Effects of third generation cephalosporin administration at piglet processing on mortality, morbidity, average daily gain, and castration wound-healing

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Introduction

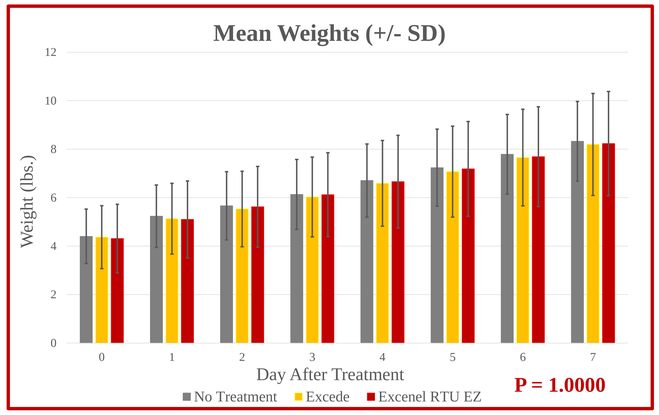
- Swine production systems administer injectable antibiotics at processing with the goal of reducing incidences of infection of the castration incisions, tail docking site, and navel.
- Currently, there is a deficit in research to support this practice.

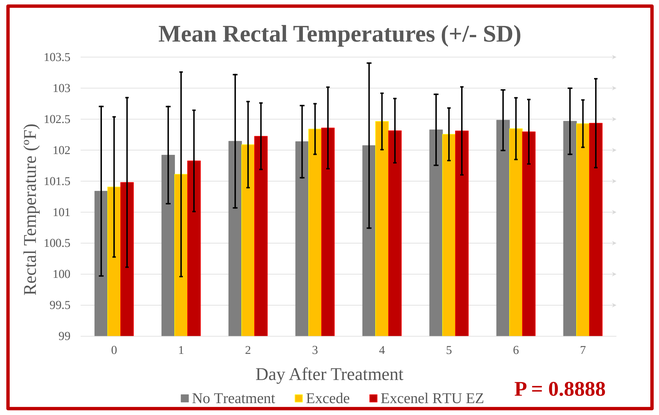
Objective: to determine the effects of no treatment, ceftiofur crystalline free acid (CCFA – Excede® for Swine) and ceftiofur hydrochloride (CH – Excenel® RTU EZ) at piglet processing on mortality, morbidity, average daily gain, and castration wound-healing.

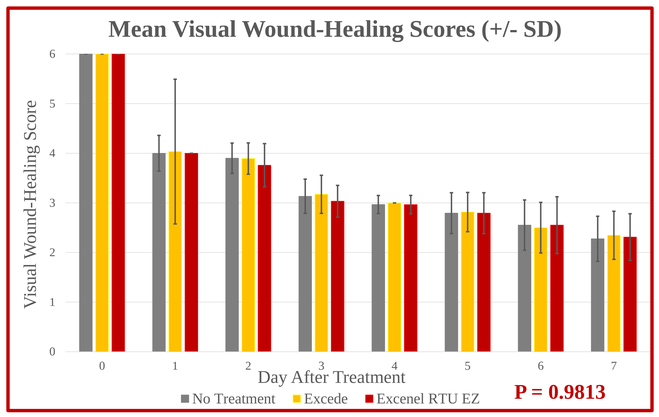
Materials and Methods

- Ninety (90) boars from thirty different litters were randomly selected; 3 boars per litter
- Boars included within the trial were free from clinical disease, weighed ≥3 lb., aged 1–7 days and were processed according to industry standard protocol — iron administration, ear tattooing, tail docking, and castration.
- Each litter had a boar random assigned into one of three treatment groups:
  1) No treatment
  2) Treatment with CCFA (0.35 ml dose)
  3) Treatment with CH (0.2 ml dose)
- Over the following 7 days, daily rectal temperatures, weight measurements, general health observations and photographs of castration incisions were collected.
- The castration incision photographs were compared to a wound-healing score chart for evaluation (Figure 1).
- Statistical analysis performed in SAS using the GLIMMIX procedure.

Results



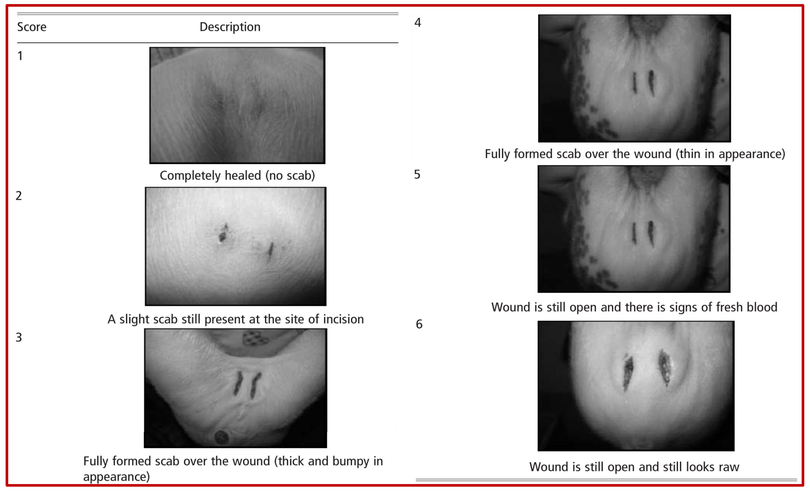




Discussion

- Results showed no significant differences between the 3 treatment groups in terms of weight (p=1.0000), rectal temperature (p=0.8888), and visual wound-healing score (p=0.9813) across all days of data collection (Results graphs).
- Findings of this study would suggest that antibiotics are not required to be administered at the time of castration - allowing for more judicial use of antimicrobials.
- There is an opportunity to reduce production costs by eliminating ineffective antibiotic administration.

Figure 1: Castration wound-healing score guide.



References

Sutherland MA, Davis BL, Brooks TA, McGlone JJ. Physiology and behavior of pigs before and after castration: effects of two topical anesthetics. Animal. 2010;4(12):2071-2079.

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