News NAV evaluation
1 March 2022

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 31 January 2022. INTERBULL information from December 2021 and national information from 1 February 2022 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 February evaluation; cows born from 01.02.2017 to 01.02.2019. The GEBVs for crossbreed animals are expressed on a slightly different genetic base; females born from 01.02.2014 to 01.02.2021.

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

GEBVs for dairyxdairy crossbreds
Joint Nordic GEBVs for dairyxdairy crossbreed females were published for the first time 7th December 2021. The procedures for calculating GEBVs have not been changed since the introduction, but for a few animals it has been observed that the changes in GEBVs between subsequent evaluations are significantly larger than expected. NAV is investigating what is causing these unexpected large changes.

Publication of NAV EBVs on search pages
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.

Beef Cattle

The latest Nordic Cattle Genetic Evaluation (NAV) routine evaluation took place as scheduled. NAV carried out genetic evaluation for Angus, Charolais, Simmental, Hereford, and Limousine cattle. NAV publish EBVs for calving, growth and carcass traits based on phenotypes from purebred beef Angus, Charolais, Simmental, Hereford, and Limousine cattle. Extraction date for the data used in the March evaluation can be found in table 1. Breeding values for pure beef cattle are estimated four times per year, and EBVs are published at at NAV Beef Search.

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

Trait	Denmark	Finland	Sweden
Pure beef cattle	02.02.2022	21.12.2021	10.02.2022

News in relation to NAV pure beef genetic evaluation

Changes compared to the November evaluation:

- Data from Finland changed to remove BxD animals from the evaluations.

Calving evaluation

Large re-ranking of animals from Finland for calf survival and calving ease, specially between years 1990-2005 and mostly in Charolais, but also seen in the other breeds, coinciding with changes in data Finland has implemented to remove BxD animals to the evaluation. Some re-ranking for mainly Charolais is also seen among Swedish animals for calf survival and calving ease mainly for years between 1990-2005 in connection to the changes introduced with the new Finnish data.

For all three countries we see a within mean differences in breeding values for calf survival and calving ease that are somewhat larger than expected, also in connection to the new Finnish data. The mean difference does not affect the genetic level neither trend. The largest mean differences is for the maternal effect of calf survival for Charolais and Herford animals (~2.5 unit of EBV).

Carcass evaluation

In general, ranking and genetic trends between current and previous EBVs are high, but we see larger changes than expected for Finnish birth weight EBVs between 1990-2010 in connection with changes in the pedigree after removing BxD animals.

Publication of EBVs

The genetic base for pure beef animals is defined as 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. For calving traits an additional requirement is known sire identity.

Nordic Cattle Genetic Evaluation: www.nordicebv.info
Contact person: Gert Pedersen Aamand, Ph.: +45 21717788 gap@seges.dk,

Denmark: www.landbrugsinfo.dk
Contact person: Ulrik Sander Nielsen, SEGES Innovation, Ph. +45 29883403, usn@seges.dk

Sweden: www.vxa.se
Contact person: Freddy Fikse, Växa Sverige, Ph +46 10 4710615. Genetic.Evaluation@vxa.se

Finland: www.faba.fi
Contact person: Jukka Pösö, Faba co-op, Ph +358-400614035 jukka.poso@faba.fi