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W. Christopher Scruton

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David Brown

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Ruth Cronje, and Jan Swanson;

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# Weight Gain and Feed Efficiency Benefits from Chlortetracycline and Tiamulin in the Prestarter Diet of Healthy Pigs

Rob Musser, Joe Hahn, and Sharlie Hansen  
Hubbard Feeds Inc., Mankato, MN 56001

## Objective

The objective of this research trial was to determine the necessity of chlortetracycline and tiamulin in the prestarter diet on the immediate and subsequent growth performance of high health nursery pigs.

## Materials and Methods

A total of 280 high-health pigs of the Gentipork line were weaned at 18 days of age and assigned randomly to one of two treatments (mixed sex). Pigs were allowed ad libitum access to feed and water during the duration of the study. Pens were weighed on days 0, 3.5, 14, and 42 in the nursery. Feed additions were measured and feed remaining the feeder at the end of each phase was weighed and removed (4-Phases). The prestarter diets fed d 0 to 3.5 were nutrient -dense nursery diets with or without a combination of chlortetracycline (400 g / ton) and tiamulin (35 g / ton). The diet fed from d 3.5-14 was medicated with chlortetracycline (100 g / ton), with no feed medications being used after d 14. Pigs were weighed off test on d 42 and feed disappearance and weight gains were calculated. Data was analyzed using the GLM procedure of SAS.

## Results

Pigs from a high health system fed a prestarter containing chlortetracycline and tiamulin grew faster due to a higher feed intake during the first 3.5 days of the nursery. The pigs from the non-medicated groups grew numerically slower (440 vs 457 g / day; P = 0.17) due to lower feed intake (596 vs 623 g / day; P = 0.09) resulting in lower nursery weight gain throughout the nursery (18.48 vs 19.19 kg; P = 0.17). No pigs were removed from test or died during the experiment.

## Conclusion

Pigs fed a prestarter diet medicated with chlortetracycline and tiamulin were 325 grams heavier after the nursery phase (d 42). A diet containing both chlortetracycline (400 g / ton) and tiamulin (35 g / ton) could cost an additional \$32 / ton. If the additional weight of a feeder pig is worth \$0.30 / lb then the following calculation can estimate the potential return in a high-health system.

Return over feed = Advantage in weight gain - additional cost of medication

Medication cost / pig = (1.67 lb of feed / pig) x (\$32 / ton medication cost) = \$0.02672 added cost / pig

Advantage in weight gain = 0.716 lb / pig \* \$0.30 / lb = \$0.215 / pig The benefit to cost ratio is a 8:1.

Return over feed = \$0.215 / pig in value - \$0.02672 / pig in cost = \$0.188 / pig or for a 500 sow producer with 20 P/S/Y = \$1,883 / year.

## Implications

For a high health system the impact from a combination of chlortetracycline and tiamulin in the prestarter diet may provide an 8:1 cost benefit.

## Keywords

Prestarter, chlortetracycline, tiamulin