

**Potential auxiliary traits for ketosis based on MIR spectra**

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In dairy cattle, the reduction of metabolic diseases by both, management and breeding, has gained in importance. Based on routine milk recording samples, midinfrared (MIR) spectrometry may be used to quantify milk components that are associated with ketosis. The LKV (performance recording organisation) Baden-Wuerttemberg has developed two alternative ketosis risk indices (KetoMIR1 and 2, values between 0 and 1) based on MIR data. Within the COMET-Project D4Dairy, data from a previous project, Efficient Cow, were re-evaluated. Both KetoMIR values were used for a multivariate genetic analysis together with the traits clinical ketosis (KET, yes or no), subclinical ketosis (KTEST, milk keto-test performed twice, 0, 1 or 2 positive tests), fat-protein-ratio on test-day 1 (FPR) and body condition score on test-day 1 (BCS, 1 to 5). Only Fleckvieh cows were considered for this analysis. Depending on trait, number of records ranged from 1,806 (KTEST) to 8,679 (KET). The pedigree comprised 20,313 animals. Heritabilities were 0.01 (KET), 0.07 (KTEST), 0.11 (FPR), 0.16 (BCS), 0.19 and 0.09 (KetoMIR1 and 2) and were in the expected range. Genetic correlations between KetoMIR1 and 2 and KET were rather low (0.15 and 0.09), but the ones to KTEST were moderate (0.41 and 0.45). The results indicate that different information sources and traits can be used to genetically improve the metabolic disease resistance.

**PLF poster pitches**

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