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Evaluation of the Effect of the Intramuscular Injection of Lincomix® 300 (lincomycin) for Three Consecutive Days in Lightweight Pigs at 150-180 Pounds on the Percentage of Lightweight Pigs Marketed

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Porcine respiratory disease complex has a significant impact on growth rate and feed conversion. This complex is usually caused by a combination of Porcine Reproductive and Respiratory Syndrome (PRRS) virus, *Mycoplasma hyopneumoniae* and *Pasteurella multocida*. Occasionally, swine influenza virus and other secondary bacteria are involved.

The objective of this on-farm trial was to evaluate the effect of the intramuscular injection of Lincomix® 300 for three consecutive days in lightweight pigs. Pigs were injected when the average weight in the finishing barn was 140-150 pounds. The percentage lightweight pigs (offgrades, less than 230 lbs) at slaughter in the treated sites was compared to historical and post-treatment period data.

The production system selected for this study routinely experienced clinical respiratory disease outbreaks during the finishing period. PRRS virus and *Mycoplasma hyopneumoniae* were both confirmed to be contributing factors in the clinical respiratory disease. Fourteen production sites sequentially filled weekly with approximately 10,000 pigs per site were selected for the evaluation. Six sites were assigned to the treatment group and 8 weeks were assigned to the control group. At the treatment sites, all pigs were evaluated when the average weight of the pigs was 140-150 pounds. All pigs identified visually as being more than 10 percent below the mean weight for the group were treated with 900 mg lincomycin intramuscularly for 3 consecutive days. The number of pigs treated with lincomycin ranged from 40-60 % of the inventoried population in the six treatment groups. In both treatment and control groups, clinically ill pigs were treated according to the standard treatment protocol for the production system.

The number of pigs that died and those sold below target market weights were recorded as was the total pounds of pork sold in each weight category (target, sub-optimal and culls). Mean market weight for each category was calculated and an economic analysis was done after standardizing group size and applying the percent mortality and lightweight pigs for the treatment and control groups.

The six treated groups had reduced average percent mortality compared to the eight control groups (3.9 vs 5.13, respectively). Treated groups also had reduced mean percent lightweight pigs compared to controls (3.12 vs 9.64, respectively). Average daily gain for the treated pigs was 2.01 lbs/hd/day compared to the control pigs at 1.91 lbs/hd/day. There was no difference in feed conversion.

Pooled data for sequential production groups.

	Pre-medication	Medication	Post-medication	P-value
Days on feed	103.0 ^a	99.0 ^a	101.7 ^a	.2458
Avg. Market Weight (lbs)	257.5 ^a	257.5 ^a	254 ^a	.4951
Avg. Daily Gain (lbs)	1.91 ^a	2.01 ^b	1.91 ^a	.0005
Feed / Gain	2.73 ^a	2.75 ^a	2.75 ^a	.9573
% Mortality	4.95 ^a	3.90 ^a	5.18 ^a	.0754
% Offgrades	10.9 ^a	3.1 ^b	9.2 ^a	.0006

Different superscripts, statistically different p < 0.05

This herd had experienced severe economic loss due to *M. hyopneumoniae* related respiratory disease. In an attempt to reduce those losses, an intervention program designed using injectable lincomycin, was evaluated on the basis of economically important parameters. Pigs selected for treatment were visually identified as weighing less than the average of the contemporary pigs in the group. Selecting animals not based on an identifiable disease carries some risk unless the disease profile of the herd is known, which in this situation, it was. *Mycoplasma hyopneumoniae* and PRRS virus had been documented as consistent, ongoing contributing organisms.

The average medication cost was \$ 2.43 and \$.047 for the treated and control groups, respectively. The fact that mortality, growth rate and feed conversion were all impacted by this therapy indicates that *M. hyopneumoniae* and/or other lincomycin responsive disease conditions were negatively impacting health and productivity in this production system. Further investigation into the strategic placement of oral lincomycin as a more cost-effective intervention strategy is currently underway in this production system.