



## **Growth Promotant Antibiotic Trial**

### **Dr. Dan Hurnik, Industry Chair for Swine Research**

Dr. Ted VanLunen conducted some research on growth promoting antibiotics, and for this article we asked Ted to present the results of this trial. In many circles, this is being seen as an emerging issue for the industry.

In recent years, the use of in-feed growth promoting antibiotics has come under some criticism because of the potential risk of bacteria acquiring resistance to specific antibiotics and the detrimental effects that this may have on human health. This has led to the banning of the use of some antibiotics for swine by the European Union (EU). This leads one wonder if similar bans could be imposed in Canada and the United States.

There is some concern that the elimination of growth promoting antibiotics could result in poor performance and profitability. As with everything in pork production, producers must weigh the economic implications of everything they do. Some feel that the small investment in antibiotics results in a payback in terms of improved growth and reduced sickness and mortalities. Others feel that under the right conditions in-feed antibiotics may not be necessary and thus represent an unnecessary cost.

Since the banning of growth promoting antibiotics in the EU, researches have been looking for alternative feed additives which might give similar growth performance and disease resistance. The PPIG group feels, however, that the simplest solution may be to use an in - all out management system with minimal disease pigs and a strict biosecurity protocol. In fact, that group has been successfully producing pigs without in-feed antibiotics under such a system since the barn opened two years ago. Despite our success, we have been challenged by producers and pharmaceutical companies as we didn't have any way of knowing whether the addition of an in-feed antibiotic would give us better performance than we had without antibiotics. As a result, we decided to run a trial to compare performance of pigs in our barn fed a commercial diet with or without the addition of tylosin phosphate, commonly known as Tylan.

We used 16 pens containing 12 barrows and 12 gilts each on the trial at an average weight of 20.8 kg. Half the pens received a commercial feed with no tylosin phosphate supplementation while the other pens received the same feed with tylosin phosphate added at the rate of 44 g/tonne in the starter, 22 g/tonne in the starter/grower and grower and 11 g/tonne in the finisher. We weighed the pigs at the beginning and end of the trial and recorded feed intake, days to market, illnesses and mortalities, and carcass quality data.

The results of the trial are shown in the following tables. As can be seen, tylosin phosphate had no effect on growth performance and we were unable to detect a statistical

effect on feed consumption or conversion despite an indication that the tylosin phosphate may have slightly improved feed conversion.

Carcass index was not improved by tylosin phosphate, however we did detect a significant improvement in the lean content of the pigs on that treatment. This improved lean content was not high enough to improve the grade index which, in addition to dressed weight, is what determines the returns to the producer.

Tylosin phosphate did not reduce the mortality rate in the barn, but it did reduce the number of animals which were shipped light at the end of the test. Three tylosin pigs and 6 pigs fed the tylosin free diet were shipped light.

The results of this trial show that tylosin phosphate supplementation did not result in improved performance or profitability in our barn. The final decision on whether to use such a growth promotant depends on several factors including the disease status of the herd, genetics of the pigs, nutrition, and management system.

#### **Growth performance of pigs fed diets with or without added tylosin phosphate**

	<b>Start wt (kg)</b>	<b>End wt (kg)</b>	<b>Days to market</b>	<b>Total gain (kg)</b>	<b>Gain/day (g/d)</b>
Control	20.9	110.2	94.1	89.4	949
Tylosin phosphate	20.6	110.2	94.1	89.7	954

#### **Feed consumption of pigs fed diets with or without added tylosin phosphate**

	<b>Feed per pig per day (kg/d)</b>	<b>Feed per gain (g/g)</b>
Control	2.6	2.7
Tylosin phosphate	2.5	2.6

#### **Carcass measurements of pigs fed diets with without added tylosin phosphate**

	<b>Dressed wt (kg)</b>	<b>Lean yield (%)</b>	<b>P-2 Fat Depth (mm)</b>	<b>P-2 Lean Depth (mm)</b>	<b>Grade Index</b>
Control	85.2	60.0	19.9	60.1	109.8
Tylosin phosphate	85.1	60.4	19.1	61.4	110.2

Values in italics are significantly different (P<0.05)

#### **Per cent mortality and marketed underweight of pigs fed diets with or without added tylosin phosphate**

	<b>Mortality %</b>	<b>Marketed under weight (%)</b>
Control	1.5	3.1
Tylosin phosphate	1.5	1.0