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ScorWelCow project: Towards recording of animal welfare

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Animal welfare has gained much interest from both the scientific community and consumers leading to increased importance for producers and their performance recording and advisory organisations, like the Walloon breeding association (awé) in Belgium. However, being able to respond objectively to consumers' welfare concerns is challenging, as welfare itself has to be properly defined and recorded. So far, a very commonly used methodology in Europe to collect welfare-related data for dairy cows is the Welfare Quality® protocol that was born from a consortium of experts all around Europe. However, this protocol is expensive and time-consuming (it takes approximately 8h for a 100-cows farm), resulting in the exploration for alternative protocols. In Belgium (Walloon Region), a new project called "ScorWelCow" aims at providing a welfare score for individual cows on a regular basis, using existing data. To achieve this, the Welfare Quality® protocol is applied directly on-farm, to gain individual data such as cleanliness, presence of lesions, lameness, avoidance distance at the feeding rack and body condition score. Collected data ("Gold standard") have to be compared to off-farm routine data in order to try to find correlations and warn the farmer or advisory association when a problem is occurring. Off-farm individual data include milk production and composition, classification data, diagnosis and veterinary treatments as well as sensors data (rumination and/or activity). Milk composition concerns protein, lactose, urea and fat contents, but also innovative novel predictions from mid-infrared spectroscopy technology that allows the predictions of important biomarkers as acetone and beta-hydroxybutyrate. Moreover, prediction of new stress and health biomarkers will be investigated in the context of a new Interreg North-West Europe project called "HappyMoo". This year, the study is led on 18 pilot farms taking part in the milk recording scheme and equipped with sensors, in order to maximize available records. Next steps will be the transfer of welfare and health related data into the performance recording database, the development of genetic and genomic evaluations for these traits and their consideration in our breeding goals.

Keywords: dairy cow, welfare, milk recording, Welfare Quality®