Future improvements in yield evaluation

Jukka Pösö
Status: new yield model

- not yet taken into use
- some problems unsolved
  - large changes for some cows
    - cows with high or low protein/fat content
    - TDs
  - problems with covariance functions in explaining some parts of the lactation?
Changes in the new model

• revised genetic parameters
• revised variance adjustment across time/herds/countries
• slightly revised model (herd effect)
Genetic parameters re-estimated

- HOL
  - DNK, SWE
- RDC
  - FIN, SWE, DNK
- JER
  - DNK
- No big differences across countries within breeds -> same parameters used for all countries
Changes in heritabilities

- increased heritability means
  - more weight on cow’s own record
  - less weight on pedigree
  - increased reliability
## Changes in heritabilities (%)

<table>
<thead>
<tr>
<th>trait</th>
<th>RDC</th>
<th></th>
<th></th>
<th></th>
<th>HOL</th>
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</table>
Variance adjustment across countries

- currently based on bulls
  - differences across countries for cows
  - variance for SWE cows higher than DNK and FIN
    - SWE cows “over-presented” in top lists
- in future adjustment is based on cows
  - variances much more similar across countries
  - changes in top lists of cows
SD of yield index in **current model**

HOL cows

![Graph showing SD of yield index in current model for HOL cows over different birth years with lines for DNKroutine, FINroutine, and SWEroutine.](image-url)
SD of yield index in new model
HOL cows

![Chart showing SD of yield index in new model for HOL cows across different birth years for DNKnew, FINnew, and SWEnew.]
SD of yield index in current model
RDC cows

- DNKroutine
- FINroutine
- SWEroutine

Birth year: 1987 to 2008

SD of yield index over birth years for RDC cows from 1987 to 2008.
SD of yield index in **new model**

RDC cows

![Graph showing SD of yield index in new model for RDC cows across birth years 1987 to 2008, with three different lines representing DNKnew, FINnew, and SWEnew](image_url)
## Cows in top1000 list in yield index

<table>
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<tr>
<th></th>
<th>HOL</th>
<th>RDC</th>
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Notice! Changes in top lists of yield means changes in toplists of NTM, but to a minor degree than for yield – yield is only a part of NTM!
Implementation of new model?

- NAV is working hard to identify and correct the problems
- the new model will be implemented as soon as possible
  - risk that it needs to be submitted to Interbull test run
    - next possibility September 2011, after that January 2012