



Project Number & Title

2C 118 - Using Microencapsulated Ingredients to Enhance Efficacy and Improve Production Efficiency Within an Integrated Health Strategy.

Project Leader Mr Rob Hewitt

Project Participants

Sun Pork Farms and Jefo Australia

Aims and Objectives

The objective was to investigate two microencapsulated materials namely ZnO (ZincoPlus) and essential oils (Porcinat) on the performance and health of pigs weaned at 21 days of age (5.8 kg).

The study was of 28 days duration and included the following treatments

A negative control diet -containing no ZnO

A positive control diet containing 3,000 ppm ZnO

The same basal diet containing 1.0 kg/tonne ZincoPlus

Basal diet containing 1.0kg/tonne Porcinat

Basal diet containing 1 kg/tonne of each microencapsulated material

Key Findings

Pigs offered the diets containing 3,000 ppm ZnO or 1.0kg/tonne ZincoPlus exhibited the best performance in the first week after weaning.

In the second and third weeks after weaning the 3,000 ppm ZnO diet supported the highest feed intake and growth rate and these pigs were heavier at 2, 3 and 4 weeks than those on all other treatments except for those on the diet containing both microencapsulated materials.

During weeks 3 and 4 pigs offered the diet containing Porcinat exhibited the best feed efficiency.

In week 4 the feed efficiency of pigs on the Porcinat treatment was 7.0% ($P < 0.05$) and 9.3% better ($P < 0.05$) than that of pigs on the negative control diet and diet containing 3,000 ppm ZnO respectively.

Application to Industry

The results support the use of two diets during the first four weeks after weaning and show that in the first two weeks that the protected ZnO product could replace 3,000 ppm ZnO with minimal adverse effect on growth performance and substantially reduce Zn excretion.

The protected essential oil material (Porcinat) would appear to have considerable potential as a performance enhancer in second stage weaner diets.

Both materials are produced by Jefo and distributed in Australia by Jefo Australia. Contact - Wayne Bradshaw (wbradshaw@jefo.com)