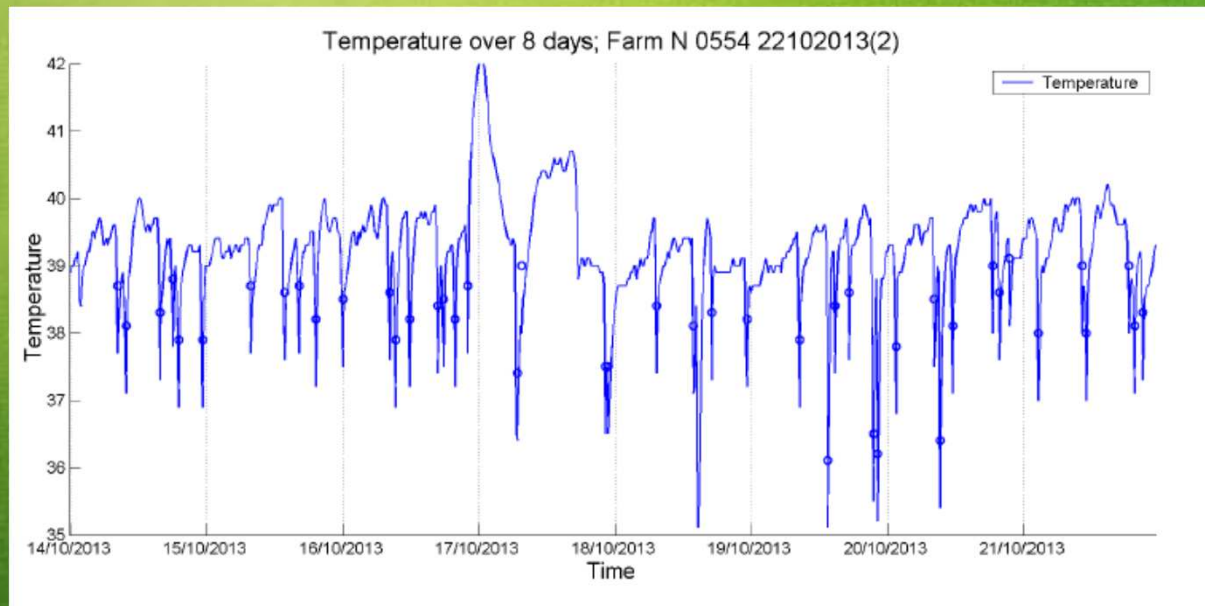
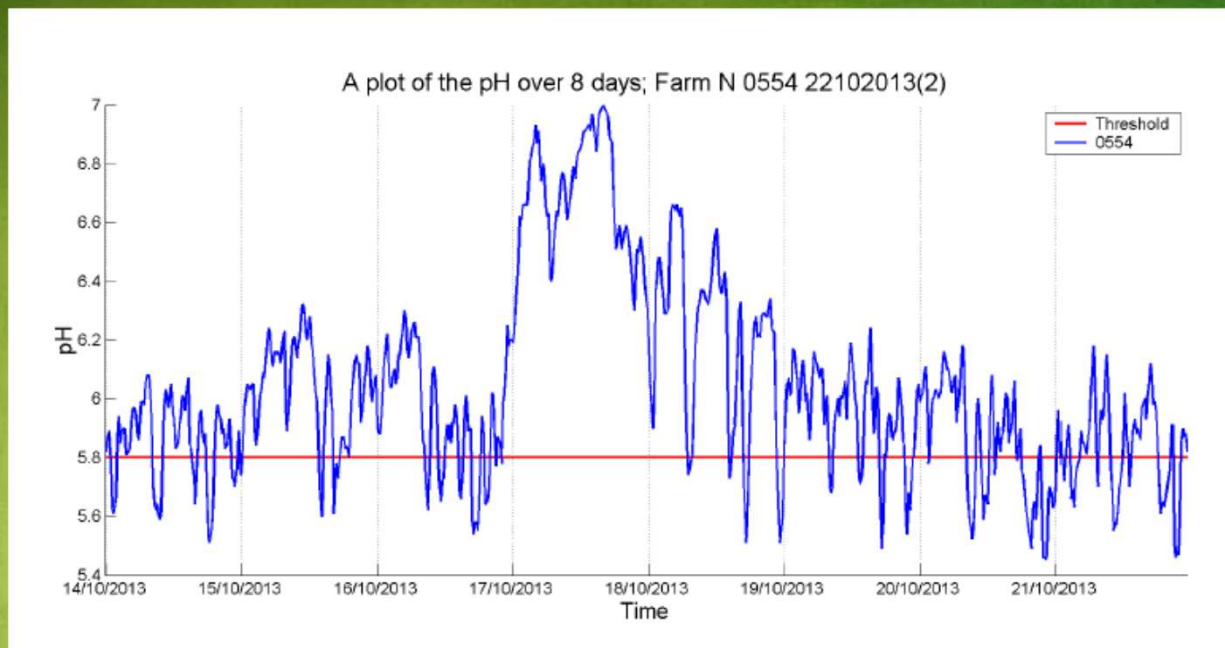


Grazing with compound

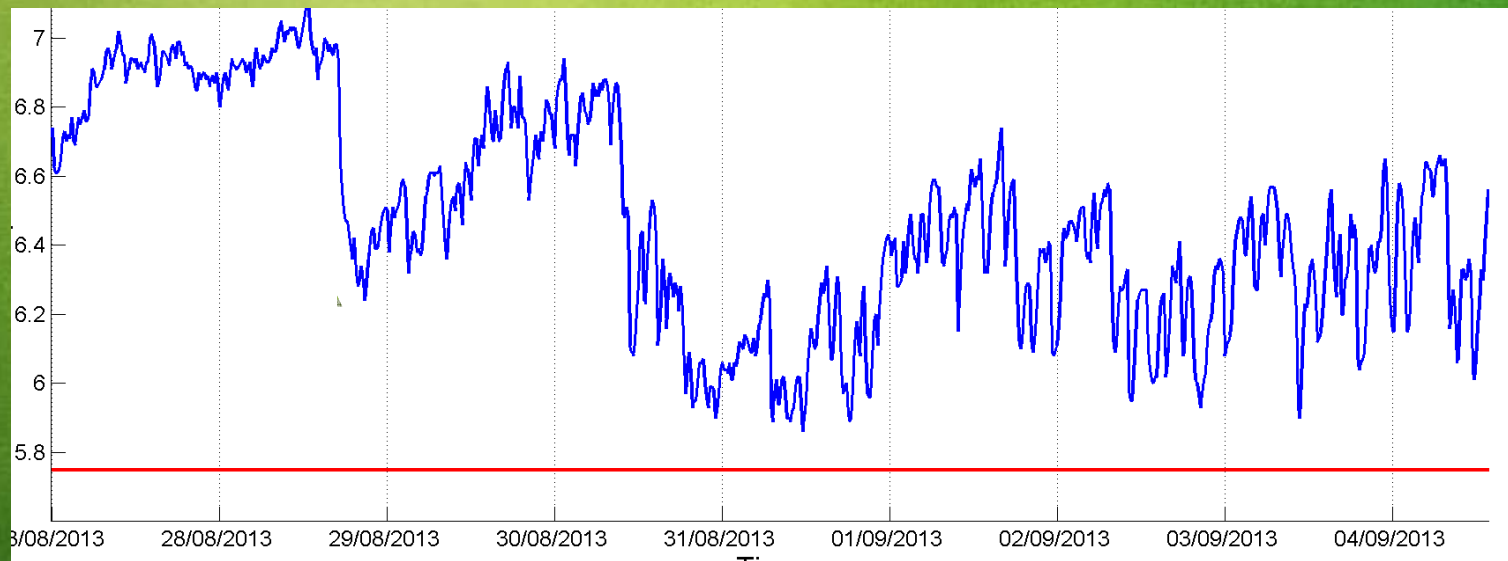
A plot of the daily pH profile ; Farm G 891 14062013



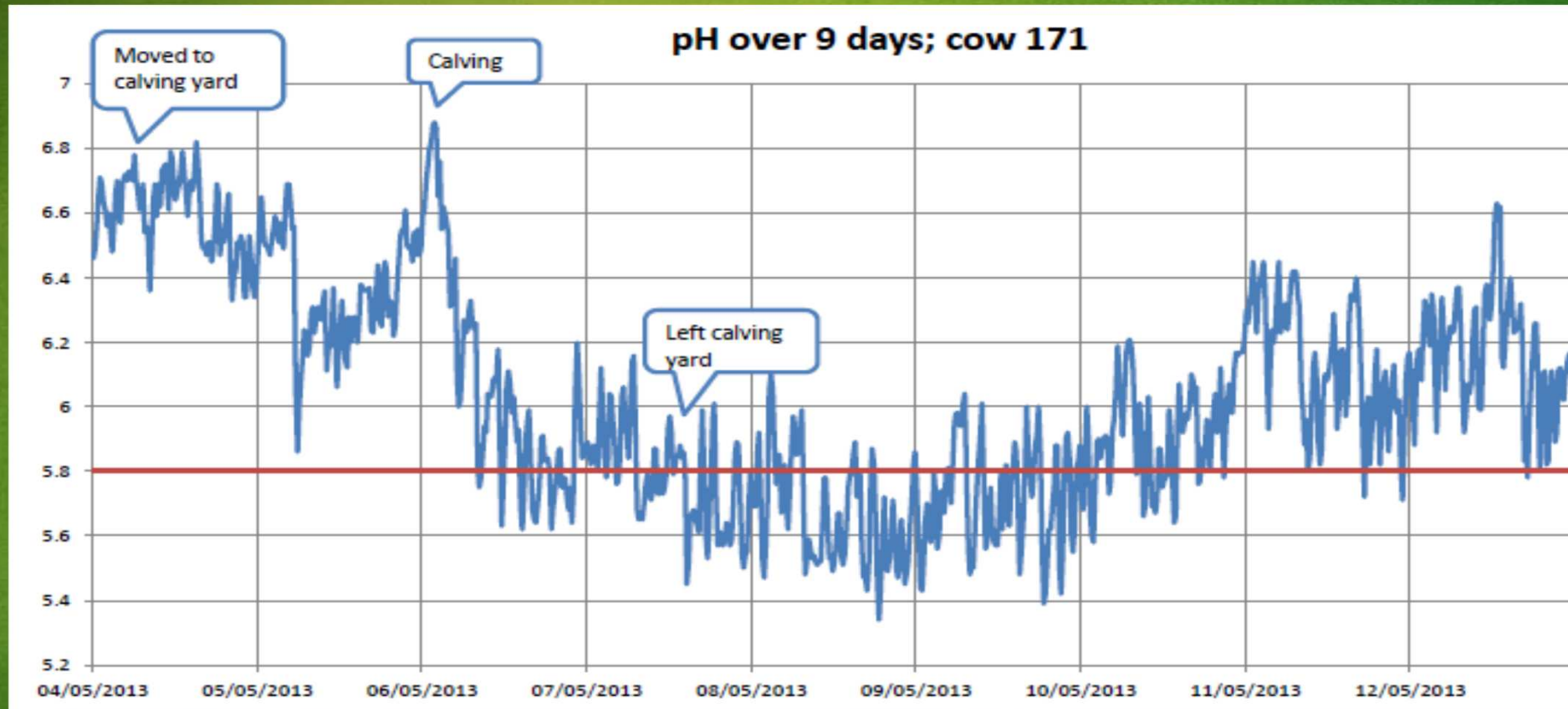
Infections seen in temp and pH



Transition Monitoring

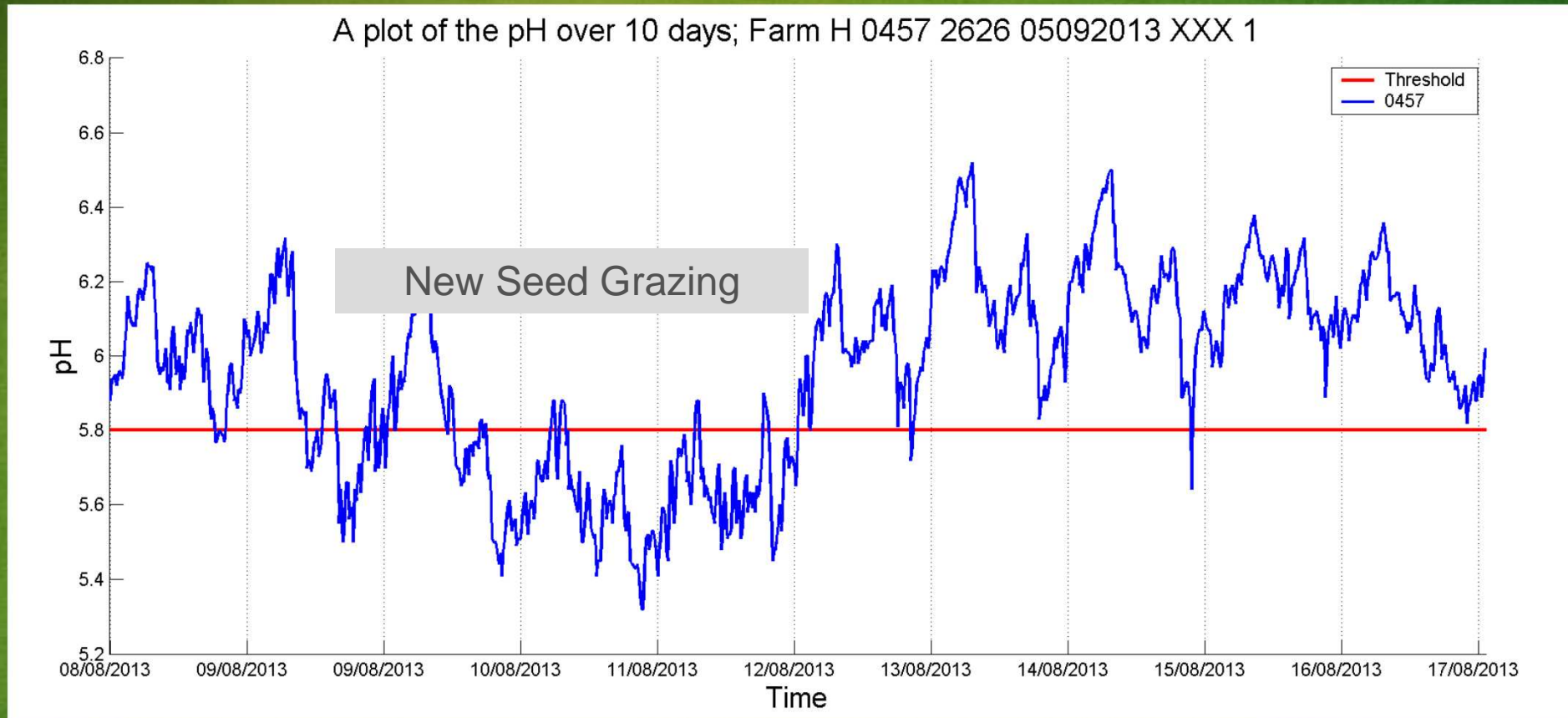


Transition Monitoring



So what?

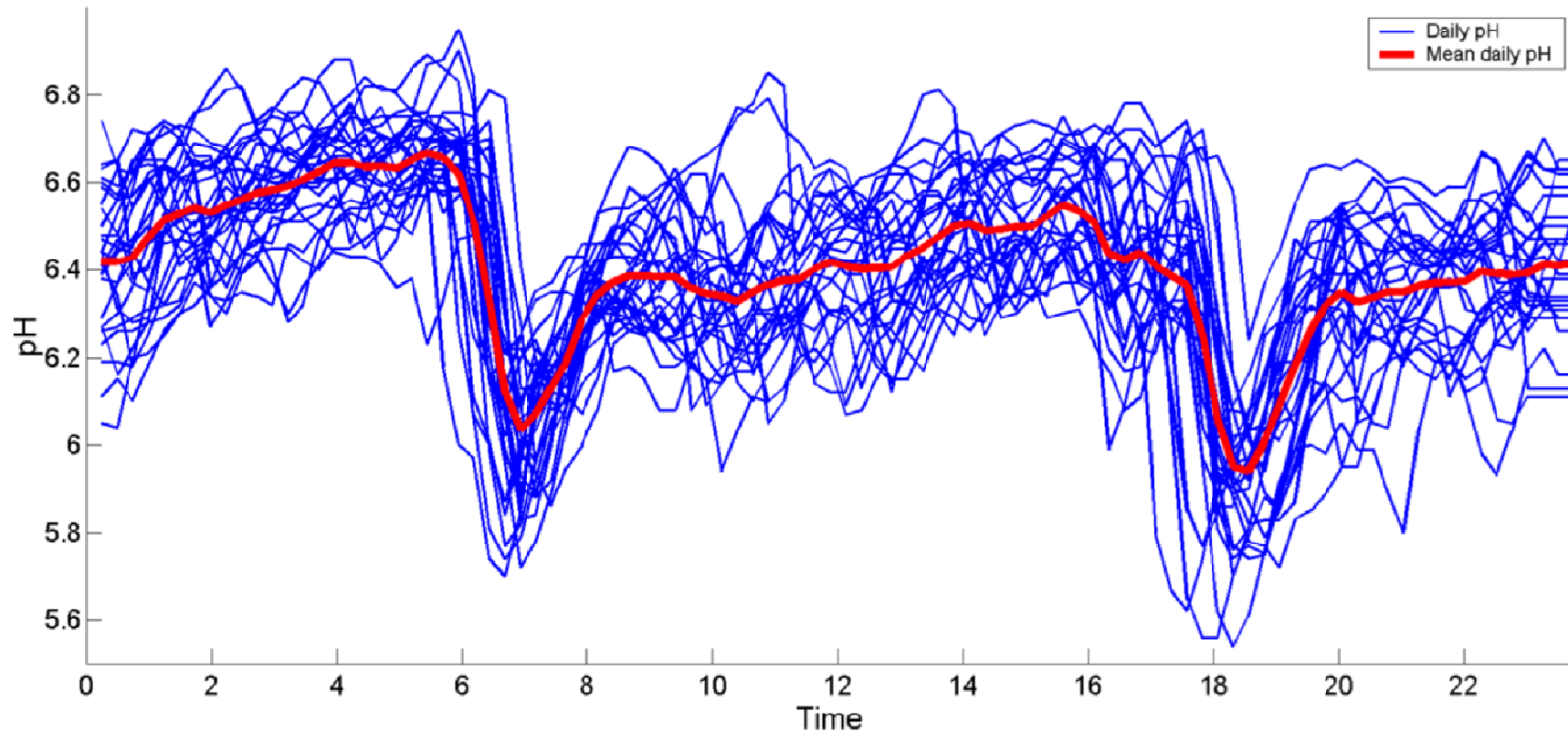
Bolus as an intake monitor



- Bolus can tell the quality of forage in pH
- This can have a direct impact in milk in the tank
- Changing management can increase time to good grass

The importance of daily routine

A plot of the daily pH profile ; Farm K 0479 206 11092013 XXX



Rumen pH determined by:

FERMENTABILITY

X

INTAKE

X

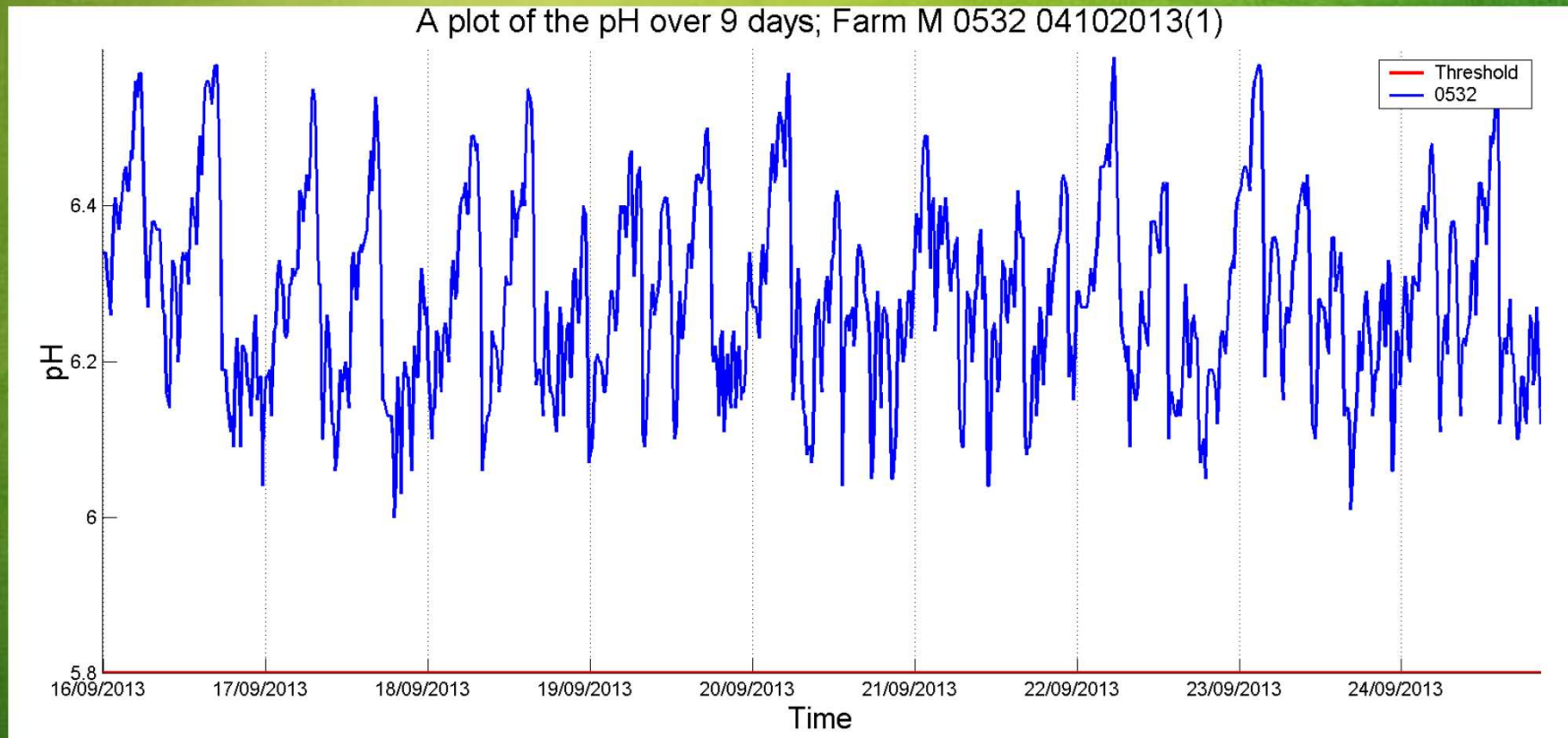
NDF

X

ROUTINE

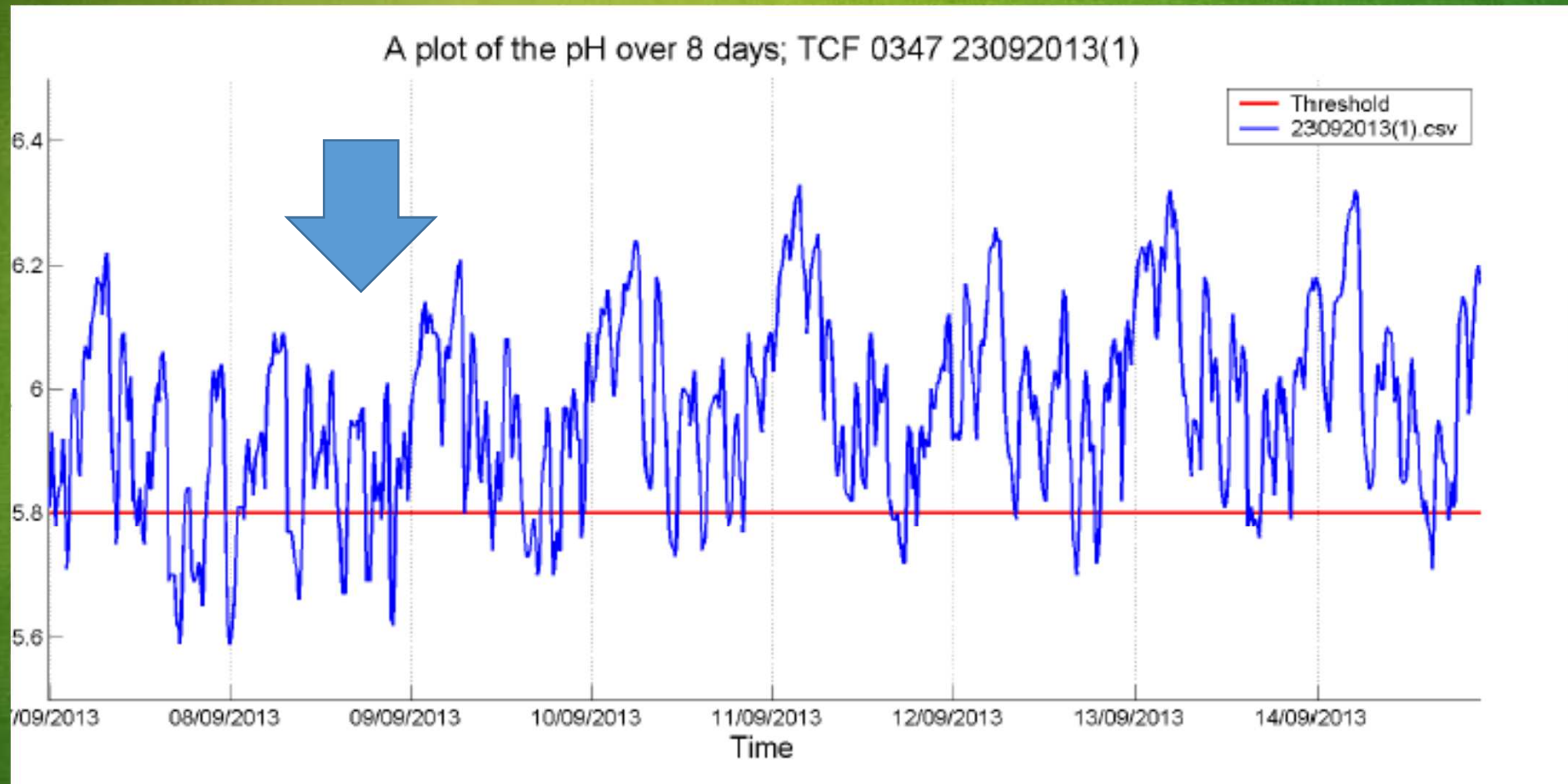
Un-proving Acidosis as much as proving it

- The following herd has had cow health issues for some time
- These are often blamed on the diet and low pH
- What have the boluses said?



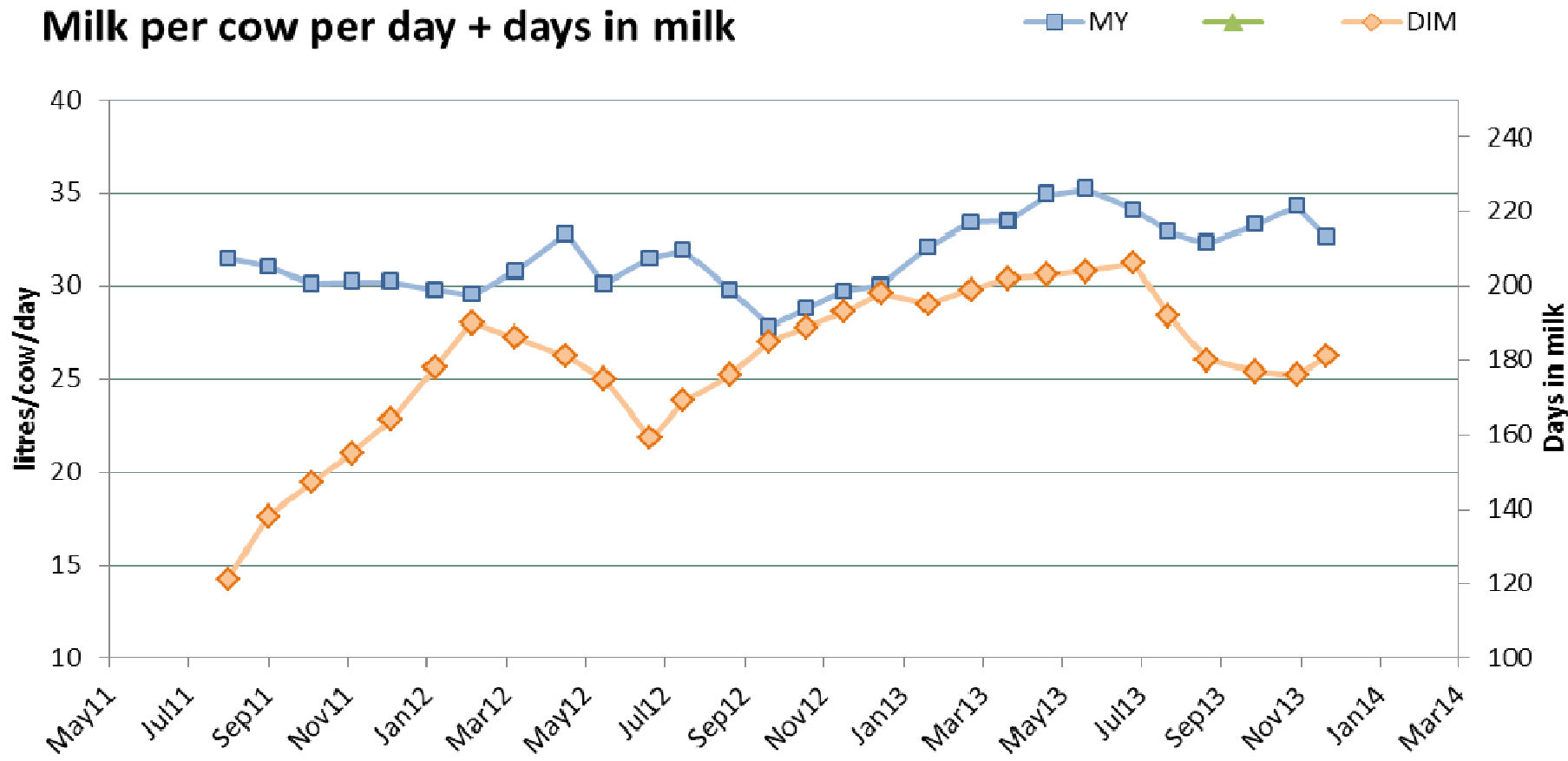
Also have the tools to fix SARA

- Fibre added

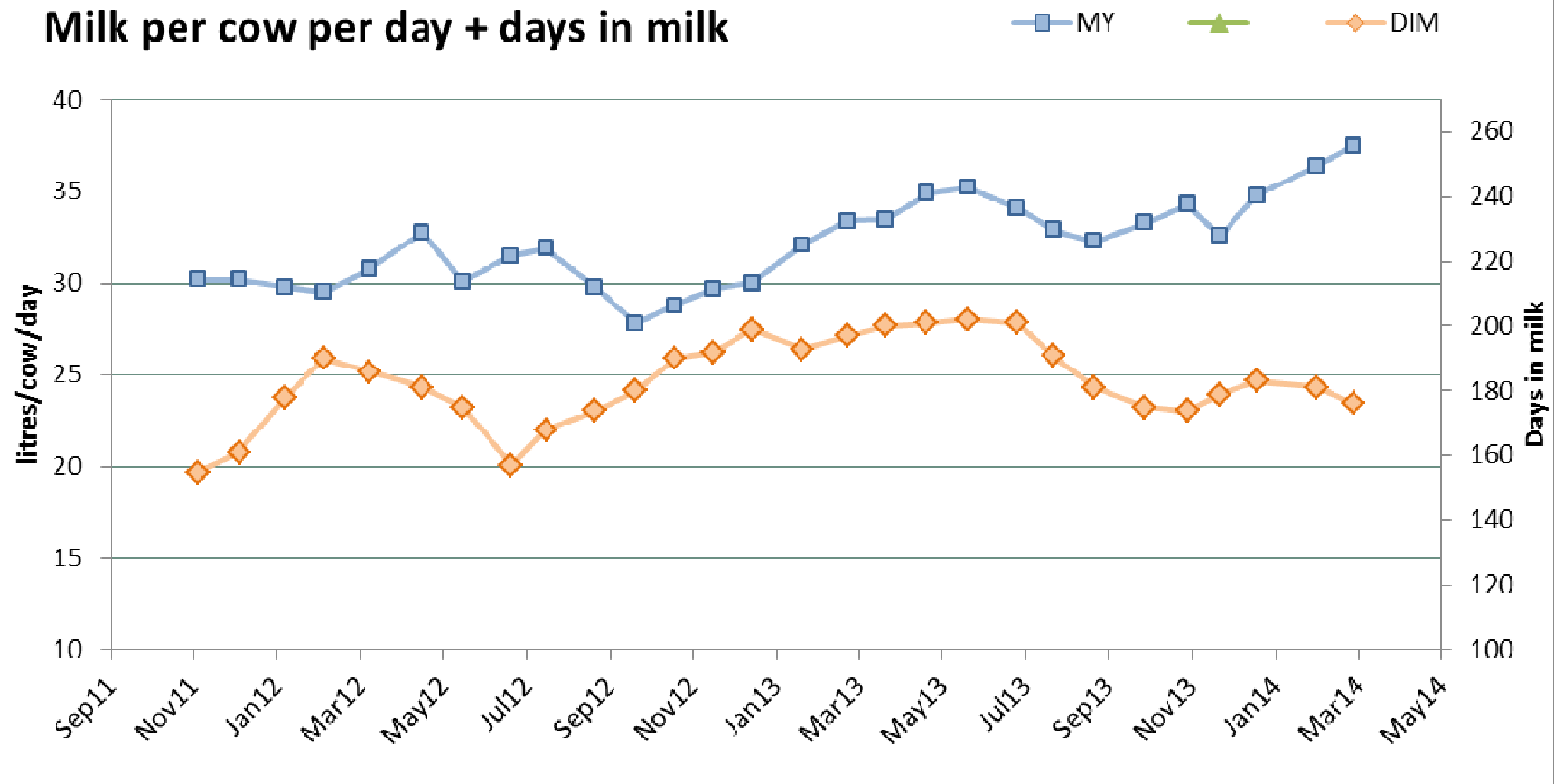


| 22-Nov-13 | 30-Oct-13 | | Production | 22-Nov-12 |
|-----------|-----------|---------|------------------------------|-----------|
| 339 | 337 | cows | Total herd size | 312 |
| 181 | 176 | days | Days in milk | 198 |
| 283,000 | 312,000 | l/herd | Estimated monthly milk sales | 248,000 |
| 32.6 | 34.3 | l/cow/d | Milk per cow per day | 29.7 |

Milk per cow per day + days in milk



Milk per cow per day + days in milk



Customer testimonials

“At the weekend I used to get up earlier and do the scraping and feeding routine a lot quicker. That meant cows were being held in the cubicles after milking for less time, so they had longer access to feed,” explains Mr Luxton. “We’ve now changed the weekly routine so it’s the same as the weekend. That means cows have got an extra hour feeding rather than lying. By making a small tweak to routine and without spending any money, we’re getting one litre a cow a day more. At 34.5p/litre, that’s significant.”

Mr Morgan says that at £450 each, the boluses aren’t cheap, but believes the savings made on feed and improved cow health justify the cost. “From a nutritional point of view you don’t know what’s going on in the rumen. You can look at the muck but it doesn’t give the whole picture. The bolus does that.”



tom mann @tommannctf

24 Jul

@TCFeeds @FarmBolus Every dairy farm should use ph boluses, from robots to grazers how do your cows react to feed?

[View conversation](#)

Optimise energy intake and still avoid acidosis

Bolus set to improve rumen health and drive production

Vet and nutrition specialist Richard Vecqueray is employing a new tool which is helping high yielding cattle to ‘walk the tightrope’ of early lactation. At a time when the balance between starch and

“The key to high milk yields is starch intake as this drives blood glucose which fuels milk production,” he said. “But too much starch will lead to a high concentration of acid in the rumen which will reduce pH and kill off the beneficial fibre-digesting



Richard Vecqueray: tightrope.

cases, will cause the high genetic merit cow to fall into negative energy balance and suffer ketosis. “By using a pH bolus, we are able to walk that tightrope between these two situations,” said Mr Vecqueray.

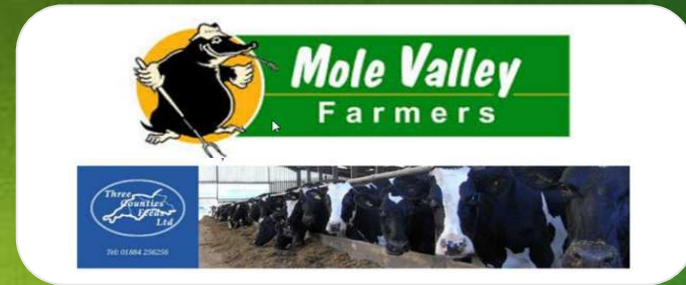
web: www.ecow.co.uk

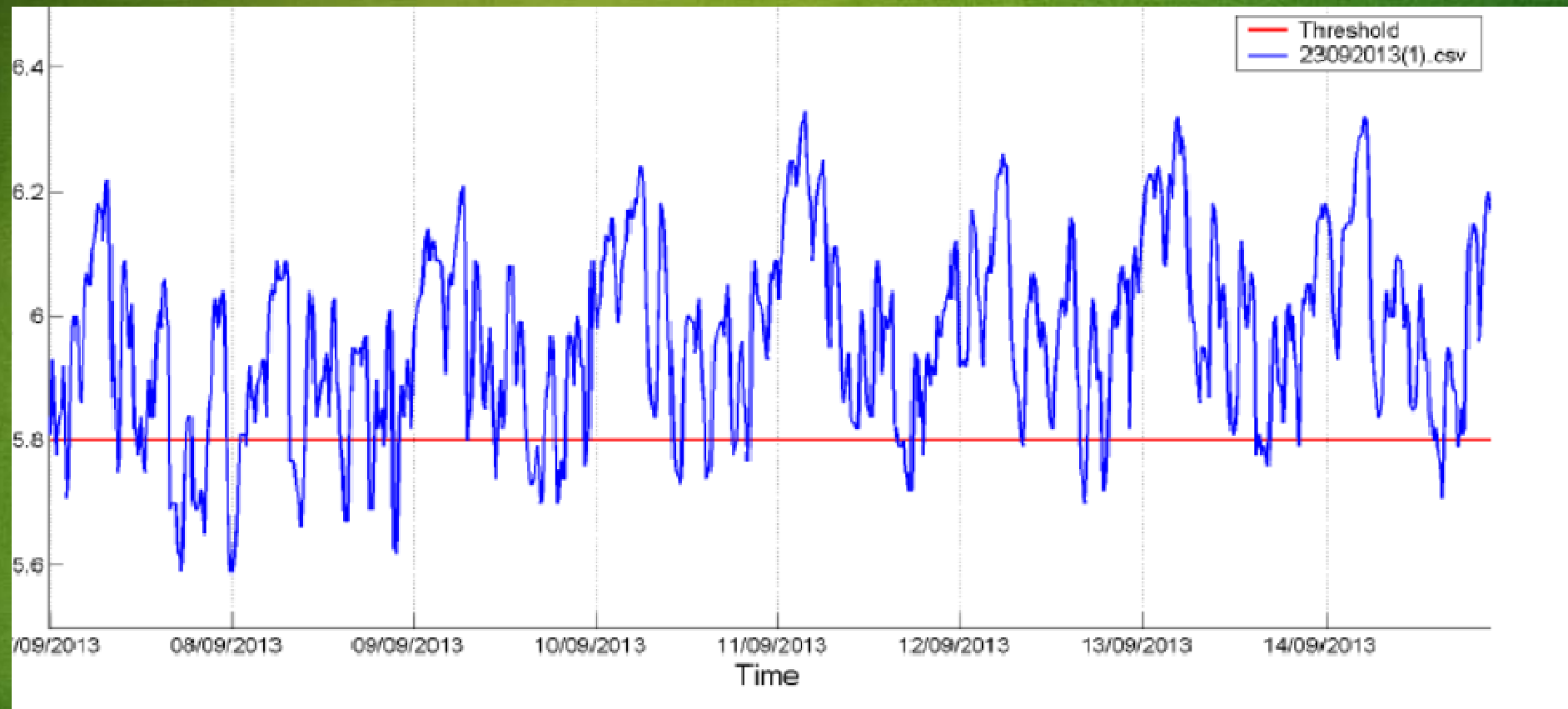
mail: sam@ecow.co.uk

call: 07887 988345

Backup

- Rumen pH determined by
 - Fermentability
 - Intake
 - Routine
 - Interaction
- Each system has a specific pattern
- Each farm has a specific pattern
- The cows telling us when and how they feed allows specific improvements to be made
- The 'when' and 'how' as important as the 'what' - Slug feeding is not confined to concentrate
- The dynamics of feeding vitally important – these determine how much fermentable feed a cow can tolerate and so her production level





Inventor - Professor Toby Mottram

Royal Agricultural University

- Milked first cow age 9
- Relief milking 1970s
- 130 cows- Islay 1977-79
- 140 in Somerset 79-85
- Open University Study 1980s
- Goat milking 88-99
- Robotic Milking 1989-1995
- eCow 2007-13
- RAU from 2012

