

Improved NAV genetic evaluation of production traits

November 2016

NAV



Nordisk Avlsværdis Vurdering •

Nordic Cattle Genetic Evaluation

More appropriate handling of data

- TD observations of milk, protein and fat have different variation in AMS compared to CMS
 - Different procedure in milk recording
 - AMS: more variation in fat and protein
 - less samples (content from one sample only)
 - time between milkings vary, effect is difficult to correct
 - AMS: less variation in milk kg
 - Milk kg calculated as an average over time

More appropriate handling of data

- In the updated model variation of TD observations are adjusted by
 - Production time (year – month)
 - Herd
 - **Milking system**

More appropriate handling of data

- Check for outlier observations
 - observations that are considered to be too high or too low to be correct records
 - typing errors, cow is sick, high SCC
- Data is screened during editing process, check if observation is outlier, done by
 - breed, parity, lactation stage
 - too deviating observations are set as missing

More appropriate handling of data

- Check for outlier observations
- November 2016 ~0.01 % of obs were outliers
- Examples of outliers:
 - 99.4 kg of milk in day 313 postpartum
 - Fat % of 8.90% for RDC cow (having earlier fat % around 4)
 - Protein % of 6.40 for HOL cow (having earlier protein % 3.2)

More appropriate handling of data

- Small impact on A.I. Bulls' production EBVs
- Small impact on majority of the cows
- Correlations over 0.995 between old and new
- Biggest impact on cows having their outlier observations set as missing, especially if
 - Cow has only few observations
 - Small herds
 - Very deviating record that was earlier included