THE EFFECT OF KETOPROFEN ADMINISTERED POST FARROWING ON PRE WEANING MORTALITY

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Background

- Ketoprofen = non-steroidal anti-inflammatory drug (NSAID)
- Post-farrowing- likely to be inflammation and pain
- Post-farrowing ketoprofen potential to ⬆ sow welfare & productivity
- Ketoprofen vs. placebo = ⬇ piglet mortality (Homedes *et al* 2014; Sabaté *et al* 2012), but not in all studies (Viitasaari *et al* 2013; 2014)

Aim

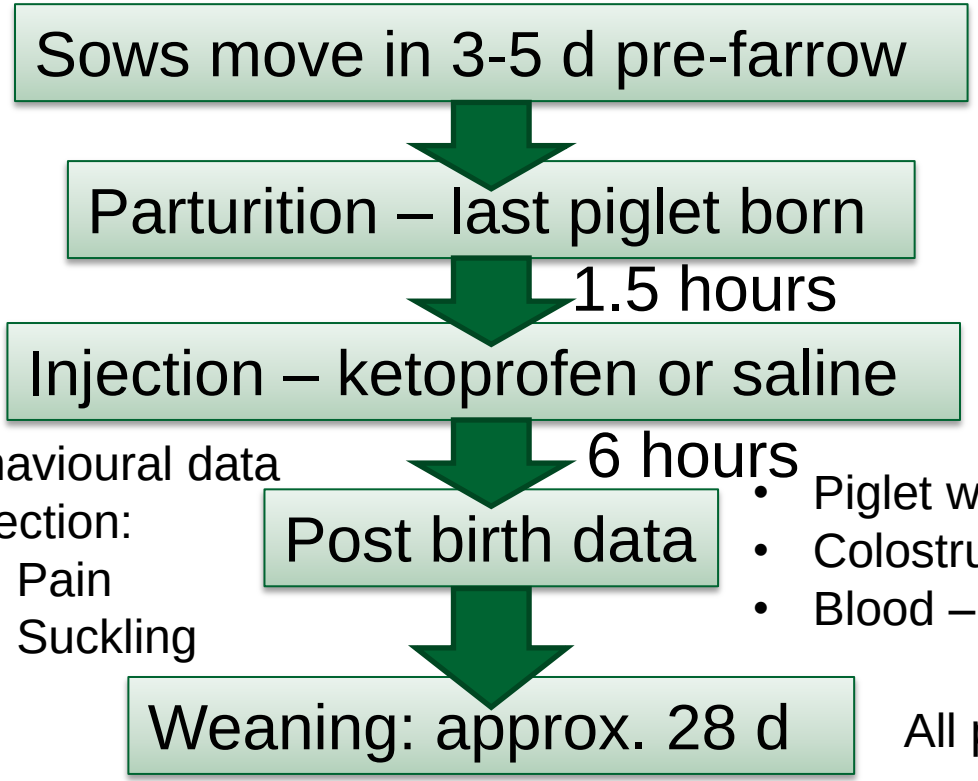
- To investigate the welfare and productions benefits of administering a single intra-muscular injection of ketoprofen to sows,1.5 hours post-farrowing

Animal and experimental procedure

- Randomised, blinded, placebo controlled trial
  - 24 primiparous sows
  - 32 multiparous sows (17 parity two to four, 11 parity five to seven and 4 parity eight+)
- Randomly allocated to receive 3 mg/kg ketoprofen or saline




Animal and experimental procedure



- Behavioural data collection:
  - Pain
  - Suckling

- Piglet weight and CR
- Colostrum – gilt or sow
- Blood – 3 piglets per litter

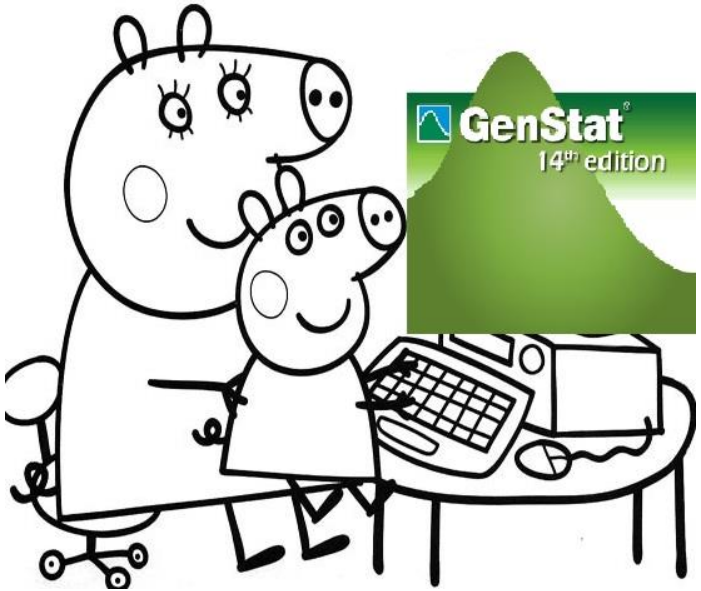
} IgG

All piglet mortality recorded

Piglet blood and gilt/sow colostrum samples

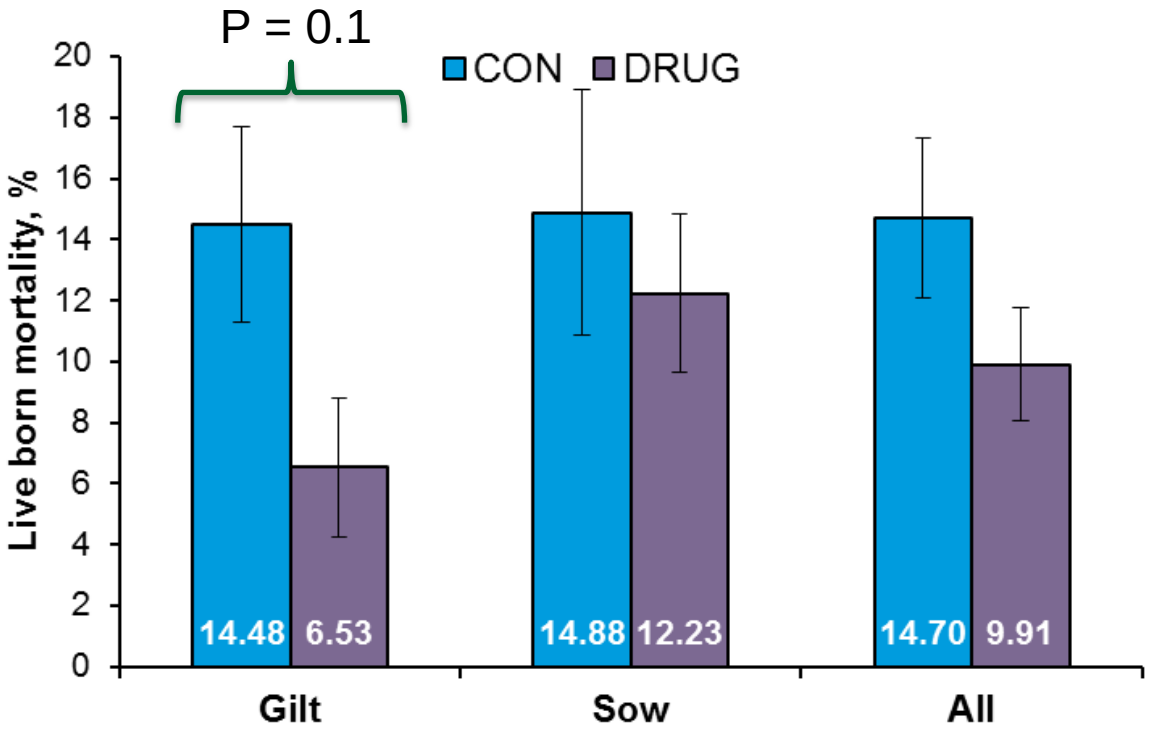
- Colostrum:
  - Sampled and frozen at -20 ^{o}C
- Piglet blood:
  - Sampled and centrifuged, serum frozen at -80 ^{o}C
- Samples thawed and assayed for immunoglobulin - G using an ELISA kit (Bethyl laboratories, Inc.)

Data analysis

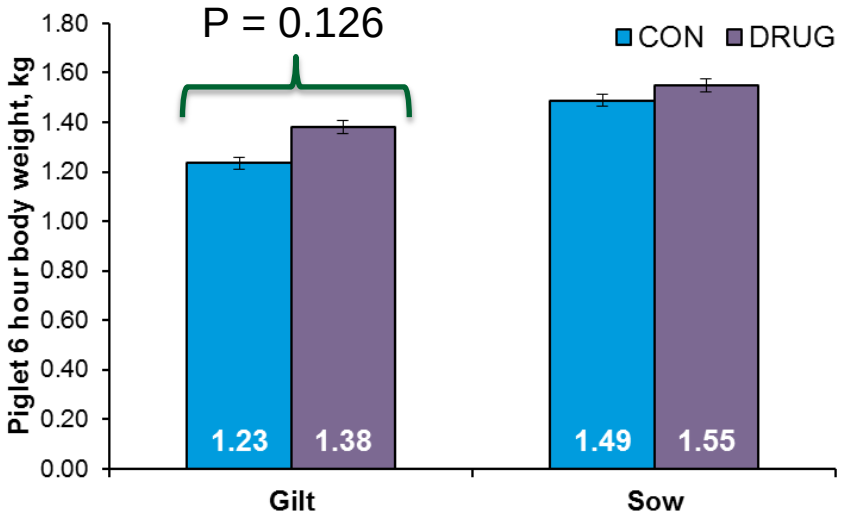


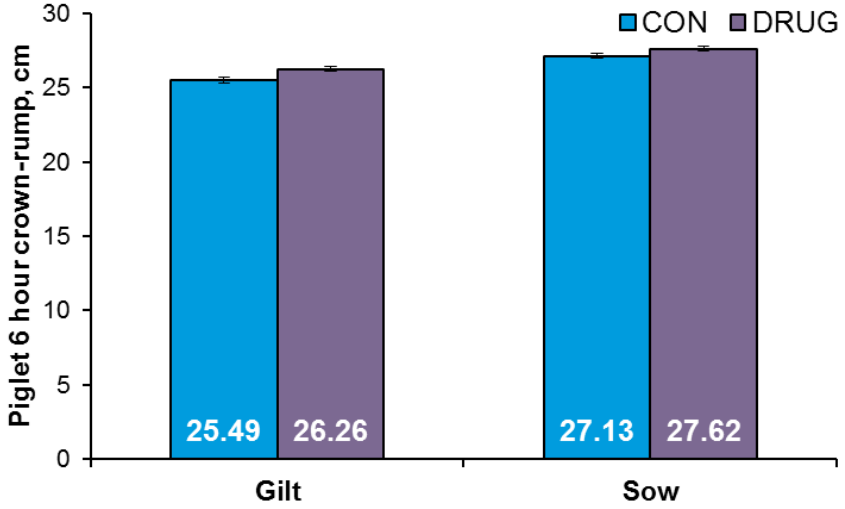
- Live born mortality (LBM, %) calculated
- Data analysed using mixed models with the REML method in Genstat 14th edition gilts and sows as separate data sets:
  - GLMM for LBM
  - LMM for weights, measures and IgG

Live born mortality, %



Piglets – 6 hours post-injection

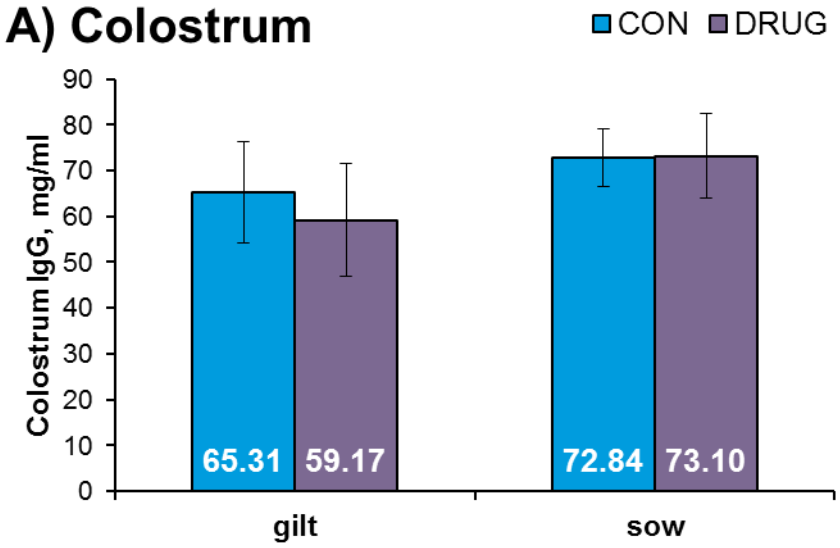


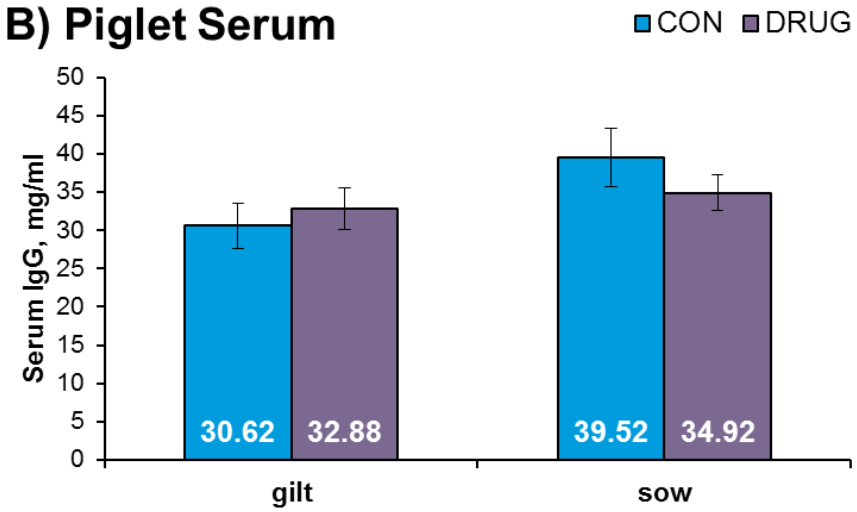


Average piglet weight at 6 hours post-injection vs. live born mortality

r_s: Gilts = -0.452, *P* = 0.03, Sows = -0.484, *P* = 0.005

Immunoglobulin-G (IgG)





Discussion

- Piglets – larger at birth or a benefit of the drug or both?
  - Piglets from gilts and sows larger in drug group
  - Piglets also have longer crown-rump in drug group
  - No difference in IgG concentrations

- LBM for ketoprofen gilts is low for the study farm and previous studies shown reduced LBM with the drug (Homedes *et al* 2014; Sabaté *et al* 2012)

- Larger sample size needed for future studies

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Thank You for listening

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