

News - NAV routine evaluation

15 August 2008

The latest NAV routine evaluation for yield, fertility, type, udder health, calving traits, milk ability and temperament traits took place as scheduled. NAV did three evaluations per trait group:

Holstein evaluation, including data from: Danish Holstein, Danish Red Holstein, Swedish Holstein, Finnish Holstein, Finnish Ayrshire and Finn Cattle.

Red evaluation, including data from: Danish Red, Swedish Red, Finnish Ayrshire, Finnish Holstein and Finn Cattle.

Jersey evaluation, including data from: Danish Jersey.

Extraction dates

Dates for extraction of data from national databases are given in table 1.

Table 1 Dates for extraction of data from the national databases

Trait	Denmark	Finland	Sweden
Yield	02.07.2008	22.06.2008	23.06.2008
Type, milk ability and temperament	04.07.2008	22.06.2008	23.06.2008
Fertility	29.06.2008	22.06.2008	21.06.2008
Udder health	04.07.2008	22.06.2008	21.06.2008
Calving	04.07.2008	22.06.2008	21.06.2008

News in relation to NAV genetic evaluation

Yield

Swedish test day data is for the first time used instead of 305 day data in the genetic evaluation for yield. The Swedish test day data used in the model is somewhat different from the data used in the 305 day model. Swedish test day data is not stored on a regular basis before 1.1.1995 and the handling of culled cows and ongoing lactation before day 100 is somewhat changed. The changed data use has some effect on the EBVs for especially cows. Correlations for Swedish animals between 305-day EBVs and TD EBVs are about 0.92 for cows and 0.97 for bulls.

Table 2. Swedish data used in new (test day) and old (305-day) model

	305 day model (May 2008)	Test day model (Aug 2008)
Data cut off	1 st lact after 1.1.1990	1 st lact after 1.1.1995
Culled later lact. cows	Included*	Included
Ongoing lact. below 100 days	Excluded	Included

*Lactations started before 1.11.2000 are not included

The model change for the Swedish data has no impact on ranking of Danish and Finnish animals whereas it has a slight impact on the across country comparison.

Type traits

The NAV model has been applied for Jersey data for the first time at the routine run 15 August 2008. The change has no effect on the linear trait, but has some effect on the combined indices due to update of the breed averages used in calculation of the combined indices. For overall conformation the correlation between the old and new EBV is 93 %, where as it is above 98% for udder conformation and feet & legs.

Calving traits

Calving and birth traits for Holstein

The economic values used when calculating birth and calving index for Holstein has been changed. The new economic weights for Holstein used in the August 2008 run are based on the NAV Total Merit Index project. Compared to the economic weights used so far for Holstein - relative more weight are given to survival compared to calving ease.

Calving and birth traits for RDC

NAV published joint Nordic breeding values for calving and birth traits for RDC and Finn Cattle for the first time 15 August 2008. The method developed for joint Nordic estimation of breeding values for calving and birth traits for RDC is similar to the method, which has been used for Holstein. Altogether, twelve traits – Survival, Calving Ease, and Size of Calf for first and later lactations with a maternal and direct effect each – were simultaneously analyzed.

Table 3. Calving Traits in the three Nordic countries

	Denmark	Finland	Sweden
For all traits	1 st and later calvings direct and mat. effect	1 st and later calvings direct and mat. effect	1 st and later calvings direct and mat. effect
Survival	Since 1985 categories 0 – 1	Since 1992 categories 0 - 1	Since 1982 categories 0 – 1
Calving Ease	Since 1985 categories 1 - 4	Since 2004 categories 1 - 4	Since 1982 categories 1 – 2
Size of Calf	Since 1985 categories 1 – 4	none	none

The EBVs for the four direct traits – survival 1st, survival later calving, calving ease 1st, and calving ease later calving are weighted together in a Birth index. The EBVs for the four maternal traits – survival 1st, survival later calving, calving ease 1st, and calving ease later calving are weighted together in a Calving index. The economic weights are based on results from the NAV Total Merit Index project. Maternal and direct effect of size of calf is used as an information trait only. Beside the EBVs for maternal effects EBVs for Maternal grandsire (MGS) effects are expressed. MGS effects include beside the maternal effect also 50% of the direct effect.

No changes for all other traits

Genetic base

EBVs for Bulls and females are expressed to the same cow base. At this genetic evaluation include the genetic base (average 100) cows born from 15.8.2003 to 15.8.2005.

For functional traits sire models are used and EBVs for cows are not estimated. For functional traits the genetic base includes bulls, which are sire of present cows – see table 4.

Table 4. Definition of genetic base for cows and bulls

Trait	Genetic base
Yield, type, milk ability and temperament	Cows born 15.8.2003 -15.8.2005
Fertility, calving and mastitis resistance	Bulls born 15.8.1999-15.8.2001

NAV Total Merit Index in the pipeline

A NAV meeting about a joint Nordic TMI took place 13 June with 36 participants from the three countries. The participants agreed about a NAV TMI, which:

- Give weight to all traits expected to have economic importance in the future
- Is expressed with mean 0 and standard deviation 10

The joint recommendations from the meeting have to be approved by the NAV Board at the board meeting 21 August and the goal are that the first joint Nordic TMI can be published 15 October 2008.

NAV – frequency and timing of routine runs

NAV has 6 evaluations per year for all traits. The NAV evaluations are timed in a way so NAV can deliver updated EBVs to all the international evaluations. In table 5 the current and future NAV and INTERBULL release dates are shown.

Table 5. NAV and INTERBULL release dates in 2008. EBVs released at NAV dates with bold will be delivered to international genetic evaluation

Month	2008	
	NAV	INTERBULL
January	15	First Tuesday after 11 th
February		
March	15	
April		1st Tuesday
May	15	
June		
July		
August	15	3rd Tuesday
September		
October	15	
November		
December	1	

INTERBULL news

In September 2008 INTERBULL plan to conduct the following test runs for new traits:

- Milking speed for RDC, Holstein and Jersey
- Temperament for RDC and Holstein
- Locomotion and Body Condition Score for Holstein

You can get more information about the joint Nordic evaluation:

General about Nordic Cattle Genetic Evaluation: www.nordicebv.info

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