

Genetic traits on the NAV homepage

Genetic traits are not a new area in cattle breeding, but because of intensive use of genomic test, it is now possible to derive results for many traits for both bulls and cows. Therefore, it is now possible to see available test results genetic traits, for all bulls on the NAV bull search page. International standards and names for genetic traits have been adapted in the Nordic countries. We will therefore introduce changes in presented genetic traits and their names and codes, both on the NAV homepages and how traits are shown nationally – for instance on printouts.

Genetic traits are traits that are inherited by a single gene or haplotype (group of alleles inherited together) and are not affected by the environment. These includes both traits such as polledness, red coat colour and beta casein and genetic defects such as CVM and bulldog. As a new service we automatically derive test results based on the SNP results from a genomic test. Results show which of the allele variants an animal carries. This information can be used to avoid mating of animals that carry unwanted alleles for certain traits e.g. bulldog or select animals that carry desirable alleles for other traits e.g. polledness.

Available results for genetic traits

Currently, we show 4 traits for RDC (BTA12, BTA23, SMA and PIRM) and 2 traits for Holstein (HH1 and HH3). More traits will be added continuously. You can see the results for genetic traits in the NAV bull search page, by clicking the “Genetic traits” button below the pedigree on the bull’s own page on NAV Bull Search. All available results for the selected bull are presented. In the table for genetic traits, the trait name, code and result (carrier/free) is presented. The code ends with “F” if the animal is not a carrier, for single carriers the code ends with “C” and for double carriers the code ends with “S”. However, for most traits double carriers are not viable, and therefore few bulls are double carriers.

The screenshot shows the NAV Bull search interface for a bull named VR Thiago. The page includes various data sections: personal information (Born: 01/10/2013, Breeder: Lars Remme Larsen), pedigree (Sire: VR Tuomi, Dam: DNK000005911702848), and a table of genetic traits. A red circle highlights the 'Genetic traits' table, and a red arrow points to the 'Show genetic traits' button.

Trait	# Daughters	# Herds
Yield	381	224
Udder health	351	229
Conformation	212	131

Breed	FAY	SRB	HOL	BSW	NRF	ORDM	CAY
%	47	15	13	11	7	6	1

Trait	Code	Result
BTA12	B12C	Carrier
BTA23	B23F	Free
PIRM	PIF	Free
SMA	SMF	Free

More information about genetic traits is available on the [NAV homepage](#).