

## HHM-PP-89

### TITLE

NITRATE POISONING IN WEANED PIGLETS

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### CONTENT

This case report describes acute mortality of over 300 piglets in a 3200 sow farm.

Cases occurred at 5 to 10 weeks of age in a barn with 10.000 weaned piglets. The animals were found dead early in the morning, spread across the units. No visible health problems were seen in the other animals, which were active and had a good appetite.

A differential diagnosis was quickly established: acute poisoning by environmental gases, water or feed, or an infectious disease. Necropsies of 5 dead piglets was performed by the Dutch Animal Health Service to establish the cause of death. Air quality was measured (Impact pro M3: NH<sub>3</sub>, O<sub>2</sub>, CO<sub>2</sub> and H<sub>2</sub>S) and feed samples were taken and water was tested for nitrate (Merckoquant test strip)

First, poisoning by gases was excluded as a cause of death (NH<sub>3</sub> 10-12 ppm, O<sub>2</sub> 20%, CO<sub>2</sub> 0.1% and H<sub>2</sub>S 0.0%). Necropsy findings were in line with a nitrate intoxication: chocolate brown coloration of the blood and methemoglobin concentrations of 28%.

Nitrate poisoning was confirmed by the presence of nitrate in the drinking water (test strip; >1 mg/ml).

Laboratory analysis of the drinking water showed slight elevated levels of nitrate (0 mg/l - 0.37 mg/l). The feed has not been analysed.

Cause of mortality was proven due to nitrate intoxication. Further investigation revealed contamination of the drinking water with waste from the air washer. Due to occasionally negative pressure in the drinking water system at times of large water demands waste water could be sucked into the drinking water system. The occasional flow back of waste water can explain the variable nitrate contents of the different water samples and the relative low morbidity of nitrate intoxication. To prevent future nitrate poisoning, a separation was made between the drinking water system and the airwasher.