Introduction

The latest routine international evaluation for workability traits took place as scheduled at the Interbull Centre. Data from eighteen (18) countries were included in this evaluation.

International genetic evaluations for workability traits of bulls from Austria-Germany, Canada, Denmark-Finland-Sweden, France, Great Britain, Italy, Netherlands, Norway, New Zealand, Slovenia, Japan, Switzerland, Poland, Czech Republic and Spain were computed. Brown Swiss, Holstein, Jersey and Red Dairy Cattle breed data were included in this evaluation.

Changes in national procedures

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

POL (HOL)	Decrease in information due to pedigree verification
JPN (HOL)	Decrease in information due to pedigree verification
FRA (HOL)	Decrease in information due to pedigree verification
CHE (BSW, HOL)	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 months cut-off of data
AUS (ALL)	Decrease in information due to pedigree verification
DEA (BSW)	Decrease in information due to pedigree verification
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.
NLD (ALL)	Some changes in Type of Proofs due to harmonisation of this record
NZL (ALL)	Base change, drops in information due to a continuos parenting testing and herds records being updated
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 Workability (August Routine Evaluation 2025).
Number of records for milking speed by breed

Country	BSW	GUE	HOL	JER	RDC	SIM
AUS			6671	1339	573	
BEL						
CAN	225		13769	830	893	
CHE	3037		3164	64		
CZE			2163			
DEA	4662					
DEU			14006		227	
DFS			12601	2099	6961	
ESP			3809			
EST						
FRA	456		16398			
FRM						
GBR			6560			
HUN						
IRL						
ISR						
ITA	2175		7151			
JPN			2565			
KOR						
LTU						
LVA						
NLD	157		14985	74		
NOR					4112	
NZL			7028	4296	525	
POL			9235			
PRT						
SVK						
SVN	270		667			
URY						
USA						
ZAF						
HRV						
CAM					39	
No.Records	10982		120772	8702	13330	
Pub. Proofs	9142	0	100748	8063	12830	0

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

BSW msp

	CAN	CHE	DEA	ITA	NLD	SVN	FRA
CAN	9.14						
CHE	0.93	15.11					
DEA	0.88	0.96	11.75				
ITA	0.85	0.93	0.90	17.42			
NLD	0.90	0.94	0.91	0.84	5.39		
SVN	0.82	0.89	0.88	0.91	0.83	30.01	
FRA	0.93	0.95	0.89	0.90	0.95	0.84	0.78

HOL msp

	CAN	CHE	DEU	DFS	FRA	NLD	AUS	GBR	SVN	NZL	ITA	JPN	ESP	CZE	POL
CAN	7.61														
CHE	0.93	12.48													
DEU	0.89	0.96	12.77												
DFS	0.93	0.94	0.95	14.01											
FRA	0.94	0.98	0.94	0.95	1.00										
NLD	0.93	0.97	0.96	0.96	0.97	4.67									
AUS	0.82	0.81	0.77	0.79	0.83	0.80	0.25								
GBR	0.72	0.70	0.70	0.71	0.74	0.70	0.71	0.20							
SVN	0.75	0.85	0.91	0.87	0.84	0.88	0.72	0.62	26.78						
NZL	0.86	0.86	0.79	0.80	0.87	0.82	0.88	0.72	0.72	0.33					
ITA	0.77	0.83	0.80	0.82	0.85	0.83	0.69	0.55	0.76	0.67	6.33				
JPN	0.96	0.93	0.88	0.93	0.97	0.94	0.85	0.76	0.77	0.85	0.82	2.10			
ESP	0.92	0.93	0.89	0.92	0.94	0.93	0.79	0.69	0.79	0.83	0.79	0.93	13.18		
CZE	0.88	0.92	0.92	0.92	0.92	0.93	0.75	0.56	0.82	0.74	0.83	0.87	0.89	19.15	
POL	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.49	0.52	0.48	0.48	0.48	0.48	18.75

HOL tem

	CAN	CHE	DEU	DFS	FRA	NLD	AUS	GBR	NZL	ITA	JPN	POL
CAN	7.94											
CHE	0.69	10.30										
DEU	0.84	0.76	11.68									
DFS	0.76	0.85	0.85	13.02								
FRA	0.71	0.91	0.79	0.91	0.89							
NLD	0.85	0.78	0.89	0.84	0.81	5.99						
AUS	0.57	0.64	0.61	0.68	0.68	0.70	0.23					
GBR	0.58	0.79	0.66	0.77	0.83	0.68	0.60	0.17				
NZL	0.60	0.52	0.72	0.59	0.58	0.70	0.72	0.50	0.35			
ITA	0.10	0.09	0.12	0.09	0.08	0.13	0.09	0.08	0.10	6.33		
JPN	0.92	0.80	0.91	0.86	0.85	0.93	0.64	0.72	0.64	0.11	2.57	
POL	0.18	0.09	0.20	0.10	0.08	0.17	0.09	0.08	0.11	0.08	0.26	24.09

JER msp

	CAN	DFS	NLD	AUS	NZL	CHE
CAN	7.84					
DFS	0.88	13.70				
NLD	0.92	0.93	4.53			
AUS	0.74	0.75	0.81	0.24		
NZL	0.65	0.73	0.80	0.76	0.29	
CHE	0.91	0.93	0.95	0.77	0.74	11.37

RDC msp

	CAN	DEU	DFS	NOR	AUS	NZL	CAM
CAN	6.89						
DEU	0.88	11.74					
DFS	0.92	0.91	13.19				
NOR	0.79	0.76	0.95	14.62			
AUS	0.78	0.70	0.76	0.74	0.27		
NZL	0.85	0.76	0.84	0.80	0.84	0.38	
CAM	0.68	0.68	0.69	0.68	0.59	0.68	7.48

RDC tem

	CAN	DEU	DFS	NOR	AUS	NZL	CAM
CAN	6.35						
DEU	0.79	10.29					
DFS	0.65	0.75	11.05				
NOR	0.65	0.57	0.89	16.77			
AUS	0.59	0.43	0.61	0.57	0.24		
NZL	0.49	0.65	0.66	0.53	0.76	0.43	

CAM 0.50 0.49 0.49 0.49 0.33 0.49 7.61

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^LAPPENDIX II. Number of common bulls

BSW msp

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common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DEA	ITA	NLD	SVN	FRA
CAN	0	125	136	120	39	26	84
CHE	109	0	639	482	82	63	188
DEA	123	551	0	661	109	81	240
ITA	106	422	559	0	101	75	209
NLD	32	79	99	83	0	32	64
SVN	23	59	74	68	32	0	42
FRA	76	149	192	173	54	40	0

BSW tem

GUE msp

GUE tem

HOL msp

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common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DEU	DFS	FRA	NLD	AUS	GBR	SVN	NZL	ITA	JPN	ESP	CZE	POL
CAN	0	912	1883	1371	1576	1622	1118	1825	214	335	1691	468	1220	629	1662
CHE	845	0	940	626	705	860	492	756	121	203	643	176	506	243	670
DEU	1320	832	0	1863	1962	2382	934	1674	330	321	1696	412	1177	798	2279
DFS	1078	575	1218	0	1585	1820	949	1410	209	404	1091	274	809	635	1460
FRA	1152	663	1147	903	0	1956	1038	1583	200	441	1280	364	1073	652	1791
NLD	1527	847	1918	1418	1325	0	1109	1786	247	562	1335	344	970	829	1922
AUS	975	416	607	561	661	868	0	1078	121	554	660	214	575	373	736
GBR	1909	755	1202	1010	1113	1527	833	0	205	419	1357	341	925	598	1493
SVN	171	91	320	155	157	218	80	157	0	47	235	98	177	123	304
NZL	298	174	225	247	250	507	435	319	36	0	187	73	200	155	241
ITA	1490	577	1101	878	874	1158	507	1180	206	157	0	455	1086	594	1733
JPN	216	102	169	150	149	186	133	169	44	54	193	0	349	204	437
ESP	800	387	670	587	800	771	386	674	128	144	754	143	0	445	1123
CZE	354	125	425	283	307	611	146	279	81	62	382	95	243	0	759
POL	1599	569	2071	1181	1339	1807	536	1358	272	171	1557	206	838	547	0

HOL tem

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common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DEU	DFS	FRA	NLD	AUS	GBR	NZL	ITA	JPN	POL
CAN	0	831	1716	995	1482	1469	1085	1790	323	1689	468	1638
CHE	765	0	781	442	649	704	437	704	179	625	176	628
DEU	1027	648	0	1451	1868	2158	905	1539	291	1569	380	2017
DFS	651	378	735	0	1352	1372	835	1149	376	812	191	1101
FRA	1139	603	1040	683	0	1848	1005	1548	420	1276	363	1765
NLD	1365	695	1510	866	1265	0	1094	1693	557	1247	330	1798
AUS	953	382	529	425	660	854	0	1079	553	660	214	731
GBR	1878	690	995	688	1105	1439	832	0	417	1357	341	1484
NZL	290	156	198	214	249	500	434	319	0	187	73	240
ITA	1485	560	954	576	873	1065	507	1181	157	0	455	1704
JPN	216	102	156	100	149	177	133	169	54	193	0	432
POL	1593	538	1613	766	1332	1685	536	1358	171	1553	206	0

JER msp

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common bulls below diagonal

common three quarter sib group above diagonal

	CAN	DFS	NLD	AUS	NZL	CHE
CAN	0	70	15	197	71	32
DFS	55	0	41	88	83	43
NLD	12	36	0	21	19	11
AUS	198	60	20	0	193	33
NZL	71	62	17	178	0	27
CHE	31	43	8	32	26	0

JER tem

RDC msp

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	DEU	DFS	NOR	AUS	NZL	CAM
CAN	0	6	168	7	36	28	0
DEU	6	0	29	9	23	2	0
DFS	173	21	0	119	139	50	0
NOR	7	8	97	0	63	10	0
AUS	33	22	111	54	0	39	9
NZL	25	2	49	10	36	0	1
CAM	0	0	0	0	9	1	0

RDC tem

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	DEU	DFS	NOR	AUS	NZL	CAM
CAN	0	9	140	7	36	27	0
DEU	9	0	52	12	30	5	0
DFS	142	46	0	114	139	50	0
NOR	7	12	92	0	60	9	0
AUS	33	29	111	51	0	39	9
NZL	25	5	49	9	36	0	1
CAM	0	0	0	0	9	1	0

SIM msp

SIM tem