

Aivlosin /Chlortet medication in pigs – Friosas; Chile

Alvaro Ruiz, MV, Ph.D.

Introduction

Porcine Respiratory Disease Complex (PRDC) is a multiple aetiology pulmonary problem. In Chile, the main pathogens are *Mycoplasma hyopneumoniae* and Porcine Respiratory and Reproductive Syndrome Virus. PRDC can be clinically characterised by slow growth, less efficient feed conversion, anorexia, lethargy, fever, cough and abdominal respiration. Cyanosis can occur when symptoms become chronic (leading to purple colouration of the skin). The aim of the study was to evaluate the effect of Aivlosin®, a macrolide antibiotic, and Chlortet on productive performance and the appearance of respiratory symptoms in pigs reared on a commercial farm. The addition of Chlortet to the medicated feed was suggested due to an initial field trial where, at necropsy, secondary bacterial infections affecting the lungs were found.

Materials and Methods

Approximately 5000 commercial breeding sows where there was a segregated weaning production system from three different locations were used and were kept in similar housing. Animals from two separate weeks of production were monitored from weaning to slaughter at 170 days old. Pigs from the 1st week were a control group and received a normal antimicrobial product regularly used in the industry (Group A). Pigs from the 2nd week were treated with the Aivlosin®/Chlortet mix (Group B). All treatments were given in feed.

Both groups (2000 animals each) were placed in 4 early weaning areas (500 pigs per section). The treatment group were given Aivlosin® (20ppm) for 20 days between the ages of 20 and 40 days old. Animals were transferred to different rearing areas at between 40 and 70 days old after which 1250 randomly chosen pigs were moved to a fattening shed. Another dose of Aivlosin®/Chlortet (50ppm and 400ppm respectively) was administered to the treated group in the feed. The two additional doses were given between 70-77 days old and between 98-104 days old. Both groups were fed *ad libitum* apart from the three treatment days in the treatment group. The animal's feed consumption and weight were recorded throughout the study and feed conversion was calculated. Necropsy was carried out on animals that died or had to be slaughtered for welfare reasons. Slaughter age, final weight and dress weight were recorded. The cost and profit margins were calculated on the basis of the variables mentioned. Pigs at 170 days old were slaughtered at a commercial slaughterhouse. Approximately 200 lungs were chosen at random and the location and size of lesions were recorded.

Results and Discussion

At the beginning of the trial, Group A had 2053 piglets and Group B had 2067 piglets. In the rearing stage; 28 animals in Group A and 45 animals in Group B died or were eliminated. In the fattening stage; 37 animals in Group A and 12 animals in Group B died or were eliminated.

Necropsies

At the time of slaughter the animals reached an average weight of 109.2 Kg for both groups. Group A reached this weight on average at 164.8 days old and Group reached it at 166.7 days old. The causes of death in the animals from the rearing stage were not unusual for a commercial farm and were mainly found to correspond to white muscle, a deficiency of Vitamin E and Selenium, catarrhal enteritis and respiratory symptoms linked to bronchopneumonia. The animals in Group B showed lesions

compatible with catarrhal bronchopneumonia or pleuropneumonia. The other animals all showed similar symptoms and in similar proportions to Group A. At the fattening stage, the necropsy showed a 1% decrease in mortality rate in Group B and also decreases in the following diagnoses:

- Valvular endocarditis
- Bronchopneumonia
- Polyserositis
- Porcine Dermatitis and Nephropathy Syndrome (PDNS)
- Enteritis
- Intestinal torsion and gastric ulcers

Productive parameters

At the weaning stage, all animals were similar in productivity levels and were therefore comparable. It is suggested that the higher number of deaths in Group B in the early rearing stages was due to an undetectable difference in the housing areas. At the end of the rearing stage, both groups had a similar average weight (A = 29.19 Kg; B = 29.23 Kg) and this was reached at a similar age. Efficiency (Group A 97.44 and Group B 96.48), Weight gain (Group A 23.78 Kg and Group B 23.68 Kg), daily weight increase (0.0446Kg for both) and feed conversion efficiency (Group A 1.64% and Group B 1.62%) were all also similar. Group B did have slightly higher veterinary costs and mortality rate; however, it is important to note that the feed cost per Kg of pig produced was \$15 higher in Group A. At the fattening stage there was a decrease in mortality rate in Group B of 2%. At the end of the fattening stage, Group B reached the correct weight for slaughter on average 2.1 days faster than Group A. 1.3% more animals in Group B were classed as fattened (export and domestic market) than in Group A. There was also a higher Daily Weight Gain and 1.5% more efficiency.

Lung Inspection:

A total of 189 and 204 pig lungs were inspected at the slaughter plant from pigs in Group A and B.

Table 1: Pulmonary lobes with the percentage of pigs that showed lesions in said lobes and the damage to each lobe expressed in relation to percentage of affected lobe.

Lobe	Total percentage of pigs		Total percentage of damage	
	GROUP A	GROUP B	GROUP A	GROUP B
Left Apical	13.23	5.91	8.32	7.45
Right Apical	30.14	24.62	22.6	21.83
Middle Left	13.59	6.4	15.5	8.2
Middle Right	15.33	10.34	21.13	12.75
Diaphragmatic Left	39.67	36.44	39.32	16.1
Diaphragmatic Right	49.21	41.85	39.48	21.44

Table 1 clearly shows a lower percentage of animals with affected lobes. This decrease in affected lobes is shown in the productive capability of the animal.

Conclusions

Despite Group B having a higher mortality rate in the early rearing stage, the productivity levels were similar to Group A. During the fattening stage, Group B had a higher food conversion ratio, a lower feed consumption and a higher daily weight gain. In conclusion, Aivlosin®/Chlortet had a significant effect in reducing the extent of the lesions, as well as the number of animals with pulmonary lesions.

