

# CAN WE SLAY THE DRAGON?

David Ellis  
Broadwigg Farm  
David Campion MRCVS  
Priory Veterinary Centre

Farm Health Planning – Coordinated by the Cattle Health and Welfare Group  
and British Cattle Veterinary Association

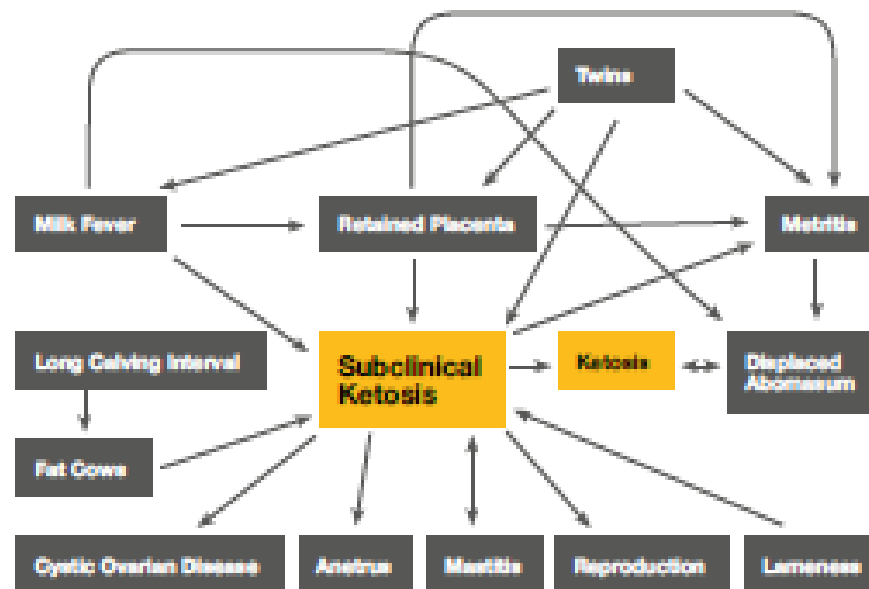
# Dragon = Ketosis

- ▣ A dragon lurks unseen in it's cave only roused to wrath if anyone endeavours to access it's hidden treasure.
- ▣ Ketosis lurks often unrecognised in a herd reducing profits.
- ▣ Is there a knight in shining armour who can defeat ketosis and give your treasure back to you?

# Are your cows at risk?

## Ketosis: A costly secret

### Complex Disease Interrelationships In Early Lactation



### How to detect the disease

Use the simple, reliable, cow-side Keto-Test on milk samples.

**Ketone Levels in Milk:**  
umol/l beta-hydroxybutyrate (BHBA) in milk



# A LITTLE 'SCIENCE'.

- ▣ Fat is the bodies energy store.
- ▣ Mobilisation releases fatty acids which are converted to ketones when used for energy.
- ▣ Excess fatty acids are converted back to fat in the liver causing fatty liver.
- ▣ Ketones depress appetite exacerbating the problem.

# WHAT WE NEED TO KNOW (AN IDIOT'S GUIDE)

Ketosis is caused by negative energy balance

Negative energy balance is caused by:

- 1) Increased energy demands of lactation.
- 2) Rumen fill reduced due to pregnancy.
- 3) Stress from group movement (bullying)
- 4) Post calving pain.
- 5) Peri-parturient disease. e.g milk fever.
- 6) Rumen microflora not used to lactation ration.

# EFFECTS OF KETOSIS

- 1) Reduced yield.
- 2) IMMUNOSUPPRESSION.  
Metritis/Mastitis/Disease
- 3) Increased risk of LDA.
- 4) Lameness (fat pad).
- 5) Reduced fertility.
- 6) Reduced profitability.

# TESTS FOR KETOSIS

Cows 2 -20d calved.

Collect milk sample and use ketotest.

Collect blood and use a 'diabetic' test analyser.

MILK is easier and cheaper.

# AT RISK ANIMALS.

- ▣ 1) All fresh calved cows, but especially:
  - ▣ a) fat cows.
  - ▣ b) thin cows.
  - ▣ c) cows with a long dry period.
  - ▣ d) Previous history of ketosis.



# Control.

- ▣ 1) Manage transition period :
  - ▣ a) Diet; low energy density/high fibre in (maintain DMI and rumen size.)
  - ▣ b) Maintain condition score (2.5 – 3). Easier to do if fertility management is good (CI 365d)
  - ▣ c) Supplements E.g. Choline (helps liver). High energy drench or feed propylene glycol (to give energy source.
  - ▣ d) Minimise group movements. ? Fresh cow group/monitoring programme.

# CONTROL (CONT'D)

- e) Manage cows to control hypocalcaemia eg DCAB.
- f) Use Kexxtone bolus

Changes Rumen microflora to favour propionate producing organisms at the expense of butyrate producing ones.

Propionate is a better glucose (energy) precursor than butyrate.

# USE OF KEXXTONE.

- 1) Determine need. Test cows for ketones.
- 2) Select 'at risk' cows and insert bolus 3 weeks pre calving.
- 3) DO NOT give to all cows unless specific problems exist in the herd.

# EVIDENCE

Broadwigg Farm.

1,300 Commercial cows averaging 10,000L

Housed all year round

60 point rotary

Cell count – 155,000cells/ml

Preg. Rate - 25%

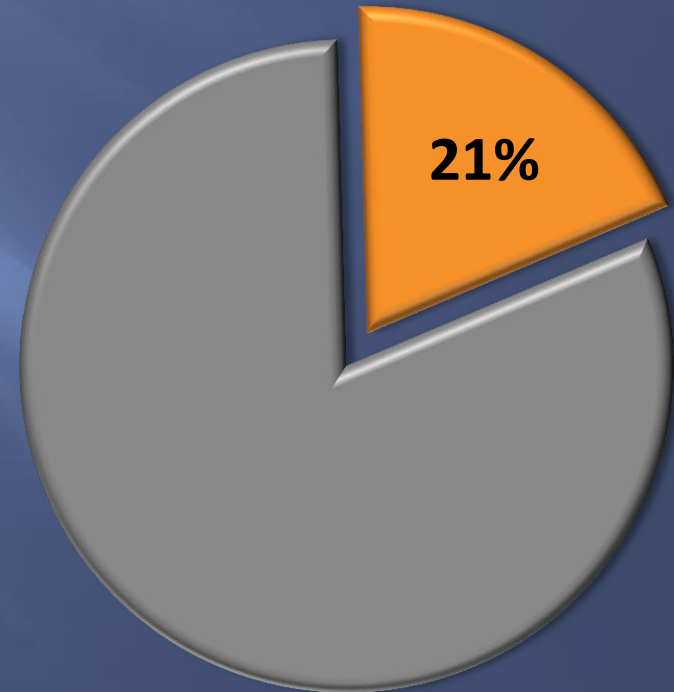
# IMPROVED FERTILITY

## RECORDED DATA

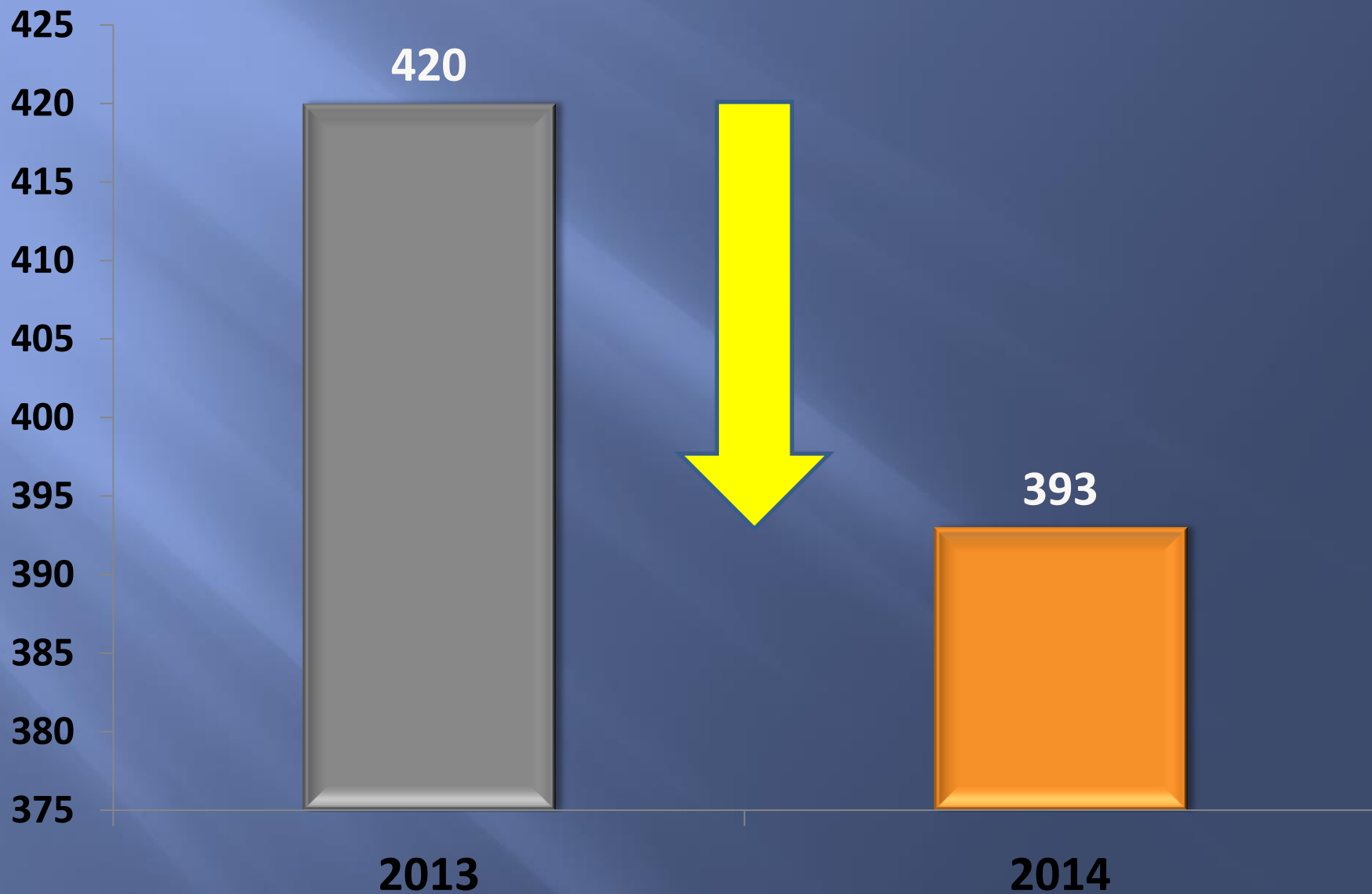
- Calving interval
- Number of services per pregnancy
- % pregnancy rate per service
- Recorded and compared results in the same cows in 2013 and 2014

# Targeting

- ▣ 2014 began targeting cows in the dry period to reduce risk of problems at/post calving
- ▣ Selection criteria = fat, thin, historical problems
- ▣ 269 cows bolused out of 1,285 cows = 21%



# Calving Interval Reduction in Days



# Value of calving interval reduction

- ▣ 27 days reduction
- ▣ £4 per cow per day 'empty'
- ▣ Cost = £104 per cow
- ▣ Total herd size 1300
- ▣ Total benefit = c. £140k



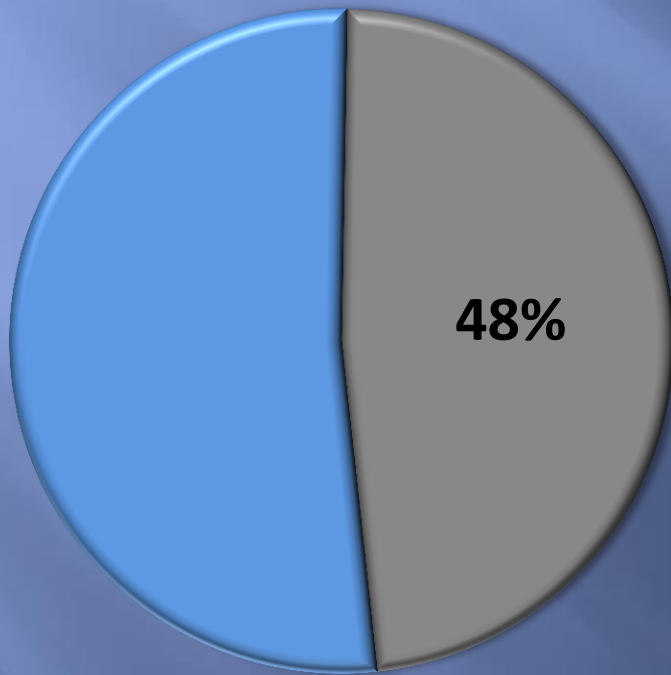
# Comparative Annual Fertility

Year	No. Services	No. Pregnancies	Ave. Services /Pregnancy
2013	967	269	3.6
2014	591	252	2.3 *

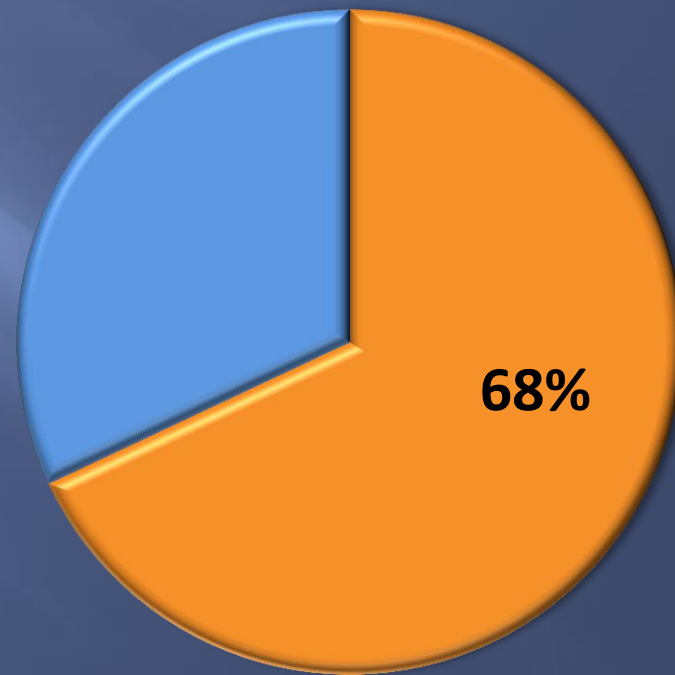
\* 35% Reduction

# % Pregnant by third service

2013



2014



42%  
improvement

# CONTROL KETOSIS AND YOU WILL HAVE.....

Less Metritis post calving.

Less mastitis post calving.

Better yields.

Better fertility.

More profit.

The dragon can be slain and the  
treasure of healthier more profitable  
cows is achievable by using a range of  
strategies and tools!!!!

Questions.