NAV Bull Search – possibilities and further development

Emma Carlén, Elina Paakala, Anders Fogh
NAV’s joint publication of bull EBVs

- Search page for all AI bulls with herdbook no. in Denmark, Finland or Sweden included in evaluation of Nordic red breeds, Holstein, Red Holstein or Jersey

- Top lists and bull’s individual pages
  - Updated after NAV routine evaluation (4 times a year)
Most farmers use bulls suggested on mating plan, but NAV Bull Search is for those wanting more info...

- All AI bulls from Nordic AI companies available on ONE page
- Both older bulls and the most new genomically tested!
- Good overview and lots of details
- User friendly and easy to search on what you find important
For whom

Farmers

Breeding consultants

Officials
Feedback from users

- Search page was first introduced Summer 2014
- Continuous improvements
- Positive reactions from farmers, consultants, Viking Genetics

- “I can sort the bulls according to traits that are important to me”
- “I also like that I can search for sons or grandsons of certain bull”
- “Good to see on which traits the bull has genomic evaluation or already daughter results”
- “Last I looked up new index for youngstock survival and how it was calculated”
- “To see the breeding value optimum for conformation traits is also a nice feature”
- “My primary source of information on individual bulls”
- “Very flexible search page with good overview and details if you want them”
- “Good with all AI bulls with Nordic herdbook no. in one page”
Top list - basic features

- Choice of language
- User manual
- Choose evaluation scale: Red breeds, Holstein, Red Holstein, Jersey

Top list of all bulls ranked on NTM

- Can be sorted on all column headings i.e. Birth year or Udder health
- Top 50 can be printed as pdf
Top list - additional features

• Create a more specific top list within Evaluation
  1. Birth country: All countries (default), D, F, S, DFS, Other countries (except DFS)
  2. Bull category: All bulls (default), with progeny test, without progeny test
     • Progeny tested = official EBVs for yield, udder health and conformation
  3. Herd book: D, F or S (default) or only one of these countries
  4. Birth year: select an interval
  5. Filter your search with up to 5 indices

➢ Chosen Top list of bulls

NAV
Nordisk Avlsværdi Vurdering • Nordic Cattle Genetic Evaluation
Users may have different goals

⚠️ Herds may have somewhat different breeding goals but use filter tool with caution since threshold selection will limit genetic progress in NTM
Search for individual bulls

- Click on ID or Name in a Top list
- Search on (part of) Name, numeric part of ID or Herdbook no.

- If typing herdbook no. – choice to list sons and/or grandsons
Bull own page – basic info

Basic information

- **NEW!** Breeder from D and F (S 2015?)
- Link to all bulls own pages

NTM and 15 sub-indices

- **NEW!** Youngstock survival
- Can be printed as pdf
- Info boxes describes index and what it is based on
### Bull own page – additional info

Possibility to look at more breeding values…

By clicking at name or arrow for daughter proven bulls (also for young bulls: yield and conformation)
- Traits included in NTM: single traits across and within lactation
- Breeding values not in NTM

…and other values related to this bull
- For subindices: Reliability (daughter proven bulls), Contribution to NTM and Index type
- For all EBVs: the value from Previous evaluation

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#### Evaluation published 03.11.2014

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<th>Current evaluation</th>
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Which phenotypic value can be expected on daughters after a certain bull?

- Relative breeding values mean 100 (NTM 0) and std 10
  - easy to see which animals are good regardless of trait
  - less understanding of what breeding value means in absolute/phenotypic values such as kg or frequency?

- The intension with NAV search page has always been to show the phenotypic values
  - Better understanding of the value in practice of different EBVs
Displaying phenotypic values

- Bull’s own page
  - come to breed-specific phenotypic values

- Single traits in NTM – weighted across locations
  - Bull’s expected effect on average daughter in DFS
  - Breed average in DFS

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Expected daughter performance for a Nordic average daughter to this bull:

300 + 8200 = 8500 kg of milk

Not real values here!
Nordic vs. national level

- For certain single traits the breed average and/or phenotypic variation differ notably across countries
  - Indicated in comment column
  - E.g. some claw diseases with very low frequency in Finland

More realistic result to look at national level

- Bull’s effect on daughter in Finland
- Breed average in Finland

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Not real values here!
Implementation plan

• Function in place *ANY DAY* for single traits included in indices:
  • Conformation, Temperament
  • Claw health

• Bull effect is based on:
  1. Weighted single trait EBV, if available:
     • Conformation: both daughter proven *and* young genomic bulls
     • Claw health: *only* daughter proven bulls
  2. Sub-index value and the regression of single trait on sub-index

• The plan is to include more traits during 2015
Where to find it

- http://www3.mloy.fi/NAV/
- Links from owner organizations:

  - www.landbrugsinfo.dk/malkekvaegavl
  - www.faba.fi
  - www.vxa.se start page
Thanks for your attention!

Questions/comments?

Emma.Carlen@vxa.se
ADF@vfl.dk
Elina.Paakala@fab.fi