

Rational Use of Antimicrobials in the Dairy Industry

The use of antimicrobials in food animals has long been the subject of international debate, although the relationship between their use and the development of antimicrobial resistance in bacteria is complex and unclear. The multifunctional teams of GD Animal Health experts combine monitoring and disease eradication programmes with practical field research projects in order to clarify and promote rational use of antibiotics.

The majority of antimicrobials used in dairy herds are related to udder health, with two-thirds applied as dry cow therapy. In the Netherlands, approximately 90% of all dairy cows were treated with dry cow antimicrobials in the 2005–2010 period, after which the Dutch government strictly advocated prudent and restricted use of antimicrobials. Antibiotic use in the livestock industry had to be decreased by 20% in 2011 and by 50% in 2013, as compared to 2009. Realisation of these goals was the primary responsibility of the various livestock sectors themselves.

Selective Dry Cow Therapy

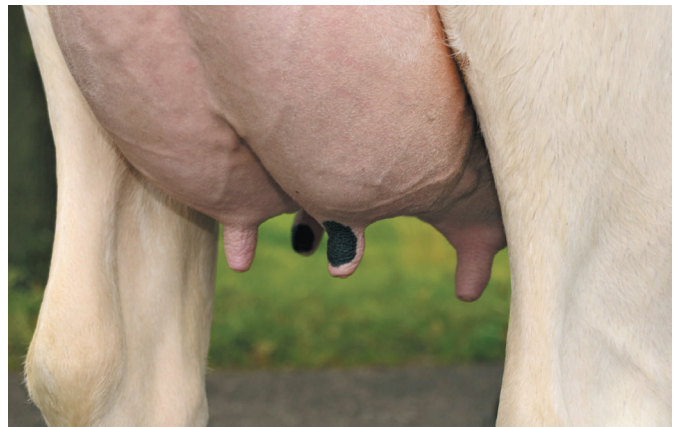
In 2011, GD Animal Health initiated a large field trial in the Netherlands for selective dry cow therapy (SDCT). It was conducted on a split-udder basis, monitoring more than 1650 dairy cows on 97 herds during the dry period and the first hundred days in lactation. Our research team of veterinary epidemiologists and technicians worked with farmers and veterinarians in the field to study the effects on udder health when reducing dry cow therapy (DCT) in low-somatic cell count cows on the dairy herds.

From 2013 on, preventive use of antimicrobials was prohibited in the Netherlands, and SDCT was introduced as an alternative for blanket dry cow therapy (BDCT). Antimicrobial use for DCT accounted for 49% of the total antimicrobial use in the Dutch dairy industry. In January 2014, the Royal Dutch Veterinary Association launched guidelines to be used when implementing SDCT.

Mindset

There was no information on how SDCT was executed in practice and how farmers experienced it. In order to quantify this major change in mastitis management, GD Animal Health conducted another field study to gain insight into the level of implementation of SDCT, selection criteria, and the relation to mastitis and antimicrobial use. Besides this, the attitude and motivation of farmers towards SDCT was studied, and seemed surprisingly positive, although they expressed concern about the udder health situation. Total antibiotic use related to mastitis was reduced by 85%. In conclusion, our field studies showed that SDCT, as currently applied in the Netherlands, was not associated with significant deterioration of udder health and farmers managed to keep udder health at a high standard.

Together with GD Animal Health's udder health team, we apply the Udder Health Approach: aiming for healthy udders and consequently greater volume of milk and fewer financial losses.



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After several years of working in dairy practice, he was employed as lecturer / researcher at the Department of Farm Animal Health, Faculty of Veterinary Medicine, Utrecht University.

He now works as a dairy specialist at GD Animal Health in Deventer, the Netherlands, since 2011. His research activities focus on udder health, antimicrobial resistance and social aspects of modern herd health management. The combination of scientific and practical expertise on udder health management triggers a lot of farm visits each year and resulted in major experience in dairy consultancy and veterinary communication skills. Dr. Scherpenzeel published a number of peer-reviewed publications in the Journal of Dairy Science.

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