

NAV news

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Nordisk Avlsværdi Vurdering • Nordic Cattle Genetic Evaluation

Development activities 2020

- Saved feed
 - Metabolic eff
 - Saved feed in NTM
- International cooperation
 - Eurogenomic harmonisation
 - French Jersey
 - Norwegian Jersey and Holstein



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Development activities 2020

- Genomic prediction
 - GEBV more single traits
 - Include "special" informative SNPs
 - Single step
 - Dairyxdairy

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NAV development activities 2020

- Beef
 - Beefxdairy – young stock survival
 - Pure breed – calving, growth and carcass traits



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Implementation plan NAV 2020

Saved Feed

- Metabolic efficiency
- Saved feed in NTM



$$\begin{aligned} \text{EBV(Saved Feed)} \\ = \\ V1 \times \text{EBV(Maintenance)} + V2 \times \text{EBV(metabolic)} \end{aligned}$$

Based on RFI (requires feed intake observations)

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Implementation plan NAV 2020

Genomic prediction

- GEBV for single traits for the following traits groups: Claw health traits, General health traits, Fertility traits, Calving traits
- Use extra SNPs on the EG chip

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Genomic prediction – do we achieve what we expect?

| | RDM | | Holstein | | Jersey | |
|---------|--------------|------------|--------------|------------|--------------|-----------|
| | Obs. decline | Gen. trend | Obs. decline | Gen. trend | Obs. decline | Gen trend |
| Y-index | 5,5 | 4,6 | 5,6 | 4,7 | 3,7 | 4,5 |
| NTM | 9,6 | 7,6 | 10,6 | 8,4 | 6,5 | 6,7 |

- Close to expectation – only a slight over evaluation
- Ongoing focus to ensure genomic prediction is as accurate as possible

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Implementation plan NAV 2020

Traditional model/international cooperation

- Include Norwegian data routinely in NAV Jersey and Holstein evaluation
- Include French Jersey in NAV jersey evaluation
- EG harmonization fertility



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Harmonisation Eurogenomics

How to get more valuable information from foreign ref. bulls?

Harmonize data collection, data editing, trait definition, genetic model, published proofs

Increased genetic correlation (Interbull)

Increased GEBV reliability

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Implementation plan NAV 2020

Beef

- Fee system beef bulls used on dairy
- Modified genetic base beefdairy
- BXD youngstock survival



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Beefdairy – modified genetic base

- FEB20 genetic base for beef bull evaluated based on dairy crosses:
- The new genetic base (=100) constitutes of beefdairy 2-5 year old offspring belonging to beef breeds used in all three countries (minus BBL)

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Beefdairy – genetic base

| EBV | Effect of new minus current base definition expressed in EBV units |
|-----------------------|--|
| NBDI long | 7.7 |
| NBDI short | 2.8 |
| Birth | -1.6 |
| Calf survival lact 1 | -2.1 |
| Calf survival lact 2+ | -1.5 |
| Calving ease 1 | -2.4 |
| Calving ease 2+ | -1.4 |
| Growth long | 8.7 |
| Growth short | 5.8 |
| Daily carcass gain | 4.6 |
| Carcass conformation | 8.2 |
| Carcass fat score | -6.2 |

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Beef pure breed

2020

- Implement joint evaluation Calving, Growth and Carcass traits
- Initiate remaining traits (longevity, fertility etc.)

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