



The Effect of Chilled Drinking Water on the Growth Rate and Feed Efficiency of Grower Pigs

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A study conducted by Willis and Collman (2007) reported that cooled drinking water improved daily water intake, feed intake and body condition of lactating sows and the growth performance of their litters.

The objectives of this project were to:

- quantify the effect of chilled drinking on the growth rate and feed efficiency of grower pigs
- further evaluate the milk vat as a relatively cheap and reliable tool for providing chilled drinking water
- provide producers with estimates of operating costs for supplying chilled water.

The study was conducted during the summer of 2008 (January to April) in a commercial facility at the University of Queensland, Gatton piggery.

Over 9 weeks, 425 cross bred pigs were randomly allocated at approximately 47 kg live weight to a 2 x 2 factorial study involving two sexes (male/female) and two water treatments (cooled/uncooled). Pigs were on test for 42 days. Pigs were provided with either standard shed drinking water, or cooled water (18°C), through 4 nipple drinkers. Cooled water was supplied by a mobile water chiller unit set to cool water to 18-22°C.

Bodyweight and P2 backfat thickness were recorded at treatment allocation and then at sale. Drinking water temperature, ambient air temperature and humidity were recorded. Results showed the provision of cooled drinking water had no significant impact on growth performance (ADG) or P2 backfat of grower pigs. It is speculated that this was due to the mild summer temperatures experienced during 2008.

Due to implications of conducting a trial in a commercial piggery, routine management and marketing procedures impacted on the ability to accurately measure feed efficiency, hence this data is not available.

The chiller unit was manufactured from a 2nd hand 1600 L milk vat and refrigerated by a new “high ambient” condensing unit with a digital thermostat control. With all fittings and refrigerant the total cost was \$5,200. Additional costs included insulation (\$7.50/2m lengths) and a return line (19mm poly pipe). Operating costs for the chiller unit were approximately \$3.00/day. The milk vat proved to be a reliable and cost effective tool for providing a constant source of cooled water to growing pigs.