



# FARM ANIMAL

ANOTHER CENTURY OF SMALL RUMINANT HEALTH CHALLENGES

## Use of (Big) data in support of small ruminant health: current and future perspectives

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In the last decade, the term BIG data has become a hype. In this lecture, the use of (BIG) data and its challenges in small ruminant health in the Netherlands will be presented. We will describe currently available data, and how it is used in the national monitoring and surveillance system for small ruminants. Furthermore, possibilities to use data collected on the level of veterinary practices and individual farm level in support of small ruminant health will be presented.

On national level, every year routine data analyses are conducted on census data collected from small ruminant herds to monitor trends in time for key indicators such as herd density, mortality and purchase and import of small ruminants. Key in this monitoring system is that the routinely collected data are anonymized prior to usage and that the results are presented for groups of at least 200 herds to guarantee anonymity. At this moment the amount of routinely collected data from small ruminant herds that is available for monitoring on national level is fairly limited. Uniform data management systems on either the level of the veterinary practice or individual herd (when consent is provided by the farmer) may be used to further improve the quality of the national monitoring and surveillance system. Examples of such individual herd performance indicators include fertility, antimicrobial and anthelmintic use.

Besides the use of (Big) data for monitoring trends in animal health on national level, such data can also be used in support of individual farmers and to provide farmers insight in their own herds performance. Since 2018, small ruminant farmers can participate in Schaap-/GeitKompas (Sheep/GoatCompass) in which routinely collected data are combined with additional information of the individual herd to provide farmers insight in their own herds' performance in relation to a benchmark of comparable herds. Additionally, SchaAPP was developed to support farmers in registration of information from individual animals.

In the future, it is imaginable that the farmers participating in individual herd health products such as SchaAPP and Schaap-/GeitKompas will provide their consent to anonymously use their individual herd information to improve the national monitoring and surveillance system. Still, there are some challenges ahead of us to ensure sufficient coverage of collected data throughout the country, to convince the farmers of the importance of their data in monitoring and to further improve data quality of existing systems. But given all the innovative means to easily collect, store and analyze these (Big) data, the future perspective on this matter looks promising.