

TECHNICAL SUMMARY

LINCOMIX[®] (*lincomycin hydrochloride*) Type A Medicated Article from Zoetis

DECEMBER 2017

PRODUCT'S EFFICACY WHEN USED AT 100 G/TON

Zoetis recently evaluated the efficacy of LINCOMIX[®] (*lincomycin hydrochloride*) Type A Medicated Article when fed at 100 grams per ton of complete feed for 21 days for the reduction in severity of effects of respiratory disease associated with *Mycoplasma hyopneumoniae* (*M. hyopneumoniae*).¹ The study was designed to gain approval for LINCOMIX to extend its *M. hyopneumoniae* claim to 100-200 g/ton to give swine veterinarians more flexibility in completing a veterinary feed directive (VFD) for its use in commercial swine flows.

STUDY DESIGN

Eight investigators spread across a variety of U.S. swine production locales were to identify herds with a history of respiratory disease challenges associated with *M. hyopneumoniae*. The study was conducted from December through March, when *M. hyopneumoniae* challenges often intensify.

Herds became candidates when at least 20% of 100 pigs were polymerase chain reaction (PCR) positive for *M. hyopneumoniae* on deep tracheal swabs. Across all sites, at least 28% of candidates were *M. hyopneumoniae* positive, with up to 76% positive in one site.

Within each site, animals were allocated to pens based on Day 0 body weight, then separated into two blocks: one (T01) control pen and one pen treated with LINCOMIX (T02). Each site had 20 pens, with 10 to 12 pigs per pen. All pigs remained in their allotted pens through Day 21 (final day) of the study. Across the eight sites, 1,719 mixed-sex pigs were studied: 859 as nontreated controls, 860 having received LINCOMIX for the 21 days. Body weights were recorded on Days 0 and 21.

Once the study began, pigs were evaluated by investigators daily for clinical signs associated with acute swine respiratory disease (SRD). Pigs with a respiratory score of ≥ 3 or depression score of ≥ 3 had a rectal temperature taken, were weighed, euthanized and necropsied. On Day 21, all remaining enrolled animals were weighed and observed for respiratory and depression scores, rectal temperatures were taken as necessary, and euthanized and necropsied. All pigs were sampled for *M. hyopneumoniae* presence via PCR diagnostic testing.

KEY METRICS USED TO DETERMINE THE EFFICACY OF LINCOMIX AT 100 G/TON:

- Body weights were recorded on Days 0 and 21 and used to calculate Average Daily Gain (ADG).
- Lung lesions were scored (percent of gross lesions) and lung bronchi samples were collected.
- On Day 14 and Day 21, all remaining pigs were evaluated for cough scores.

Personnel involved in treatment administration were not involved in data collection.



zoetis



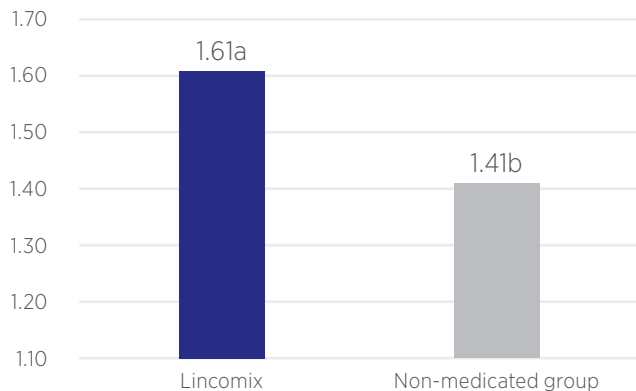
STUDY RESULTS

Results indicate the *M. hyopneumoniae* challenge was considerable: Of the early removed pigs and the nontreated controls (T01), 515 of 556 (92.60%) tested PCR-positive for *M. hyopneumoniae*.

There was a statistically significant difference ($P=0.001$) in lung lesions in favor of the LINCOMIX® treatment group (15.20%) compared to the control group (20.30%). Day 21 cough scores were also significantly improved in the LINCOMIX treatment group.

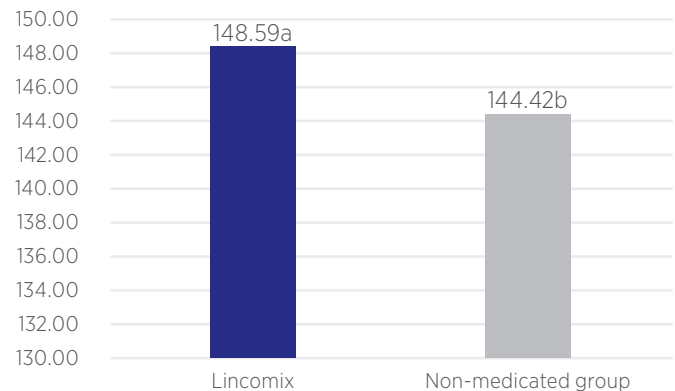
These clinical observations translated to production advantages as measured by body weight, average daily gain and gain efficiency. There were no statistical differences in Day 0 body weights.

AVERAGE DAILY GAINS AFTER 21 DAYS OF TREATMENT (LB.)



Pigs treated with LINCOMIX® held a 0.20 lb. advantage in average daily gain per pig.

AVERAGE BODY WEIGHTS AFTER 21 DAYS OF TREATMENT (LB.)



Pigs treated with LINCOMIX® held a 4.17 lb. advantage in body weights.

CAUTION: Federal law restricts medicated feed containing this veterinary feed directive (VFD) drug to use by or on the order of a licensed veterinarian.

Do not use in swine intended for breeding. Do not allow unapproved species access to feeds containing lincomycin.

¹ Data on file, Study Report No. A121C-US-14-150, Zoetis Inc.

All trademarks are the property of Zoetis Services LLC or a related company or a licensor unless otherwise noted.
© 2017 Zoetis Services LLC. All rights reserved. LIN-00023