

## Changes in the official calculation of breeding values in NAV for dairy breeds

Year	Index	Change
2005	All	Indices are presented identically in Denmark, Sweden and Finland
2005	Female fertility	Nordic index for female fertility. New traits and weights in the index
2005	Conformation	Nordic index for body, feet & legs and udder. New weighting and optimum for Holstein and RDC
2006	Yield	Nordic index for yield and transition to a test-day model
2006	Udder health	Nordic index for udder health
2007	Conformation	New weighting of the traits in body, feet & legs and udder
2007	Calving and birth	Nordic calving- and birth index for Holstein
2008	Fertility	Nordic fertility index for Jersey
2008	Conformation	Nordic breeding values for Jersey
2008	Other diseases	Nordic index for other diseases for Holstein and RDC
2008	Yield	Transition to a test-day model for Swedish cows instead of 305 day data
2008	NTM	Nordic total merit index (NTM) replaces the national total merit index
2008	Calving and birth	Nordic calving- and birth index for RDC
2009	Calving and birth	Nordic calving- and birth index for Jersey
2009	Growth	Nordic index for growth for RDC, Holstein and Jersey
2010	All	The cow base is introduced in NAV for all traits
2010	Longevity	Nordic breeding value for longevity
2010	Udder health	Introduction of test-day model for cell count
2010	Udder health	New genetic parameters and transition to animal model

2011	Milkability	Inclusion of data from automatic milk meters
2011	Claw health	Nordic index for claw health
2011	GEBV	Genomic information is included for main traits and NTM
2011	Claw health	The claw health index is included in NTM
2012	NTM	NTM weights are adjusted for RDC and Jersey
2012	Yield	New genetic parameters
2012	GEBV	The cows own performance is blended with the genomic information
2012	Claw health	Genomic breeding values for RDC and Holstein
2013	NTM	NTM weights are adjusted for Jersey, RDC and Holstein
2013	Yield	Change in the weighting of the yield index for Holstein and DRH
2014	Yield	Change in the weighting of the yield index for RDC
2014	Conformation	Body is replaced by frame. Weighting and optimum is altered for Holstein and DRH
2014	NTM	NTM weights are adjusted for RDC
2014	Milkability	Inclusion of Nordic data from more automatic milk meters (robots and stationary monitors)
2014	GEBV	Females are included in the reference population for RDC and Jersey
2014	Conformation	Updated genetic parameters
2014	Conformation	Classifications from later lactations in Denmark and Sweden are included
2014	Youngstock survival	Nordic index for youngstock survival
2015	Fertility	Change to multi lactation animal model and re-estimation of genetic parameters
2015	Claw health	New genetic parameters
2016	Youngstock survival	Included in NTM for RDC and Holstein

2016	NTM	NTM weights are adjusted for RDC
2016	Calving and birth	Animal model for calving and birth traits
2016	Udder	Udder coordinates from AMS are included
2016	GEBV	Improved standardization of GEBV. Polygenic effect is included
2016	Fertility	Conception rate instead of NRR and correction for sexed semen
2017	General health	New name. Further introduction of Animal Model, ketosis as new trait, BHB and acetone data included and other improvements
2018	Females in reference	Females in reference for calving, fertility, claw health, general health and longevity
2018	NTM	Revision of weights for all traits in NTM
2018	Yield	Revision of weights in yield index – larger weight on fat and concentrated milk
2018	Lactation weights	Weight on 1.:2.:3. lactation changed from 0.5:0.3:0.2 to 0.30: 0.25:0.45
2018	Youngstock survival	Include information on Swedish bull calves
2019	General health	Improved general health evaluation through improved model and use of BHB and acetone records from Finland
2019	Saved feed	NAV published the first Saved feed indices based on maintenance
2019	GEBVs for new traits	GEBVs published for new traits: Saved feed, persistency, carcass conformation and daily carcass gain
2020	NTM	Saved Feed in NTM
2020	Saved feed	Metabolic efficiency included in the Saved feed index
2021	GEBVs for DxD	GEBVs for crossbred dairy cows
2022	GEBVs for new traits	GEBVs for new traits: GEBVs for subtraits in claw health and fertility
2022	NTM	Weight for claw health is adjusted for Jersey
2022	Single step	Single step method in use for conformation traits
2022	Udder	New weights in udder index for Jersey
2022	Calving and birth	Genetic parameters and model updated

Changes are defined as; changes in weight factors in sub-indices or total index, changes of the calculation method (parameters, models etc.) or changes in traits that are part of a sub-index or total index.