

Reduction of antibiotic use with medium-chain fatty acids!

In Europe, the use of antibiotics as growth promoters has already been curbed since 2006. The therapeutic use of antibiotics is also increasingly being challenged here. In the Netherlands, for example, antibiotic use in sows/piglets has already been reduced by more than 60% compared to 2009. Belgium also wants to reduce antibiotic use by 50% in 2020. And in the USA the attention for antibiotic use is increasing as well. From late 2016, antibiotics that are considered medically important, and are used in both humans and animals, will only be used for the prevention, control and treatment of diseases. Furthermore, administration of these antibiotics will only be possible under supervision of a veterinarian. So the use of medically important antibiotics as growth promoters is being curbed. The USA is still far removed from the European situation, but is clearly heading in the same direction.

So in the past years, increasingly there has been a shift from treating diseases towards preventing them. There are a number of possible measures to reduce antibiotic use, varying from management-related measures to adjustment through nutrition. Two of the most important ways to improve animal health through feed are improving the intestinal health and immunity of the animals. Late 2014 a report by Wageningen University was published: "Nutritional interventions in animals: benchmarking of strategies, monitoring biomarkers and immune competence". In this, a study was done into various aspects related to the immune competence of animals. This study also indicates that nutrition may not only affect the intestinal immune system, but also that of the upper airways. The study led to the following quote in the conclusion:

"In our institute, a large number of feed additives have been tested as potential substitutes for antimicrobial growth promoters (AMGP). In all these experiments, in addition to animal performance, the number of veterinary treatments and removed piglets as a result of airway infections were recorded as well. In most experiments... there was no demonstrable effect of the intervention. The only exception was an intervention with a mixture of medium-chain fatty acids (Aromabiotic)."¹

The exception referred to is a trial in which the effect of medium-chain fatty acids on the health of piglets after weaning was studied (Figure 1).

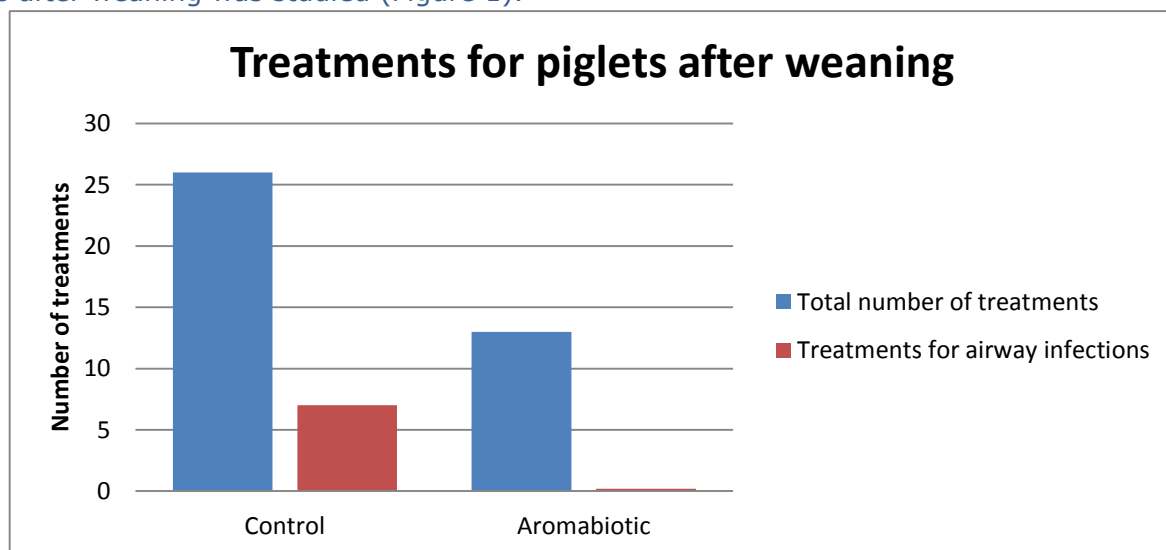


Figure 1: Antibiotic treatments for piglets from weaning to 34 days after weaning (total of 410 piglets)



It was seen that the total number of treatments for piglets was halved. The number of treatments for airway infections had even been reduced to 0. The use of Aromabiotic did not only lead to a reduced number of treatments, but also resulted in a 4% higher growth. This study shows that Aromabiotic does not only have a positive effect on intestinal health, but may also improve the general immunity of animals.

As this study shows, promoting animal health through nutrition is also an important measure to reduce antibiotic use. The management, however, greatly affects antibiotic use as well.

Below some management considerations are listed:

- Calculate your antibiotic use: 'measure to manage' applies here as well.
- Evaluate the biosecurity on your farm. Some important biosecurity considerations are: use all-in/all-out, try to avoid mixing groups as much as possible, make sure the barns are cleaned and disinfected properly, try to avoid visitors in the barn as much as possible, provide a hygiene lock and protective clothing for visitors, ensure good pest control...
- Use a correct vaccination policy. Vaccination against viruses also provides increased resistance to secondary infections.
- Use a correct euthanasia policy, so that these animals do not remain a source of infection.
- Avoid overstocking of the barn and make sure the barn climate is good. Too high a humidity, great temperature fluctuations and high air velocities increase the risk of lung diseases.
- Make sure the water quality is adequate; it is recommended to check the water quality at least once a year.
- Note causes of treatments and mortality.
- Preferably treat individual animals; only treat in a group if there is a great risk that the other animals will exhibit the disease as well.



Nuscience's years of experience in the use of medium-chain fatty acids led to the development of products such as **Aromabiotic**, **Cvita**, **Vitadys** and **Salbiotic**. Whereas Aromabiotic promotes the overall health and productivity of animals, the other products were developed specifically to support animals against *Streptococcus Suis*, *Brachyspira hyodysenteriae* and *Salmonella* respectively. The use of medium-chain fatty acids results in healthier animals and combines better productivity with a lower antibiotics use. So it is a win-win situation!

References:

- 1 Van Krimpen M.M. et al., 2014, Nutritional intervention in animals: benchmarking of strategies, monitoring biomarkers and immune competence, Wageningen UR Livestock Research
- 2 Van Krimpen M.M. et al., 2002, Aromabiotic als alternatief voor AMGP's bij gespeende biggen, Wageningen UR