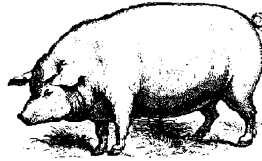


COMBOmate® Effects on Growth Efficiency and Feed Conversion in Grower Phase Hogs

Bishop Burton College of Agriculture, Yorkshire, England
by P.M. Bell, Unit Manager



Experimental Method

112 pigs of an average age of 11 weeks were tagged and randomly selected to be allocated to a treatment boar or gilt pen, or a control boar or gilt pen. The pigs were weighed, the weights between treatment and control pigs were very close, so no adjustments were necessary.

The pigs were fed ad-lib for 20 days in the grower house. All pigs were then weighed before moving to the finishing accomodation and the experiment completed February 18, 1993. Any food left in the hopper was weighed and the results analyzed for F.C.R. and D.L.W.G. were calculated and analyzed.

Trial Protocol

56 Pigs were selected randomly for the treatment group and 56 randomly selected for the control group. The pigs were split into 4 pens on each treatment side, 2 pens for boars, 2 pens for gilts. All were tagged, weighed and, allocated randomly to the appropriate pen. Weights were as near as possible the same for both treatment and control groups. Pigs were fed ad-lib, with the amounts used in each pen recorded (feed was prepared at the same time). Temperatures were recorded daily to ensure the ambient temperature was the same for both treated and control groups. Weights and number of days on trial of any pig which died or was removed was recorded. Any treatments were also recorded. Pigs in both treatment and control groups were of the same average age at the start of the trial, which was 11 weeks.

Pigs were weighed before moving to the finisher house and any food left in the hoppers was weighed and recorded to give results for the growing stage. Treatment and control pigs were slap marked differently to allow carcass data to be compared and analyzed. Results, graphs, and analysis were performed on computer spreadsheet.

Combined Summary of Experimental Results

	COMBOmate® 500 g./M.T.	Control
Total Gain	874.00	694.00
Total Days	1110	1112
Daily Live Weight Gain	797.39	624.10
Feed Intake(Kg.)	1650.0	1625.0
Feed Conversion Ratio	1.89	2.34

Conclusion

As can be seen from the overall results on the grower section of the trial the pigs fed COMBOmate® included at 500 g. per M.T. had an improved growth rate of 163 g. per day and an improved FCR of .45, which represents a tremendous improvement. It was noted that the pigs on the COMBOmate® ration showed no signs of colitis and their dung was darker and firmer. This would account for the improved FCR. There were signs of colitis in the control pigs and their dung was noticeably more runny.



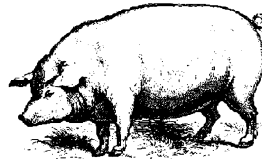
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COMBOmate® Effects on Growth Efficiency and Feed Conversion in Grower Phase Hogs

Bishop Burton College of Agriculture, Yorkshire, England
by P.M. Bell, Unit Manager
Physiology

University of Leeds, England
Mike Varley, Ph.D., Dept. Of Animal
Physiology



Experimental Method

104 pigs of an average age of 11 weeks were tagged and randomly selected to be allocated to a treatment boar or gilt pen, or a control boar or gilt pen. The pigs were weighed, the weights between treatment and control pigs were less than 5%, so no adjustments were necessary.

The pigs were fed ad-lib for 26 days in the grower house. All pigs were then weighed before moving to the finishing accommodation and the experiment completed July 24, 1995. Any food left in the hopper was weighed and the results for F.C.R. and D.L.W.G. were calculated and analyzed.

Trial Protocol

52 Pigs were selected randomly for the treatment group and 52 randomly selected for the control group. The pigs were split into 4 pens on each treatment side, 2 pens for boars, 2 pens for gilts with a total of 13 pigs per pen. All were tagged, weighed and, allocated randomly to the appropriate pen. Weights were as near as possible the same for both treatment and control groups. Pigs were fed ad-lib, with the amounts used in each pen recorded (feed was prepared at the same time). Temperatures were recorded daily to ensure the ambient temperature was the same for both treated and control groups. One pig in pen 12 was later removed from the study. Water intake was recorded and any differences noted. Pigs in both treatment and control groups were of the same average age at the start of the trial, which was 11 weeks.

Pigs were weighed before moving to the finisher house and any food left in the hoppers was weighed and recorded to give results for the growing stage. Treatment and control pigs were slap marked differently to allow carcass data to be compared and analyzed. Statistical analysis was performed by Mike Varley, Ph.D.

Combined Summary of Experimental Results

	COMBOmate® 500 g./M.T.	Control	Significance
Start Weigh (Kg)	39.20	39.28	NS
Finish Weight (Kg.)	62.49	60.46	p=0.079
Daily Gain (g/d)	875	813	p<0.05 (p=0.027)
Food Conv.Ratio	1.66	1.77	p=0.093

Conclusion

As can be seen from the overall results on the grower section of the trial the pigs fed COMBOmate® included at 500 g. per M.T. had a statistically significant effect on daily gain and a dramatic increase in feed conversion ratio. Contrary to a previous Bishop Burton study, all pigs rations included Tylamix® in the ration. This study demonstrates that COMBOmate® is effective in the presence of antibiotic growth promoters. The previous study demonstrated COMBOmate® was effective in place of a common growth promoter.

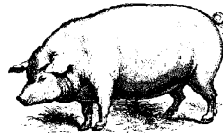


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COMBOmate™ Effects on Growth Efficiency and Feed Conversion in Finisher Phase Pigs (112-147 days)

Trial Performed at a large, Pacific Rim Integrated Hog Producer in August, 1995



Experimental Method

400 pigs of an average age of 16 weeks were tagged and randomly selected to be allocated to a treatment barrow or gilt pen, or a control barrow or gilt pen. The pigs were weighed, the weights between treatment and control pigs were less than 5%, so no adjustments were necessary.

The pigs were fed ad-lib for 7 weeks (35 days) in the grower house. All pigs were then weighed before moving to the finishing accommodation and the experiment completed September 15, 1995. Any food left in the hopper was weighed and the results analyzed for F.C.R. and D.L.W.G. were calculated and analyzed.

Trial Protocol

200 Pigs were selected randomly for the treatment group and 200 randomly selected for the control group. The pigs were split into 20 pens on each treatment side, 10 pens for barrows, 10 pens for gilts with a total of 10 pigs per pen. All were tagged, weighed and, allocated randomly to the appropriate pen. Weights were as near as possible the same for both treatment and control groups. Pigs were fed ad-lib, with the amounts used in each pen recorded (feed was prepared at the same time). Temperatures were recorded daily to ensure the ambient temperature was the same for both treated and control groups. Water intake was recorded and any differences noted. Pigs in both treatment and control groups were of the same average age at the start of the trial, which was 16 weeks.

Pigs were weighed before moving to the finisher house and any food left in the hoppers was weighed and recorded to give results for the growing stage. Treatment and control pigs were slap marked differently to allow carcass data to be compared and abnormally poor performance compared to other control pigs both male and female. Accordingly, test results were calculated below for male pigs only. The trial is being repeated to demonstrate that benefits of COMBOmate™ are not sex specific.

Summary of Experimental Results (male pigs only)

	COMBOmate™ 500g./M.T.	Control
Start Weight Kg)	60.20	60.40
Finish Weight (Kg.)	94.5	92.6
Daily Gain (g/d)	980	920
Food Conv.Ratio	2.96	3.18

Conclusion

The male pigs finished in this trial experienced a 6.8% improvement in feed efficiency during the 25 days of the trial. This is highly significant since finishing pigs require large amounts of feed at this stage. Unfortunately, there was a 11.5% decline in both the treated and control gilts which made the 6.5%

decline in treated animals vs. controls highly suspect. The results seen with the males mimics results seen in other field trials and in actual on farm results. We are repeating this finishing study to validate these excellent results we have seen in barrows.



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