Breeding values for beef bulls used on dairy cows

NAV workshop
Copenhagen, January 2014
Anders Fogh
Dairy farmer’s choice of bull
- to maximize economy in production of slaughter calves

2013: 45,000 inseminations

Nordisk Avlsværdi Vurdering • Nordic Cattle Genetic Evaluation
**X-index** is a breeding value that helps Danish dairy farmers to select beef sires that produce the economically best crossbred calves.

Beef bulls are compared across breeds.
Beef indices available today

- Pure beef breed trait (LIM x LIM) – not genetically same trait as crossbreed trait (LIM x HOL)

- Expressed on individual breeds own scale – not comparable across beef breeds
Basis for crossbreed breeding values

• Breeding values for ”Beef x Dairy” trait within breed – correlated trait in present beef evaluation (genetic level of bulls within breed)

• Results for crossbred calves (phenotypic levels between breeds – scale genetic level between breeds)
Traits in X-index

- g/daily net gain
- EUROP classification
- Still birth
- Calving ease

- Traits important for production of slaughter calves – from calving to slaughter
”3 step calculation”

• Correction to standard calf - To avoid phenotypic differences caused by selected use

• Phenotypic levels of breeds for base population – Minimum 10 bulls per breed

• Breedwise adjustment of genetic level with phenotypic differences
Example: daily weight gain

- **Breed1**: +7 g/day
- **Breed2**: +3 g/day
- **Breed3**: -5 g/day

Phenotypic differences

EBV’s within breed
Example: daily weight gain

+7 g/day

+3 g/day

-5 g/day

EBV’s adjusted with phenotypic differences

Breed1

Breed2

Breed3
From EBV to X-index

• Economic weights
• 2 economic indices
  • Dairy farmer – all traits
  • Calf producers – only slaughter traits
• Publication twice a year
<table>
<thead>
<tr>
<th>Name</th>
<th>X – D Kroner</th>
<th>X – S Kroner</th>
<th>Weight gain Gram</th>
<th>EUROP Class</th>
<th>Still birth % live</th>
<th>Ease class</th>
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