NAV Pure bred Beef evaluation – status update

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VÄXA, FABA, SEGES INNOVATION and NAV

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1

Improvements introduced 2023

1. Add subindices
2. Transfer of Pedigree
   - Allowed for editing on crossbred animals
3. Increased data quality in the calving evaluation
   - Removal of animals with phenotypes with missing sire and/or maternal-grand sire
4. (Ongoing: more breeds and pedigree index)

2

New – NAV PbB November 2023

- **Breeding values for BAQ and HLA**
- **Pedigree indexes for:**
  - ET animals
  - Twins
  - Outliers (example those that are being removed because of two heavy or too light based on breed reference)
  - Small herds
  - Steers - include them until they change to sex code 3, then keep them in the evaluation with only birth weight (or even weaning weight gain if exist)

Pedigree transfer

1. Upgrade to the common NAV pedigree, including dairy and beef animals
2. Remove of crossbred animals

Pedigree transfer

- Percentage of crossbred animals in the phenotype data for Denmark, Finland and Sweden removed from the June 2023 evaluation

	Denmark		Finland		Sweden	
	Crossbred	Purebred	Crossbred	Purebred	Crossbred	Purebred
AAN	1.7	98.3	29.7	70.3	0.4	99.6
CHA	1.5	98.5	26.5	73.5	0.7	99.4
HER	0.9	99.1	18.9	81.2	6.8	93.2
LIM	1.5	98.6	31.2	68.8	0.5	99.5
SIM	1.2	98.8	36.0	64.0	0.4	99.6

Increase data quality in the calving evaluation

- Denmark: 45 to 66% (LIM and HER, respectively) of animals with records in the calving evaluation have missing sire
  - Finland and Sweden < 1%
- Very difficult to optimally estimate maternal and direct genetic effects for calving ease and calf survival from Danish data
- Affects mean and the spread of breeding values

Increase data quality in the calving evaluation

- **Percentage of Danish animals removed by trait because of missing sire and/or maternal grand sire**

Breed	Calf survival	Yearling weight	Slaughter weight
AAN	55	15	62
CHA	48	10	57
HER	63	19	71
LIM	48	12	51
SIM	54	23	58

Ongoing

1. Subindices for BAQ and HLA (+ other)

Breeds added o the NAV PbB evaluation

- First time publication of breeding values from NAV PbB evaluation November 2023

Full name	Abbreviation	Group	Countries sending data to the evaluation
Blonde Aquitaine	BAQ	Continental	DNK, FIN and SWE
Highland Cattle	HLA	British	DNK, FIN and SWE

9

BAQ and HLA in Numbers

- **Number of animals with at least a weight record in the evaluation by country and breed**

	BAQ	HLA
Denmark	18 342	16 953
Finland	2 178	10 036
Sweden	7 777	10 973

10

Besides BAQ and HLA, NAV PbB evaluation included:

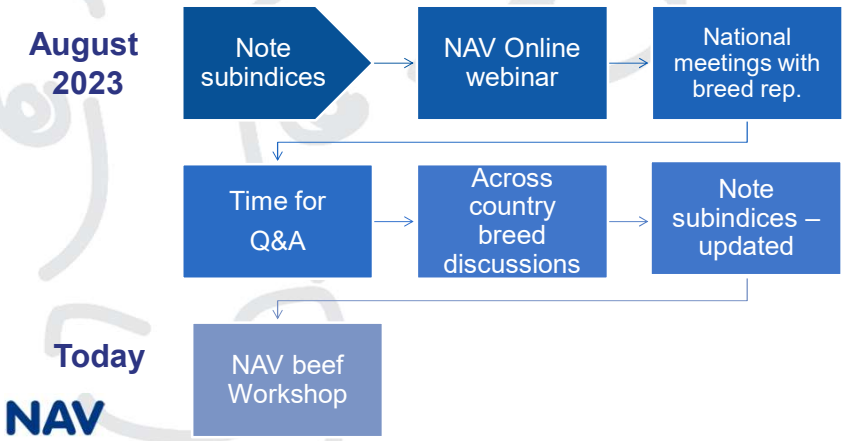
Full name	Abbreviation	Group	Countries sending data to the evaluation
Danish Blue Cattle	BBL	Continental	DNK
Dexter	DXT	British	DNK
Galloway	GLW	British	DNK
Grauvieh	TGR	British	DNK
Piemontes	PIE	Continental	DNK
Salers	SAL	British	DNK
Shorthorn (beef)	BSH	British	DNK

NAV – Subindices for BAQ and HLA

August 2023 – note:
Joint Nordic subindices for BAQ and HLA

- **Starting point:** Use same alternative scenarios as for the main breeds

NAV – Subindices for BAQ and HLA



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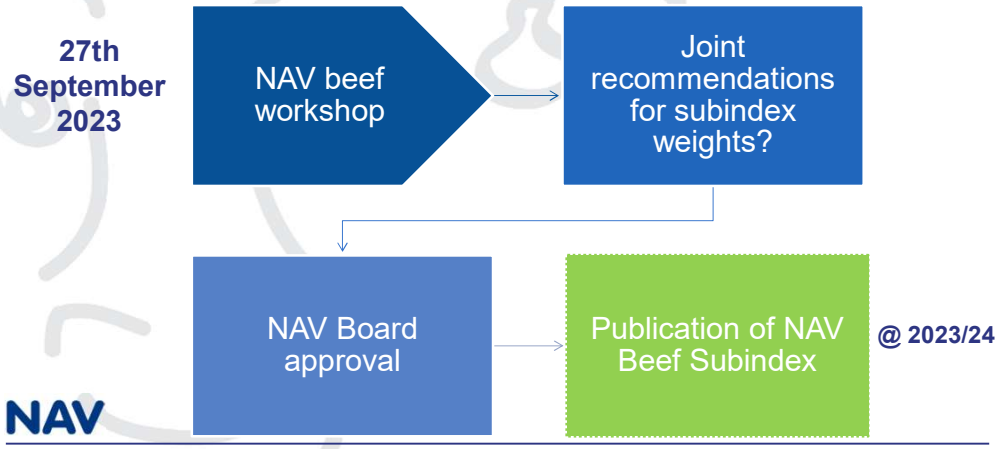
13

NAV – Subindices, after today



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14

Sum-up & timeframe

1. **Breeding values for BAQ and HLA**
   - ✓ November 2023
2. **Subindices BAQ and HLA**
   - ✓ November 2023 (aim, assuming there is consensus and time allows)
3. **Single step genomic predictions**
   - ✓ During 2023-2024

Section: Genomic prediction and new traits

11.20-11.40 Plans for joint Nordic genomic prediction of beef cattle