Tech Tracks™

Application of Alternative Methods of Body Temp Measurement in Swine

Vol III

Purpose: Evaluate use of LifeChip® as a means to track body temperature in swine

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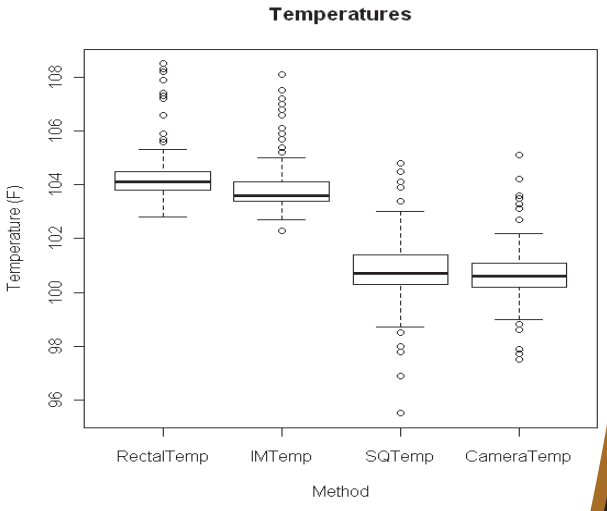
Test Methods

- Thirty pigs injected subcutaneously and intramuscularly with LifeChip BioThermo® RFID transponder
- Pigs housed at University of Minnesota isolation facility
- Three groups of 10 pigs
- A pig infected with H1N1 influenza was introduced into each group day 1
- Body temp was measured for seven consecutive days by four methods
  - Sub-Q transponder (SQ)
  - Intramuscular transponder (IM)
  - Infrared camera (IR)
  - Rectal thermometer (RT)
- Mean temps measurements were compared and correlated
- Mean temps validity measurements were calculated

Test Results

- Measurement Results
  - RT highest at 104.3 F
  - IM next at 103.9 F
  - SQ at 100.8 F
  - IR at 100.6 F
- RT and IM measurements were highly correlated
  - r=0.86, 95% bootstrap C.I. 0.79, 0.90
- IR and IM measurements were moderately correlated
  - r=0.61, 95% bootstrap C.I. 0.47, 0.69



Discussion

- Elevated body temp is useful predictor of disease
- Obtaining body temp measurements rectally can be time consuming and stressful
- Alternative methods like transponders or IR cameras can provide rapid results
- IM transponders were highly correlated to core body temp
- IM transponders seem ideal for monitoring body temp in research setting
- Further research is needed for review in other species and production settings

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