

## **News - NAV routine evaluation**

### **9 August 2016**

The latest NAV routine evaluation for yield, fertility, type, udder health, other diseases, calving traits, milkability, temperament, growth, longevity, youngstock survival, claw health and NTM took place as scheduled. NAV carried out 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 Dairy Cattle evaluation*, including data from: Danish Red, Swedish Red, Finnish Ayrshire, Finnish Holstein and Finn Cattle.

*Jersey evaluation*, including data from: Danish Jersey and Swedish Jersey (only yield and type).

#### **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

<b>Trait</b>	<b>Denmark</b>	<b>Finland</b>	<b>Sweden</b>
Yield	20.06.2016	15.06.2016	17.06.2016
Type, milkability and temperament	20.06.2016	15.06.2016	15.06.2016
Fertility	20.06.2016	15.06.2016	18.06.2016
Udder health and other disease	22.06.2016	15.06.2016	18.06.2016
Calving	20.06.2016	15.06.2016	18.06.2016
Longevity	20.06.2016	15.06.2016	18.06.2016
Growth	22.06.2016	15.06.2016	21.06.2016
Claw health	20.06.2016	15.06.2016	15.06.2016
Youngstock survival	22.06.2016	15.06.2016	07.06.2016

#### **Data used in genomic prediction**

Genotypes were extracted from the joint Nordic SNP data base 6 July 2016. INTERBULL information from April 2016 was included in the genomic prediction.

#### **News in relation to NAV genetic evaluation**

##### **Genomic prediction**

- No changes

##### **Traditional evaluation**

- No changes

## Weights in NTM

**Table 2.** Weights of sub-indices in NTM.

	RDC	Holstein	Jersey	Red Holstein
<b>Yield*</b>	1.00/0.91	0.75/0.68	0.87/0.78	0.75/0.68
<b>Growth</b>	-	0.06	0.00	0.11
<b>Fertility</b>	0.24	0.31	0.20	0.23
<b>Birth</b>	0.13	0.15	0.06	0.17
<b>Calving</b>	0.11	0.17	0.06	0.17
<b>Udder health</b>	0.30	0.35	0.44	0.35
<b>Other diseases</b>	0.11	0.11	0.04	0.12
<b>Claw health</b>	0.05	0.08	0.05	0.10
<b>Longevity</b>	0.07	0.11	0.08	0.11
<b>Frame</b>	0.00	0.00	0.00	0.00
<b>Feet &amp; legs</b>	0.08	0.12	0.04	0.15
<b>Udder</b>	0.35	0.25	0.26	0.24
<b>Milkability</b>	0.09	0.08	0.10	0.08
<b>Temperament</b>	0.03	0.03	0.03	0.03
<b>Youngstock survival</b>	0.22	0,14	0.12	0,14

\*Weight factor for bulls/weight factor for cows with own yield record, but without genomic information

**Table 3.** Correlations between NTM and the sub-indices of NTM based on 358, 472, and 179 bulls born 2008-2010, 2008-2009 and 2007-2010 for RDC, HOL and JER, respectively.

	RDC	Holstein	Jersey
<b>Yield</b>	0.63	0.48	0.55
<b>Growth</b>	0.02	0.10	0.20
<b>Fertility</b>	0.22	0.43	0.32
<b>Birth</b>	0.25	0.35	0.14
<b>Calving</b>	0.22	0.30	0.38
<b>Udder health</b>	0.27	0.42	0.56
<b>Other diseases</b>	0.15	0.45	0.18
<b>Claw health</b>	0.05	0.36	0.10
<b>Longevity</b>	0.49	0.61	0.62
<b>Frame</b>	-0.00	-0.10	0.18
<b>Feet &amp; legs</b>	0.33	0.19	0.12
<b>Udder</b>	0.26	0.14	0.30
<b>Milkability</b>	0.16	0.02	0.17
<b>Temperament</b>	0.04	0.00	0.07
<b>Youngstock survival</b>	0.26	0.27	0.36

### **Genetic base**

EBVs for bulls and females are expressed on the same cow base. This genetic evaluation included cows born from 09.08.2011 to 09.08.2013 in the genetic base (average 100).

### **Publication of NTM for Nordic and foreign bulls**

A NTM is published if the bull has official EBVs (NAV (G)EBV or international EBV) for Yield, Mastitis and Type. By official means for NAV EBVs that the NAV thresholds are met, and for international EBVs (IB EBVs) that Interbull EBVs for the single bull exist. For traits without a NAV (G)EBV or an IB (G)EBV a NAV pedigree index is calculated.

For bulls with a Nordic herd book number the pedigree index follows the principles described in the October 2008 routine information. For foreign bulls without a Nordic herd book number the pedigree index is calculated in as  $\frac{1}{2}(\text{EBVsire}-100) + \frac{1}{4}(\text{EBVmgs}-100) + 100$ . If EBVsire or EBVmgs is not official NAV EBVs then 100 is used.

### **Publication of EBVs/GEBVs**

Official EBVs/GEBVs for bulls used for AI in Denmark, Finland or Sweden are published at the [NAV Bull Search](#). Foreign bulls registered for AI in Denmark, Sweden or Finland after 3<sup>rd</sup> May 2016 will get GEBVs for all Interbull traits, but it will require a special agreement to get GEBVs for Claw health, Young stock survival, Other diseases and Growth.

Official NAV GEBVs for foreign AI bulls not used for AI in Denmark, Finland and Sweden are published at [NAV's homepage](#). The excel sheets also include GEBVs for bulls used for AI in Denmark, Finland and Sweden. The excel sheets include AI bulls 10 month to 5 years old at the date of publication, and is mainly useful for foreign AI-companies.

Interbull EBVs/GEBVs are published at the [NAV Interbull Search](#). Starting April 2016 NAV does not any longer publish NTM based on GMACE GEBVs, since Interbull regulations do not require member countries calculate total Merit Index based on Interbull GEBVs, and it internationally is not a common practice.

### NAV – frequency and timing of routine runs

NAV has 4 large evaluations per year, which include updated phenotypic and genomic data, and additional eight small runs including updated genotypes. In table 4 the NAV and INTERBULL release dates for 2016 are shown.

Table 4. NAV and INTERBULL release dates in 2016. EBVs released at NAV dates in bold will be delivered to international genetic evaluation.

Month	NAV Small run <sup>1)</sup>	NAV Large runs <sup>2)</sup>	INTERBULL
January 2016	5		
February 2016		<b>2</b>	
March 2016	1		
April 2016	5		5
May 2016		3	
June 2016	7		
July 2016	5		
August 2016		<b>9</b>	9
September 2016	6		
October 2016	4		
November 2016		<b>1</b>	
December 2016	6		6

<sup>1)</sup> Genotypes updated; <sup>2)</sup> Genotypes and phenotypes updated

You can get more information about the joint Nordic evaluation:

**General about Nordic Cattle Genetic Evaluation:** [www.nordicebv.info](http://www.nordicebv.info)

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