IMPACT OF HEALTH DATA QUALITY ON BREEDING EFFICIENCY IN AUSTRIAN FLECKVIEH COWS

Egger-Danner, C.[1], Koeck, A.[2], Obritzhauser, W.[3], Fuerst, C.[1] and Fuerst-Waltl, B.[2]

[1]ZuchtData EDV-Dienstleistungen GmbH, Dresdner Strasse 89, 1200 Vienna,
[2]University of Natural Resources and Applied Life Sciences Vienna (BOKU), Gregor-Mendel-Straße 33, 1180 Vienna,
[3] Österreichische Tierärztekammer, Biberstraße 22, 1010 Vienna, Austria.

Conclusions

➢ Data validation and reliable distinction between farms with low frequencies and farms with incomplete health data documentation is a challange.

➢ Stringent data validation results in higher heritabilities and higher incidence rates. Impact is higher for fertility traits.

➢ Indication that vets with fewer diagnoses tend to not fully document drugs without waiting period. Direct electronic transmission of health data by veterinarians advantage for data quality.

➢ For breeding value estimation only farms with continuous and reliable diagnoses documentation are used (Austria: first breeding values for health traits since April 2009).

➢ Evaluation of use of additional health information observed and recorded by farmers is currently carried out.

Background and Aims

➢ Austrian health monitoring system is based on veterinary diagnoses.

➢ Health monitoring system is operating since 2006.

➢ At present 12,800 farms with 210,000 cows are participating.

➢ Project aims: support for herd management and breeding values for health traits.

➢ Impact of data validation on the estimation of breeding values for health traits is analysed.

Heritabilities and incidence rates

Mastitis (10 d before to 50 d after calving)

Data validation	n	Incidence rate (%)	Heritabilities
stringent	17,167	5.03	$0.076_{0.032}$
less stringent	36,004	4.58	$0.069_{0.022}$

Fertility disorders (to 150 d after calving)

Data validation	n	Incidence rate (%)	Heritabilities
stringent	14,109	13.35	$0.064_{0.031}$
less stringent	29,142	10.64	$0.047_{0.014}$

Data and validation

➢ Fleckvieh cows with calving between Jan. 2007 and Aug. 2008 and parity 1 to 5.

➢ minimum number of 0.1 diagnoses* per cow, year and farm general precondition.

➢ Dataset with stringent criteria: only farms assisted by vets with more than 500 diagnoses included in the database.

➢ Dataset with less stringent criteria: assisted by vets with more than 50 diagnoses included.
*aftertreatments not considered

Trait definition

➢ Mastitis (10 d before to 50 d after calving).

➢ Fertility disorders (to 150 d after calving) including metritis, cystic ovarian disease, retention of fetal membranes and puerperal disease and anoestrus not included (lowly heritable).

Models

➢ Binary traits (0/1)

➢ Heritabilities: threshold sire model

➢ Effects: parity (fixed), herd*year*season (random), sire (random)

➢ Incidence rate: only one diagnosis per cow within period considered.