

ECHA – Public consultation on cyanamide as potential candidate for substitution

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Some arguments, why there is no economically feasible alternative to substitute the biocide cyanamide (ALZOGUR®) in sanitation of farms affected by dysentery (PT3):

1.-

The control of swine dysentery in pig farms is complicated by the high resistance of the aetiological agent (*Brachyspira hyodysenteriae*) in the environment of the premises of pig farms. Proper antibiotic treatment can control the disease or eliminate bacteria from infected pigs. However, to avoid an immediate reinfection of healthy piglets, the pathogen must also be eradicated from the pigs' environment.

On the surfaces of the facilities, *Brachyspira hyodysenteriae* can be controlled by an intense cleaning with removal of all organic matter, and subsequently an adequate disinfection of these surfaces. Special attention should be paid to the residues of infectious faeces that remain in the manure pits because they can be an important source of contamination (Alvarez-Ordóñez *et al.*; 2013). As *B. hyodysenteriae* can survive more than 48 days in feces of pigs at 10 ° C (Chia and Taylor, 1978), the residues of contaminated faeces in the pits below the grid floor are an important reservoir of the pathogen and a source of infection for the next batch of fattening pigs.

2.-

Swine dysentery mainly occurs during winter. Due to the lower temperatures in the slurry pit, *Brachyspira hyodysenteriae* remain viable and infectious for a longer time than during summer. For economic reasons it is not feasible to leave pig pens empty for several months until the bacteria have lost their viability. Thus, after an outbreak of dysentery it is essential to treat the liquid manure with cyanamide in order to prevent re-infections of the new batch of healthy piglets.

3.-

The efficacy of cyanamide for the control of dysentery is enhanced by the fact that Alzogur not only eradicates *B. hyodysenteriae* but also its main vectors, that are the house fly (*Musca domestica*) and other flies which reproduce and develop on the liquid manure. Through this double action, cyanamide reduces the risk of reinfection with *Brachyspira* effectively, which can be achieved more efficiently than with any other biocide or any other alternative method.

4.-

After a disinfection of liquid manure with cyanamide, manure no longer provides viable conditions for the development of fly larvae. Therefore, the population of adult house flies usually disappears completely with only one cyanamide application in the empty pig premises. Therefore, the use of cyanamide can replace the use of other multiple larvicides. This not only

prevents stress for man and animals, which would occur during the application of these larvicides in the occupied pens, but also prevents direct contact of pigs with these chemical products.

5.-

Cyanamide prevents the propagation of antibiotic resistant isolates of *Brachyspira hyodysenteriae*. The loss of the biocide Alzogur would hinder the sanitary management in pig premises and would increase the need for antibiotic treatments. Such an increase in the use of antibiotics in pig production would also increase the risk for further development of resistant bacterial strains, which are already widespread occurring. The extensive resistance to tylosin, lincomycin and dimetridazole has been found many years ago in field isolates of *B. hyodysenteriae* (Ronne and Szancer, 1990) and the resistance of this bacterium to other antibiotics is gradually increasing over the years (Hidalgo *et al.*, 2011).

6.-

Cyanamide also helps prevent flies from developing resistance to other larvicides: due to their simultaneous effect against *Brachyspira hyodysenteriae* and against the maggots of flies one application of Alzogur normally replaces several applications of common larvicides. Reducing the number of larvicide applications also reduces the risk of resistance buildup in fly populations. Due to the limited number of active ingredients used as larvicides and the high frequency of larvicide applications, the risk of resistance to these biocides is high. Field populations of domestic flies showed resistance to the larvicide Diflubenzuron and also to Cyromazine (Kristensen and Jespersen, 2003).

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