



## WELFARE & NUTRITION

AWN-032

### **INFLUENCE OF CALCIUM AND BICARBONATE LEVELS IN DRINKING WATER ON THE PERFORMANCE OF NEWLY WEANED PIGLETS (4-9 WEEKS OF AGE)**

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In Flanders, certain pig farmers use deep drainage water (depth 4-8m) as drinking water. This water contains high levels of calcium and bicarbonates. It is unclear to which extent these levels affect newly weaned piglets. Therefore, 2 experiments were carried out on the effect of either high bicarbonate or high calcium levels on performance, water consumption and fecal consistency, in newly weaned piglets. In both experiments, 8 pens of 6 piglets (3 gilts and 3 barrows) received tap water, 8 pens received tap water with extra  $\text{CaCl}_2$  (0.5 g/l) in exp. 1 or  $\text{NaHCO}_3$  (1 g/l) in exp. 2 and 8 pens had the choice between tap water and the same treatment water. Increasing the hardness in exp. 1 (56.3 °F vs 22.7 °F) did not significantly affect performance, water consumption and fecal consistency. Similarly, increasing the bicarbonate level (845 vs 160 mg/l) in the second experiment did not affect fecal consistency scores or piglets' performance. However, pigs that had the choice between tap water and water with high bicarbonate levels performed significantly worse: daily feed intake decreased with 24g/day, daily weight gain decreased with 58 g/day and feed conversion ratio increased with 0.13 g/g. The reason for this is unclear. An interaction between water type and time point on water usage was observed ( $P < 0.001$ ): While no difference in water use was observed at start of the nursery period, over time more water was used in the pens receiving tap water in comparison to pens receiving water with high bicarbonate levels. In contrast to the perception in practice with deep drainage water, no detrimental effect of water calcium or bicarbonate level on piglet's performance could be identified in the experiments. Further research is necessary on the effect of combinations of parameters and in different (more challenging) conditions.