



Australasian Pork Research Institute Ltd APRIL

PROJECT SUMMARY

Project Number and Title: **6A-108:** *How low CAN you go?: Optimising the use of calcium nitrate (CAN) in gestating sow diets to reduce piglet birthweight variation and improve their lifetime performance.*

Project Leader: Dr Jessica Craig [Rivalea (Australia) Pty Ltd.].

Project Participants: Dr Rebecca Morrison; David Henman; Chris Brewster; Dr Fan Liu [Rivalea (Australia) Pty Ltd.].

Aims and Objectives:

In an already completed APRIL project (5A-104, *Low dose dietary strategies in late gestation to enhance born alive and piglet survival and performance*), it was reported that supplementation of calcium nitrate (CAN) to sows from approximately day 90 of gestation could significantly reduce the proportion of piglets born <1.1 kg and improve their survival to weaning, in comparison to piglets born to sows supplemented with arginine (ARG). Therefore, the aim of the current study was to determine the optimal feeding time for CAN to sows in gestation to maximise piglet performance before weaning, and whether this resulted in improvements in growth performance of pigs from birth up until sale.

Key Findings:

In the current study, the major findings are as follows:

- Calcium nitrate supplementation, regardless of duration, did not significantly improve piglet birth weights or reduce birth weight variation.
- Calcium nitrate supplementation increased lactation feed intake in sows, but this did not result in an improvement in piglet growth rates before or after weaning.
- Piglets born to sows supplemented with CAN were no more likely to survive to weaning than those born to those not supplemented with CAN.
- Supplementation of CAN, or the duration of supplementation, did not influence piglet performance to slaughter.

The current experiment was performed in a commercial herd in sows of parity 1 to 8 at mating, where farrowing supervision was available for extended hours and piglets were dried and placed at the udder soon after birth.

Applications to Industry:

The results from the current study indicate that CAN supplementation to sows, either short- (from entry to the farrowing house), medium- (from approx. d 90 of gestation) or long-term (throughout gestation) before farrowing, did not significantly improve performance of sows or their litters. Further work is required to determine whether CAN supplementation for a short period of time before farrowing (at entry to the farrowing house) may be beneficial for piglets born on farms where adequate farrowing supervision by farm staff is not possible.