

Verified by the Canadian ETV Program



Elanco, Division Eli Lilly Canada Inc.

Technology Fact Sheet for Paylean® Premix

Performance Claim

When Paylean® is administered to swine at a level of 10 ppm in the finishing period, results are (with 95% confidence):

- Decreased water intake by 11.3% on average;
- Decreased total water excretion (urine output and fecal moisture) by 15.8% on average;
- Reduced urinary nitrogen by 18.5% on average; and
- Reduced total nitrogen excretion by 13.1% on average.

Performance Conditions

A study conducted at the Prairie Swine Centre (Saskatoon, Saskatchewan) from June 2007 to July 2008 was used to verify the performance claim. The study is listed as T4VCA0603 “Enhancing the Efficiency of the Utilization of Dietary Nutrients Through the use of Ractopamine Hydrochloride in Diets for Finishing Swine”.

In the study, 54 finishing pigs weighing approximately 95 kg were assigned to one of nine treatments with 6 barrows per treatment. The experiment was conducted using a factorial arrangement with three levels of Paylean® (0, 5 and 10 ppm) and three lysine levels (1.73, 2.14 and 2.63 g/Mcal of DE). The pigs were individually housed in metabolism pens (1.5 x 1.5 m) that allowed free movement. They were allowed a 5 day acclimation period and were then placed on their assigned diet for a 15 day period with urine and fecal collections occurring on days 6 to 8 and days 13 to 15 inclusive.

The study measured water intake, total water excretion (urine output and fecal moisture), urinary nitrogen excretion and total nitrogen excretion. Sufficient numbers of animals were used to obtain statistically significant differences if present.

Environmental Technology Verification

Technology Description

Paylean® is a widely used swine feed ingredient approved for use by Health Canada. Paylean's active ingredient is ractopamine hydrochloride which is an organic compound of the phenethanolamine class. In the pig, Paylean's active ingredient initiates a cascade of events that increases the natural process of protein synthesis at the expense of fat synthesis.

Technology Application

Paylean® is approved at 5 ppm for improved rate of gain and feed efficiency and at 10 ppm for increased carcass leanness, increased dressing percent, improved rate of gain and improved feed efficiency (Elanco Paylean Technical Reference Guide, 2007). Paylean® is fed for an average of 28 days before marketing of the pig and has no withdrawal period. In addition to the performance benefits listed above, feeding Paylean® to swine may result in reduced water, nitrogen, phosphorus, and potassium usage and manure production.

Verification

The verification was conducted by Dr. P.A. Thacker— the Verification Entity (VE) — using the Canadian ETV Program's General Verification Protocol (February, 2007). The verification was based on the data set arising from the study conducted at the Prairie Swine Centre listed as T4VCA0603 "Enhancing the Efficiency of the Utilization of Dietary Nutrients Through the Use of Ractopamine Hydrochloride in Diets for Finishing Swine".

What is the ETV Program?

The Canadian Environmental Technology Verification (ETV) Program is delivered by The Bloom Centre for Sustainability (BLOOM) under a license agreement from Environment Canada. The Canadian ETV Program is designed to support Canada's environment industry by providing credible and independent verification of technology performance claims.

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