

News NAV evaluation

4 June 2024

Genetic evaluation of Dairy Cattle

The latest Nordic Cattle Genetic Evaluation (NAV) official genomic prediction took place as scheduled. NAV carried out genomic prediction for Holstein, RDC, Jersey, and dairy crossbreds.

Data used in genomic prediction.

Genotypes were extracted from the joint Nordic SNP data base 3 May 2024. INTERBULL information from April 2024 and national information from 7 May 2024 run were included in the genomic prediction.

Publication of GEBVs

GEBVs for bulls and females are published monthly. Nordic phenotypic information is updated 4 times a year (February, May, August and November), and is used in the reference population for genomic prediction. The GEBVs for pure breed animals are expressed on the same cow base as in the May evaluation; cows born from 07.05.2019 to 07.05.2021. The GEBVs for crossbred are expressed on a genetic base of 1-7 year old crossbreds.

News in relation to NAV dairy genomic evaluation

- No changes in the methods

Publication of NAV EBVs

Official GEBVs for bulls used for AI in Denmark, Finland or Sweden are published at the [NAV Bull Search](#) page.

Official NAV GEBVs for foreign AI bulls not used for AI in Denmark, Finland and Sweden are published on the [NAV homepage](#) in an excel sheet. The excel sheet also includes GEBVs for bulls used for AI in Denmark, Finland and Sweden. The excel sheet includes AI bulls that are from 10 months to 5 years old at the date of publication. The excel sheet is mainly useful for foreign AI-companies.

Interbull EBVs/GEBVs are published at the [NAV Interbull Search](#) page. The Nordic total merit index (NTM) is not calculated based on GMACE GEBVs, since Interbull regulations do not require member countries to calculate Total Merit Indices based on Interbull GEBVs, and internationally it is not a common practice.

Genetic evaluation of beef bulls used in dairy herds

The latest NAV official evaluation for AI beef bulls based on their crossbred offspring from dairy cows for birth, youngstock survival and carcass traits took place 7 May. Breeding values for AI beef bulls are estimated four times per year, in connection to the NAV routine genetic evaluation for dairy breeds (table 1), and EBVs are published at [NAV Beef Search](#).

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 × dairy crossbred offspring

Nordic Cattle Genetic Evaluation (NAV) conducts a genetic evaluation of AI beef bulls based on beef × dairy crossbred offspring for young stock survival, gestation length, calving and carcass traits. A fee system was 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 1,300 euro per bull should be paid.

More information about the genetic evaluation and the publication criteria can be found at [NAV homepage](#).

Genetic evaluation of pure beef cattle

The latest Nordic Cattle Genetic Evaluation (NAV) official evaluation for calving, growth and carcass traits took place 4th June based on phenotypes from purebred Angus, Charolais, Simmental, Hereford, Limousin, Highland Cattle, Blonde d 'Aquitaine, Belgian Blue, Dexter, Galloway, Grauvieh, Piemontese, Salers, and Shorthorn cattle.

Table 1. Dates for extraction of data from the national databases

Trait	Denmark	Finland	Sweden
Pure beef cattle	16.05.2024	07.05.2024	14.05.2024

News in relation to NAV Beef cattle genetic evaluation

- Correction of ids in Danish pedigree data for some foreign animals – the correction of pedigree information has mainly effect for Simmental, where it cause some reranking.
- Finland has updated its system of extracting data from the national data base. The new extraction system gives slightly more phenotypic data (more animals and more calvings) than the old system did. This means that the estimated breeding values for some animals have changed a bit.
- Modification to the editing criteria the interval for acceptable weights have been expanded from day 140-260 to day 125-275 for all breeds and countries – the modified editing rules have a very limited impact on the EBVs.

The genetic base for pure beef animals is based on the same principles for all relative breeding values with a mean of 100 and standard deviation of 10. The selection of animals to form the genetic base includes males and females with birth years 5 to 9 years prior to the publication date and having observations or having at least 5 offspring with observations for one trait in each trait group.

Nordic data is also included in the Interbeef evaluation. The Interbeef EBVs are published at the [NAV Beef Search](#).

NAV – frequency and timing of official runs

NAV has 4 large dairy 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 2024 are shown. The beef evaluation based on beef x dairy crossbreeds take place along with the large NAV dairy runs 4 times a year. The NAV pure beef evaluation has its own time schedule.

Table 2. NAV and INTERBULL release dates in 2024. EBVs released at NAV dates in bold will be delivered to international genetic evaluation.

Month	Dairy Cattle			Beef Cattle	
	NAV Small run ¹⁾	NAV Large runs ²⁾³⁾	INTERBULL	NAV Pure Beef	INTERBEEF
January 2024	9				
February 2024		6			

March 2024	5			5	1
April 2024	2		2	16	
May 2024		7			
June 2024	4			4	
July 2024	2				
August 2024		13	13		
September 2024	3				
October 2024	1				18
November 2024		5		5	
December 2024	3		3		

1) Genotypes updated; 2) Genotypes and phenotypes updated; 3) Beef × dairy evaluation

You can get more information about the joint Nordic evaluation:

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