Collection and Use of New Phenotypes in Germany

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Abstract

The idea to base new phenotypes for genetic evaluation and farm management purposes on IR spectra started in Bavaria, Germany, already in 2010. The systematic collection of FT-IR spectra was kicked-off in May 2012, when the Bavarian DHI Association (LKV Bayern, 0.98 million cows) began to store the spectra with each single DHI sample result for each cow . First analyses were focussed on pregnancy prediction for the dairy cows as reference data were available without additional efforts. Later on different projects have been started aiming at identification of metabolic disorders, mainly targeting ketosis and acidosis especially in fresh cows. As different approaches for an early warning system for ketosis are available now, a new project started in Germany (DHI: 3.7 million cows) to compare some of them and find objective evaluation criteria for quality scoring.
For the near future the use of phenotypes for methane emission and a new phenotype based on the differentiation of somatic cells will be under evaluation by joint projects of German DHI organizations co-funded by the German State.
This paper gives examples of projects conducted in Germany and an overview about the potential use of the new phenotypes in the near future.

Keywords: Pregnancy, metabolic disorders, farm risk management, new phenotypes, differential somatic cell count, methane emission