

Improvements in female fertility evaluation

**Gert Pedersen Aamand og Ulrik Sander
Nielsen**

November 2016

NAV



Nordisk Avlsværdi Vurdering • Nordic Cattle Genetic Evaluation

STØTTET AF
mælkeafgiftsfonden

Female fertility evaluation

- Nordic fertility evaluation since 2005
- First improvements implemented in May 2015
 - Animal model
 - Updated genetic parameters
 - Etc.
- Latest improvements in November 2016
 - Semen type
 - CR
 - FIN and SWE Jersey, heterosis for Holstein, data editing

NAV



Semen type

- The use of sexed semen is increasing
- The model now corrects for the use of sexed semen for the following fertility traits:
 - Interval from 1st to last insemination
 - No. inseminations
 - Conception rate
- Has a small effect on bulls in general
 - However, stronger effect on youngest ageclasses → sexed semen used more commonly
- Bigger effect on cows inseminated with sexed semen

Conception rate, CR

- Non return rate (NRR56) is replaced with CR
 - Cows and heifers
- CR is defined as non-return rate for each insemination and not only NRR for 1st ins
- The breeding goal is unchanged and fertility index includes the same traits as before

Other improvements

- FIN and SWE Jersey-cows included in the breeding value evaluation
- Improved data quality
 - FIN: pregnancy test results
 - SWE: updated editing of heifer data
- Heterosis correction also for Holstein

Effect of improvements

- Correlations between old fertility index and November 2016 fertility index are high
 - Proven bulls: over 0.98
 - Cows: over 0.97
- 97 % of HOL bulls and around 90 % of RDC and JER bulls change less than 4 index units
 - RDC and JER use more sexed semen
- For cows the pattern is same: RDC and JER change more compared to HOL