

# Nutrition studies at the Dairy Research Centre

# Facilities

- 400 milking cows and replacements, between two units
- Insentec 'Hoko' bins for feed and water intake
- Automated weigher(s)
- Robotic milking system for 50 cows
- Calf feed & weigh equipment - upgraded
- Milking parlours – auto recording of yields; milk sampling equipment
- Silage pits – 16 of various sizes
- Drying ovens, sample freezers
- Home Office approved with licenced staff
- Cameras
- Activity meters



# Measurements include -

- Individual feed and water intakes via Hokos
- Automated weights after each milking
- Milk yields 3 x day
- Milk recording
- Body condition score assessment
- Locomotion score
- Methane detection (see PLF section)
- Grazing work – can estimate intakes by n-alkane
- Calf intakes





# Types of studies

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- Can be large eg whole-lactation or a few weeks
  - Defra low-protein (2 years)
  - Production response to new ingredient (9 to 16 weeks)
- Funding from levy money, Government or company



# AHDB Dairy Lucerne feeding



- Four groups of cows
- Increasing inclusion rate of Lucerne
- Animals adjust to ration for 3 weeks, measurements taken 4<sup>th</sup> week
- Four feeding periods as above, experiment length 16 weeks
- DMI increased with increased Lucerne in ration
- Less purchased protein required
- Digestibility declined – rate of passage increase?

# Commercial trials

- Feed additives
  - *Essential oils*
  - *Mineral additives*
  - *Fat/oil supplements*
- Co-products concentrates
  - *Replacing a standard ingredient*
  - *Deciding what rate to feed at*
- Silage additives
  - *Whole clamp*
  - *Buried bags*
  - *Bench-top mini-silos*





# Questions?

