Improvements in female fertility evaluation

November 2016
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
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 (NRR) 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