

News NAV evaluation

5 March 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 2 February 2024. INTERBULL information from December 2023 and national information from 6 February 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 November evaluation; cows born from 06.02.2019 to 06.02.2021. 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 6 February. 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 evaluation of pure beef cattle

The latest Nordic Cattle Genetic Evaluation (NAV) official evaluation for calving, growth and carcass traits took place 5. March based on phenotypes from purebred Angus, Charolais, Simmental, Hereford, Limousine, Highland Cattle, Blonde d'Aquitaine, Belgian Blue, Dexter, Galloway, Grauvieh, Piemontese, Salers, and Shorthorn cattle.

Breeding values for pure beef cattle are estimated four times per year, and EBVs are published at [NAV Beef Search](#).

Extraction date for the data used in the March evaluation can be found in table 1.

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

Trait	Denmark	Finland	Sweden
Pure beef cattle	14.02.2024	12.02.2024	15.02.2024

News in relation to NAV Beef evaluation

- Subindices published for Highland Cattle, Blonde d'Aquitaine, Belgian Blue, Dexter, Galloway, Grauvieh, Piemontese, Salers, and Shorthorn cattle.
- Improved handling of data
 - Remove ET born animals from the calving and weight/growth and carcass evaluation.
 - Revision of the calving interval calculation to:
 - Address instability in twin born animals.
 - Calculation of calving interval excluding ET born animals
 - Re-activation of calving interval edit in the carcass evaluation.

Subindices

NAV implemented in the March 2024 evaluation subindices (Table 2) for Highland Cattle, Blonde, d'Aquitaine, Belgian Blue, Dexter, Galloway, Grauvieh, Piemontese, Salers, and Shorthorn cattle.

Table 2. Joint Nordic subindices for beef.

Subindex	Underlying index
Growth	Daily carcass gain (DCG)
	Yearling weight - direct (dYW)
Slaughter quality	Carcass fat score (CFA)
	Carcass conformation score (CCO)
Production	Growth
	Slaughter quality
Calving	Calving ease - maternal, 1st calv. (mCAE1)
	Calf survival - maternal, 1st calv. (mCSU1)
	calving ease - maternal, 2+ calv. (mCAE2)
	Calf survival - maternal, 2+ calv. (mCSU2)
Milk	Weaning weight gain - maternal (mWG)
Dam	Calving
	Milk
Birth	Calving ease - direct, 1st calv. (dCAE1)
	Calf survival - direct, 1st calv. (dCSU1)
	Calving ease - direct, 2+ calv. (dCAE2)
	Calf survival - direct, 2+ calv. (dCSU2)

The weight factors used for calculating the different subindices for the different breeds can be looked up at document [NAV Beef weights for subindices](#).

Improved handling of data

The improved handling of data considered some minor problems observed in the evaluation.

Nordic data is also included in the Interbeef evaluation. The Interbeef EBVs are published at the [NAV Interbeef 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 3 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 3. 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 x dairy evaluation

You can get more information about the joint Nordic evaluation:

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