

# News - NAV evaluation

## May 5, 2020

### Dairy cattle

The latest NAV routine evaluation for yield, fertility, conformation, udder health, general health, calving traits, milkability, temperament, growth, longevity, young stock survival, claw health, saved feed and NTM took place as scheduled. NAV carried out three evaluations per trait group:

*Holstein evaluation*, including data from: Danish 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, Swedish Jersey and Finnish 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	23.03.2020	09.03.2020	12.03.2020
Type, milkability and temperament	23.03.2020	09.03.2020	13.03.2020
Fertility	23.03.2020	09.03.2020	14.03.2020
Udder health and other disease	23.03.2020	09.03.2020	14.03.2020
Calving <sup>1)</sup>	23.03.2020	09.03.2020	14.03.2020
Longevity	23.03.2020	09.03.2020	14.03.2020
Growth <sup>1)</sup>	23.03.2020	09.03.2020	14.03.2020
Claw health	23.03.2020	09.03.2020	13.03.2020
Youngstock survival	23.03.2020	09.03.2020	14.03.2020
Saved feed	23.03.2020	09.03.2020	13.03.2020

<sup>1)</sup>Including data for the evaluation of beef bulls used on dairy

### Data used in genomic prediction

Genotypes were extracted from the joint Nordic SNP data base 31<sup>st</sup> March 2020. INTERBULL information from April 2020 was included in the genomic prediction.

### News in relation to NAV dairy genetic evaluation

#### Traditional evaluation

No changes

#### Genomic prediction

No changes

### **Genetic base**

EBVs for bulls and females are expressed on the same cow base. This genetic evaluation included cows born from 05.05.2015 to 05.05.2017 in the genetic base (average 100).

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

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](#).

Official NAV GEBVs for foreign AI bulls not used for AI in Denmark, Finland and Sweden are published at [NAV homepage](#). The excel sheets also include GEBVs for bulls used for AI in Denmark, Finland and Sweden. The excel sheets include AI bulls that are 10 months 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](#).

### **Genetic evaluation of beef bulls used in dairy herds**

The latest NAV routine evaluation for AI beef bulls based on their crossbred offspring from dairy cows for birth and carcass traits took place as scheduled. Extraction date for the data can be found in table 1.

Breeding values for AI beef bulls are estimated four times per year, in connection to the NAV routine genetic evaluation for dairy breeds (table 2), and EBVs are published at [NAV Beef Search](#).

### **News in relation to NAV genetic evaluation of beef bulls used in dairy herds**

- No changes

### **Genetic base**

The genetic base for beef bulls evaluated based on dairy crosses is defined as relative breeding values with a mean of 100 and standard deviation of 10. The genetic base animals for beef bulls evaluated based on dairy crosses constitutes of 2-5 year old crossbreds born after beef breeds which can be used in all 3 countries.

### **Fee for EBV of beef bulls based on beef x dairy crossbred offspring**

Nordic Cattle Genetic Evaluation (NAV) conducts a genetic evaluation of AI beef bulls based on beef x dairy crossbred offspring for calving and carcass traits. A fee system is introduced 1.1.2020 for the service. It means a fee must be paid for all bulls getting publishable EBVs for the first time after 1.1.2020. No fee needs to be paid for bulls already having official EBVs before 1.1.2020. To get published EBVs the following criteria should be fulfilled for each bull:

- The EBV should meet the criteria for publication
- A one-time fee of currently 1,000 euro per bull should be paid

More information about the genetic evaluation and the publication criteria can be found at <https://www.nordicebv.info/beef-cattle/beef-x-dairy-publication/>

### 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 2 the NAV and INTERBULL release dates for 2020 are shown. The beef evaluation based on beef x dairy crossbreeds takes place along with the large NAV runs 4 times a year.

Table 2. NAV and INTERBULL release dates in 2020. 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)3)</sup>	INTERBULL
January 2020	7		
February 2020		4	
March 2020	3		
April 2020	7		7
May 2020		5	
June 2020	2		
July 2020	7		
August 2020		11	11
September 2020	1		
October 2020	6		
November 2020		3	
December 2020	1		1

<sup>1)</sup> Genotypes updated; <sup>2)</sup> Genotypes and phenotypes updated; <sup>3)</sup> Beef x dairy evaluation

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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