

# Administration of drinking water supplement containing organic acids and medium chain fatty acids to sows significantly reduced incidence of Clostridium-associated diarrhoea in neonatal piglets: A case study

Awati, A.\*<sup>1</sup>

Smits, C.H.M.<sup>1</sup>, van der Heijden, M.<sup>2</sup>, Leenen, J.<sup>2</sup> and de Groot, T.<sup>3</sup>

<sup>1</sup> Nutreco Research and Development, Veerstraat 38, Boxmeer, The Netherlands

<sup>2</sup> Selko Feed Additives, Jellinghausstraat 22, 5048 AZ, Tilburg, The Netherlands

<sup>3</sup> Veterinary practice Ell, Hoogstraat 7, 6011 RX Ell, The Netherlands

\*Nutreco Ingredients Research Centre, Veerstraat 38, PO Box 220, 5830 AE, Boxmeer, The Netherlands.

e-mail: [ajay.awati@nutreco.com](mailto:ajay.awati@nutreco.com); fax: +31485568183

## Abstract

Neonatal diarrhoea in newborn piglets is an important problem in pig production that is frequently diagnosed as being the result of Clostridium perfringens infections. During parturition and in the first hours of life, the sow transmits the pathogen to its offspring. The objective of this study was to examine the possible prophylactic effect of a drinking water supplement containing organic acids and medium chain fatty acids (Selko-4-Health®), administered to sows on prevalence of neonatal diarrhoea in piglets during early lactation. The study was carried out at a farm with 1300 sows with a high incidence of neonatal diarrhoea. Gestating sows received the water supplement (0.1% per litre) daily from day 35 to end of gestation and during the lactation phase for 2 days a week. Excreta of sows were collected at day 0, 35, 56, 91 of gestation and at day 21 of lactation for microbial examination counting the numbers of Lactobacilli and Clostridium spp.. The number and type of veterinary treatments were recorded during the trial period. The numbers of Clostridium spp. in faecal samples of sows decreased progressively from day 0 to 91 in gestation from log 6 to log 4 cfu/g. Counts in faecal samples of lactating sows (day 21) decreased from log 6 to log 3 cfu/g. There was a pronounced decrease in the ratio Clostridium spp to Lactobacilli spp., indicating a more specific effect of the water supplements towards lowering Clostridium spp. counts whilst maintaining higher levels of Lactobacilli. Although there was no effect on mortality of piglets, the number of veterinary treatments of newborn piglets decreased during the trial period, leading to a total reduction in antibiotic usage of 60%. The improved health status of neonatal piglets was also associated with a reduction of meningitis incidence.