Introduction

The latest routine international evaluation for longevity trait took place as scheduled at the Interbull Centre. Data from twenty two (22) populations were included in this evaluation.

International genetic evaluations for direct longevity trait of bulls from Australia, Belgium, Canada, Switzerland, Germany, Denmark-Finland-Sweden Spain, France, The United Kingdom, Ireland, Israel, Italy, New Zealand, The Netherlands, The United States of America, Hungary, Norway, Slovenia, Czech Republic, Japan and Uruguay were computed. Brown Swiss, Guernsey, Holstein, Jersey, Red Dairy Cattle and Simmental breed data were included in this evaluation.

Changes in national procedures

Changes in the national genetic evaluation of longevity traits are as follows:

POL (HOL)	Decrease in information due to pedigree verification. A refinement was made to the data, filtering for contemporary group inclusion, to ensure stability of the evaluation.
JPN (HOL)	Slight decrease in infÃ³rmatyion due to pedigree verification
FRA (ALL)	Decrease in information due to pedigree verification
SVN (ALL)	Decrease in information due to the change in database related to the pedigree completness as well as phenotypic data improvement. The pedigree for some animals has been changed.
CHE (ALL)	Decrease in information due to the database edits and also the change of herd-year-season assignment of certain data records
ITA (HOL)	Decrease in information and missing bulls due to a four month cut-off of data
AUS (ALL)	Decrease in information due to pedigree verification
ISR (HOL)	Decrease in information due to parentage verification and closing or combining of herds.
ESP (HOL)	Base change. Some change in information due to changes in the database, in some cases there is even a change to non official proof
ZAF (ALL)	Base change
USA (ALL)	Decrease in information due to pedigree verification and herd-year minimum edits.
DFS (ALL)	Decrease in information due to editing on stopping herds.
NLD (ALL)	Some changes in Type of Proofs due to harmonisation of this record
NZL (ALL)	Base change, decrease in information due to a continuos parenting testing and herds records being updated
GBR (ALL)	JER: Up to four bulls missing due to changes in herdbook numbers, HOL: Drops in information due to updates by milk recording agents and data edits.
DEU (ALL)	overall base change: cowbase previous routine run 2504r: 201901 - 202112, cowbase current routine run 2508r: 201905 - 202204

INTERBULL CHANGES COMPARED TO THE PREVIOUS ROUTINE RUN

A new document called confdoc_DEFINITION{runid}.itb has been introduced reporting all the trait definitions applied by countries as reported in the PREP.

During 2023-2024, Interbull Centre and the Interbull Technical Committee (ITC) have worked on developing a new procedures for adjusting of the international correlations after a given test run in case countries would decide NOT TO implement the changes tested in the next routine run.
Until now, the relative difference between the previous routineâ\200\231s and test runâ\200\231s correlations, for each pair of countries, was assessed and the average value of the two was used whenever such difference did exceed a threshold of 0.01. Otherwise, correlations from the latest test run were used.
However, in some cases, the difference in correlations between routine/test runs were way above a 1% difference so that by using the average value the newly derived correlations would still be greatly affected by the changes tested but not implemented. This remark has been made in few occasions by some participating countries.
A new approach proposed by Peter Sullivan, was developed and extensively tested. The new approach is based on first identifying the relative impact of the changes tested by a country during the test run (but not implemented in a routine run) and then correcting the whole correlation matrix detracting such estimated impact.
This new approach would assure that the new correlations would be free from any effect from any changes tested but not implemented.
The new procedure has been fully developed during 2023 and extensively tested during 2024 and introduced officially in the April 2025 routine evaluation.

DATA AND METHOD OF ANALYSIS

Data were national genetic evaluations of AI sampled bulls with at least 10 daughters or 10 EDC (for clinical mastitis and maternal calving traits at least 50 daughters or 50 EDC, and for direct calving traits at least 50 calvings or 50 EDC) in at least 10 herds. Table 1 presents the amount of data included in this Interbull evaluation for all breeds.

National proofs were first de-regressed within country and then analysed

jointly with a linear model including the effects of evaluation country, genetic group of bull and bull merit. Heritability estimates used in both the de-regression and international evaluation were as in each country's national evaluation.

Table 2 presents the date of evaluation as supplied by each country

Estimated genetic parameters and sire standard deviations are shown in APPENDIX I and the corresponding number of common bulls are listed in APPENDIX II.

SCIENTIFIC LITERATURE

The international genetic evaluation procedure is based on international work described in the following scientific publications:

International genetic evaluation computation:
- Schaeffer. 1994. J. Dairy Sci. 77:2671-2678
- Klei, 1998. Interbull Bulletin 17:3-7

Verification and Genetic trend validation:
- Klei et al., 2002. Interbull Bulletin 29:178-182.
- Boichard et al., 1995. J. Dairy Sci. 78:431-437

Weighting factors:
- Fikse and Banos, 2001. J. Dairy Sci. 84:1759-1767

De-regression:
- Sigurdsson and G. Banos. 1995. Acta Agric. Scand. 45:207-219
- Jairath et al. 1998. J. Dairy Sci. Vol. 81:550-562

Genetic parameter estimation:
- Klei and Weigel, 1998, Interbull Bulletin 17:8-14
- Sullivan, 1999. Interbull Bulletin 22:146-148

Post-processing of estimated genetic correlations:
- Mark et al., 2003, Interbull Bulletin 30:126-135
- Jorjani et al., 2003. J. Dairy Sci. 86:677-679
- https://wiki.interbull.org/public/rG%20procedure?action=print

Time edits
- Weigel and Banos. 1997. J. Dairy Sci. 80:3425-3430

International reliability estimation
- Harris and Johnson. 1998. Interbull Bulletin 17:31-36

NEXT ROUTINE INTERNATIONAL EVALUATION

Dates for the next routine evaluation can be found on https://interbull.org/ib/servicecalendar

NEXT TEST INTERNATIONAL EVALUATION

Dates for the next test run can be found on https://interbull.org/ib/servicecalendar

From 2025 an extra MACE test run has been scheduled in May, data submissions' deadline and target for distribution of results are all reported in the above link.

PUBLICATION OF INTERBULL ROUTINE RUN

Results were distributed by the Interbull Centre to designated representatives in each country. The international evaluation file comprised international proofs expressed on the base and unit of each country included in the analysis. Such records readily provide more information on bull performance in various countries, thereby minimizing the need to resort to

conversions.

At the same time, all recipients of Interbull results are expected to honor the agreed code of practice, decided by the Interbull Steering Committee, and only publish international evaluations on their own country scale. Evaluations expressed on another country scale are confidential and may only be used internally for research and review purposes.

PUBLICATION OF INTERBULL TEST RUN

Test evaluation results are meant for review purposes only and should not be published.

^LTable 1. National evaluation data considered in the Interbull evaluation for Longevity (August Routine Evaluation 2025).
Number of records for direct longevity by breed

Country	BSW	GUE	HOL	JER	RDC	SIM
AUS		147	8803	1862	811	
BEL			1994			
CAN	273	113	13938	907	932	
CHE	3313		3469			
CZE			5489			
DEA	5340					
DEU			24753		317	
DFS			15465	2780	9665	
ESP			4777			
EST						
FRA	517		18802			
FRM						5209
GBR	157	344	8866	966	671	107
HUN			3568			
IRL			3507	263	80	
ISR			1876			
ITA	2445		9174	69		
JPN			7427			
KOR						
LTU						
LVA						
NLD	273		16992	355	118	495
NOR					4064	
NZL			8346	4826	1071	
POL			12633			
PRT						
SVK						
SVN	327		729			558
URY			2107			
USA	1259	839	43257	5588	839	120
ZAF			1263	731	135	
HRV						
CAM					45	
No.Records	13904	1443	217235	18347	18748	6489
Pub. Proofs	10931	1177	158717	14564	16653	6021

^LAPPENDIX I. Sire standard deviations in diagonal and genetic correlations below diagonal

BSW dlo

	CAN	CHE	DEA	NLD	USA	ITA	FRA	GBR	SVN
CAN	9.16								
CHE	0.71	10.78							

DEA	0.88	0.84	12.25						
NLD	0.67	0.74	0.72	326.17					
USA	0.90	0.65	0.85	0.74	2.64				
ITA	0.79	0.73	0.86	0.63	0.72	15.69			
FRA	0.64	0.81	0.77	0.69	0.68	0.54	0.97		
GBR	0.84	0.59	0.62	0.62	0.83	0.65	0.59	0.32	
SVN	0.70	0.67	0.82	0.72	0.75	0.72	0.65	0.58	23.52

GUE dlo

	AUS	CAN	USA	GBR
AUS	0.05			
CAN	0.63	8.12		
USA	0.62	0.89	2.88	
GBR	0.68	0.91	0.87	0.38

HOL dlo

	AUS	BEL	CAN	CHE	DEU	DFS	ESP	FRA	GBR	IRL	ISR	ITA	NLD	NZL	USA	HUN	CZE	SVN	ZAF	POL	JPN	URY
AUS	0.04																					
BEL	0.68	0.38																				
CAN	0.65	0.88	7.25																			
CHE	0.74	0.77	0.82	12.19																		
DEU	0.69	0.86	0.86	0.87	12.39																	
DFS	0.71	0.84	0.86	0.79	0.91	12.14																
ESP	0.60	0.82	0.88	0.78	0.84	0.76	11.23															
FRA	0.58	0.65	0.66	0.78	0.66	0.69	0.65	0.94														
GBR	0.72	0.91	0.90	0.79	0.86	0.82	0.89	0.62	0.31													
IRL	0.61	0.85	0.78	0.65	0.75	0.69	0.77	0.44	0.80	2.12												
ISR	0.59	0.57	0.49	0.63	0.69	0.71	0.55	0.50	0.58	0.56	108.68											
ITA	0.58	0.70	0.76	0.75	0.75	0.68	0.89	0.70	0.79	0.63	0.58	6.13										
NLD	0.53	0.67	0.66	0.72	0.69	0.75	0.62	0.66	0.63	0.47	0.69	0.54	258.11									
NZL	0.67	0.65	0.67	0.70	0.72	0.68	0.54	0.46	0.66	0.64	0.46	0.49	0.47	2.22								
USA	0.65	0.85	0.88	0.80	0.89	0.88	0.86	0.68	0.84	0.72	0.68	0.76	0.74	0.59	2.19							
HUN	0.46	0.62	0.70	0.63	0.70	0.60	0.83	0.59	0.68	0.54	0.43	0.79	0.51	0.51	0.76	1.26						
CZE	0.44	0.52	0.58	0.57	0.56	0.48	0.68	0.44	0.57	0.57	0.50	0.63	0.44	0.44	0.56	0.56	19.21					
SVN	0.46	0.80	0.72	0.66	0.77	0.70	0.69	0.62	0.74	0.63	0.50	0.61	0.68	0.52	0.76	0.64	0.44	21.81				
ZAF	0.65	0.81	0.89	0.73	0.84	0.75	0.87	0.57	0.86	0.86	0.47	0.73	0.45	0.64	0.84	0.73	0.63	0.64	32.98			
POL	0.60	0.89	0.90	0.76	0.89	0.84	0.89	0.67	0.89	0.77	0.49	0.76	0.69	0.66	0.87	0.75	0.54	0.81	0.86	18.07		
JPN	0.67	0.91	0.93	0.75	0.88	0.86	0.87	0.58	0.90	0.83	0.51	0.71	0.63	0.69	0.87	0.71	0.56	0.77	0.90	0.90	1.53	
URY	0.70	0.75	0.67	0.76	0.80	0.72	0.66	0.56	0.70	0.65	0.52	0.59	0.55	0.70	0.70	0.52	0.49	0.54	0.72	0.73	0.71	2.92

JER dlo

	AUS	CAN	DFS	NLD	NZL	USA	GBR	ZAF	IRL	ITA
AUS	0.04									
CAN	0.50	7.46								
DFS	0.72	0.66	12.02							
NLD	0.60	0.62	0.81	326.69						
NZL	0.51	0.53	0.60	0.45	1.98					
USA	0.63	0.82	0.78	0.74	0.57	2.31				
GBR	0.57	0.88	0.71	0.62	0.57	0.81	0.29			
ZAF	0.46	0.61	0.50	0.49	0.46	0.68	0.61	32.72		
IRL	0.51	0.67	0.58	0.45	0.48	0.66	0.67	0.66	1.62	
ITA	0.53	0.69	0.67	0.55	0.46	0.70	0.71	0.54	0.61	7.09

RDC dlo

	AUS	CAN	DEU	DFS	NZL	USA	GBR	NLD	ZAF	IRL	NOR	CAM
AUS	0.05											
CAN	0.58	7.27										
DEU	0.67	0.84	12.42									
DFS	0.65	0.76	0.90	12.99								
NZL	0.66	0.55	0.68	0.52	2.54							
USA	0.58	0.86	0.88	0.86	0.62	2.45						

GBR	0.66	0.89	0.85	0.74	0.60	0.81	0.30												
NLD	0.51	0.67	0.70	0.77	0.48	0.78	0.67	299.66											
ZAF	0.54	0.90	0.78	0.62	0.56	0.81	0.82	0.47	35.88										
IRL	0.56	0.73	0.73	0.65	0.58	0.62	0.70	0.46	0.79	1.56									
NOR	0.54	0.77	0.67	0.79	0.44	0.82	0.71	0.84	0.63	0.46	40.81								
CAM	0.50	0.72	0.79	0.79	0.48	0.83	0.71	0.79	0.64	0.62	0.68	9.29							

SIM dlo

	FRM	NLD	SVN	GBR	USA
FRM	0.94				
NLD	0.63	283.25			
SVN	0.53	0.63	22.04		
GBR	0.71	0.65	0.75	0.27	
USA	0.69	0.75	0.76	0.83	1.97

^LAPPENDIX II. Number of common bulls

BSW dlo

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DEA	NLD	USA	ITA	FRA	GBR	SVN
CAN	0	147	162	60	191	150	98	76	31
CHE	126	0	665	133	339	556	206	95	81
DEA	141	564	0	193	350	803	268	99	109
NLD	54	123	178	0	105	165	109	57	51
USA	187	316	315	97	0	269	141	106	40
ITA	134	496	711	140	196	0	244	103	103
FRA	89	164	217	93	104	206	0	81	51
GBR	74	77	76	52	104	82	77	0	28
SVN	28	75	99	51	32	95	49	25	0

GUE dlo

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	CAN	USA	GBR
AUS	0	54	70	43
CAN	53	0	77	36
USA	67	68	0	98
GBR	38	31	99	0

HOL dlo

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	BEL	CAN	CHE	DEU	DFS	ESP	FRA	GBR	IRL	ISR	ITA	NLD	NZL	USA	HUN	CZE	SVN	ZAF	POL	JPN	URY
AUS	0	752	1562	668	1793	1521	984	1422	1682	812	141	1169	1598	1142	2157	825	991	168	473	1248	1025	744
BEL	658	0	827	603	1242	991	732	1031	997	546	101	811	1250	464	1004	591	727	167	309	885	589	361
CAN	1559	795	0	948	2711	1878	1479	1681	2024	632	189	1964	1865	684	4101	1209	1338	227	477	1792	1545	847
CHE	592	609	845	0	1248	841	621	789	866	453	80	777	1012	376	1104	480	585	144	252	770	531	337
DEU	1387	1274	2143	1183	0	3340	1787	2803	2630	998	223	2786	3913	926	4017	1504	2214	394	545	3156	1628	900
DFS	1156	945	1691	796	2745	0	1311	2033	2131	895	210	1881	2807	848	2766	1161	1645	300	514	2213	1214	773
ESP	722	716	985	520	1222	1063	0	1440	1317	572	135	1411	1356	534	1813	916	1053	207	446	1377	1033	576
FRA	1019	1033	1197	732	1770	1322	1217	0	1928	843	163	1710	2316	787	2785	1109	1532	232	505	2136	1373	678
GBR	1549	1016	2287	868	2296	1859	1134	1463	0	1228	203	1810	2346	1030	2867	1121	1466	247	542	1934	1298	851
IRL	709	535	575	461	884	759	546	711	1312	0	136	644	1031	783	936	511	644	123	335	744	525	418
ISR	90	58	118	44	167	149	77	97	163	103	0	190	217	128	331	158	183	54	72	216	154	112
ITA	961	819	1751	714	2174	1689	1083	1182	1648	578	131	0	1938	575	2875	1227	1424	289	401	2112	1269	732
NLD	1384	1384	1762	998	3733	2625	1215	1656	2291	977	162	1765	0	1012	2984	1189	1863	302	503	2372	1259	764
NZL	1104	359	621	310	679	596	391	486	934	678	97	447	897	0	1066	497	649	105	337	667	563	556
USA	2204	893	4557	1033	3162	2403	1271	1661	2852	862	325	2504	2608	998	0	1639	2092	270	635	2804	2282	1316
HUN	632	502	1100	402	1249	994	761	829	1039	448	104	1138	1026	379	1653	0	1138	181	396	1249	861	579

CZE	679	581	980	445	1799	1196	800	1070	1203	509	140	1149	1686	468	1766	1052	0	236	433	1710	1037	663
SVN	113	132	176	104	385	243	147	173	197	93	36	251	263	70	220	135	168	0	68	321	178	101
ZAF	412	263	400	212	425	390	389	387	493	294	44	327	411	265	610	315	304	49	0	417	438	319
POL	985	813	1582	662	2953	1957	1053	1599	1857	628	165	1890	2268	501	2845	1163	1473	283	313	0	1219	787
JPN	637	409	887	384	847	755	558	598	796	369	74	744	772	323	1235	533	554	101	314	744	0	672
URY	575	255	749	246	644	550	434	426	728	317	65	536	588	453	1588	447	474	53	274	643	399	0

JER dlo

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	CAN	DFS	NLD	NZL	USA	GBR	ZAF	IRL	ITA
AUS	0	280	197	89	422	528	271	252	69	44
CAN	288	0	163	60	174	522	222	170	16	37
DFS	172	159	0	242	177	304	264	182	67	39
NLD	81	53	249	0	92	136	143	88	50	23
NZL	458	184	158	85	0	361	278	199	151	36
USA	570	540	293	138	422	0	324	331	59	49
GBR	280	225	268	141	290	372	0	205	118	46
ZAF	243	165	167	84	207	345	214	0	43	42
IRL	66	15	63	48	170	60	127	43	0	13
ITA	42	35	38	20	35	51	45	41	12	0

RDC dlo

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	CAN	DEU	DFS	NZL	USA	GBR	NLD	ZAF	IRL	NOR	CAM
AUS	0	102	47	236	124	149	112	48	37	25	81	11
CAN	105	0	13	209	55	242	119	8	71	7	8	0
DEU	46	12	0	73	17	30	17	21	3	8	17	0
DFS	215	219	64	0	146	240	163	75	50	25	161	0
NZL	125	54	17	141	0	83	71	22	31	13	34	9
USA	151	227	28	238	84	0	159	55	62	34	88	28
GBR	111	119	16	161	69	153	0	54	51	33	88	0
NLD	46	8	20	73	21	54	52	0	3	19	58	0
ZAF	38	73	3	49	27	56	44	3	0	3	0	0
IRL	24	7	8	21	13	34	33	19	3	0	64	0
NOR	70	7	16	135	32	89	92	57	0	62	0	0
CAM	11	0	0	0	9	28	0	0	0	0	0	0

SIM dlo

common bulls below diagonal
common three quarter sib group above diagonal

	FRM	NLD	SVN	GBR	USA
FRM	0	140	0	65	96
NLD	161	0	88	48	32
SVN	0	86	0	0	1
GBR	82	46	0	0	20
USA	111	33	1	27	0