



Overview of Genomic Data Exchange

Introduction

The Genotype Exchange (GenoEx) database hosts two separate genotype exchange services.

Parental SNP Exchange (GenoEx-PSE) was the first service introduced, launched in 2018, and targets the exchange of a standardized set of SNPs to be used for parentage analysis: 200 SNPs defined by ISAG (International Society for Animal Genetics) for Parentage Verification, and 354 additional SNPs defined by the ICAR DNA Working Group for Parentage Discovery. To be eligible for participation in the service, organisations need to pass the ICAR certification as DNA Data Interpretation Center and be re-certified every 2 years.

Genomic Data Exchange (GenoEx-GDE) was introduced in 2020 and aims at sharing full genotypes from a wide variety of genotyping arrays (commercial and customized) in a simple and standardized way. Sharing genotypes through a common platform removes the need for multiple bilateral pipelines between a group of users. The owner (i.e. uploader) of each genotype is in full control of which other organisations gain access to their genotypes, and such access can be changed or removed by the owner at any time.

Results and Impact

The number of genotypes shared through GenoEx-GDE and GenoEx-PSE as of 01.06.2026 are shown in tables 1 and 2, respectively, as well as number of organisations participating per breed.

Table 1: Number of genotypes (female, male and total) shared through GenoEx-GDE per 01.06.2026, divided by breed, as well as number of organisations submitting genotypes for each of those breeds.

Breed	Number of genotypes			Number of organisations
	Female	Male	Total	
Brown Swiss	20 162	68 231	88 393	7
Holstein	40 262	22 214	62 476	8
Other breeds	67	138	205	1
Total	60 491	90 583	151 074	15





Table 2: Number of genotypes (female, male and total) shared through GenoEx-PSE per 01.06.2026, divided by breed, as well as number of organisations submitting genotypes for each of those breeds.

Breed	Number of genotypes			Number of organisations
	Female	Male	Total	
Holstein	12 082	35 517	47 599	8
Red Dairy Cattle	662	66 174	66 836	5
Simmental	10	1 054	1 064	4
Jersey	361	829	1 190	3
Belgian Blue		338	338	3
Aberdeen Angus	1	324	325	3
Limousin	2	285	287	3
Meuse Rhine Yssel		194	194	3
Hereford	3	123	126	3
Holstein, Red and White	61	78	139	3
Wagyu	17	47	64	3
Galloway	1	9	10	3
Brown Swiss	6 098	995	7 093	2
Charolaise		356	356	2
Dutch Friesian		94	94	2
Dairy Shorthorn		86	86	2
Blonde d'Aquitaine		61	61	2
Salers		56	56	2
Parthenaise		42	42	2
Piedmont		35	35	2
Dexter		17	17	2
Highland Cattle		5	5	2
Murray-Grey	6	1	7	2
Polish Black-and-White		63	63	1
Uckermärker		58	58	1
British Friesian		50	50	1
Aubrac		46	46	1
Montbeliard		45	45	1
Polish White Backed		43	43	1
Polish Red-and-White		33	33	1
Crossbreed		17	16	1
Pinzgau		13	13	1
Glan Donnersberg		13	13	1
Normandy		11	11	1
Kerry		4	4	1
Gelbvieh		4	4	1
Speckle Park		4	4	1
Romagnola		3	3	1
Rouge des Pres		2	2	1
Belgium Red & White		1	1	1
TOTAL	19 301	107 130	126 434	9

