

Technical Bulletin

Information from Phibro Technical Services

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Impact of Neo-Terramycin[®], Mecadox[®], Denagard[®] plus CTC and Denagard[®] Feeding Programs on Nursery Pigs with PEDv, Salmonella and E. coli.

Introduction

Swine production has been negatively impacted worldwide by the economically devastating Porcine Epidemic Diarrhea virus (PEDv). Co-infections with bacterial and viral pathogens in the nursery, such as *E. coli*, *Salmonella* and rotavirus, increase the risk of substantial additional death loss due to concurrent disease.

Objectives

The purpose of this study was to evaluate the beneficial performances of two antibiotic regimens on piglets from a farm known to be PEDv positive as well as suffering further mortality due to *E. coli* and *Salmonella*. Therapeutic antibiotics utilized included **Mecadox** (Mx), **Neo-Terramycin** (NT), **Denagard** plus chlortetracycline (DP) and **Denagard** (D).

Experimental Design

Weaned barrows, positive for PEDv (high level of viral infection, Ct range of 16.3 to 18.6), were obtained from a sow farm with a history of pigs experiencing concurrent infections with hemolytic *E. coli*, *Salmonella*, and *Lawsonia intracellularis* in various stages of production. The antibiotic sensitivity patterns for the hemolytic *E. coli* isolated pre-trial indicated sensitivity to neomycin. A *Salmonella* Group B and several *E. coli* isolates were cultured on Day 0. The *Salmonella* Group B was sensitive to carbadox while the *E. coli* isolates were sensitive to chlortetracycline, oxytetracycline and neomycin. None of the bacteria isolated were sensitive to tiamulin.

Treatment Group	Pigs	Medication Program (g/ton)		
		Wk 1-2	Wk 3	Wk 4-5
No drug	33	---	---	---
DP/D/DP	33	Denagard 35 CTC 400	Denagard 35	Denagard 35 CTC 400
NT/Mx/NT	33	Neomycin 400 Terramycin 400	Mecadox 50	Neomycin 400 Terramycin 400

Average body weight (ABW) and average daily feed intake (ADFI) were calculated to determine that inclusion rates for neomycin, oxytetracycline, and chlortetracycline met the 10 mg/lb body weight per day requirements.

Results

Treatment Group	Pigs	Results from d 0 to 35				
		Initial Live Weight Day 0 (lb)	Live Weight Day 35 (lb)	ADG (lb/d)	ADFI (lb/d)	F/G
No Drug	33	13.81	42.06 ^b	0.807 ^b	1.160 ^b	1.448
DP/D/DP	33	13.82	41.43 ^b	0.789 ^b	1.150 ^b	1.461
NT/Mx/NT	33	13.80	46.75 ^a	0.941 ^a	1.354 ^a	1.443

^{a,b} Columns with different superscripts are statistically significant, P<0.05.

Body weights at d 35 indicated that barrows in the NT/Mx/NT group averaged **4.69 lb** heavier than the No Drug group, and **5.32 lb** heavier than the DP/D/DP group. Day 0-35 body weights, ADFI, and average daily gain (ADG) were all significantly greater for the NT/Mx/NT group than either the No Drug or DP/D/DP groups. There was no statistical difference among groups for feed per gain (F/G).

Mortality during the study was very low, as the only deaths were one pig in the No Drug group and two pigs in the DP/D/DP group. There were no mortalities in the NT/Mx/NT group.

Treatment Group	Mortality - # died/Total number in group
No Drug	1/33
DP/P/DP	2/33
NT/Mx/NT	0/33

These results were not statistically analyzed.

Conclusion

PEDv positive weaned pigs with concurrent bacterial challenges including hemolytic *E. coli* and *Salmonella* may benefit from feeding an antibiotic program of **Neo-Terramycin / Mecadox / Neo-Terramycin** similar to the program reported in this Technical Bulletin.

Data on file with Phibro Animal Health Corporation.