INTRODUCTION

The latest routine international evaluation for calving traits took place
as scheduled at the Interbull Centre. Data from twenty-one (21) countries were
included in this evaluation.

International genetic evaluations for calving traits of bulls from
Australia, Austria-Germany, Belgium, Canada, Denmark-Finland-Sweden,
France, Germany, Hungary, Ireland, Israel, Italy, Netherlands, New Zealand, Norway,Japan
Spain, Switzerland, the United Kingdom, Slovack Republic, Poland and the United States of America were computed.
Brown Swiss, Holstein, and Red Dairy Cattle breed
data were included in this evaluation.

CHANGES IN NATIONAL PROCEDURES

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

POL (HOL)	Drops in information due to pedigree correction
JPN (HOL)	Slight drops in information due to pedigree verification
DEA (BSW)	Drops in information due to data corrections in one of the databases of the joint German-Austrian evaluation
FRA (ALL)	Drops in information due to pedigree verification
NOR (RDC)	First time in Direct Gestation Length evaluation
CHE (ALL)	Drops in information due to the database edits
ITA (HOL)	Drops in information and some missing bulls due to a four months Cut-off of data
ITA (SIM)	Drops in information due to pedigree verification
AUS (ALL)	First time in Direct Gestation Length evaluation. HOL:Drops in information due to data clean up and pedigree verification
ISR (HOL)	Slight drops in information due to pedigree verification and/or 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. DCE - correction of base change applied during May test run. First time in Direct Gestation Length evaluation
NLD (ALL)	Some changes in Type of Proofs due to harmonisation of this record. HOL: First time in Direct Gestation length evaluation. Exclusion of bulls (~200) from the MRY breed which have been wrongly included during the May test run. This exclusion is causing drops in information
DFS (HOL)	Slight drops in information due to small variations within the data.
NZL (ALL)	Base change, drops in information due to a continuos parenting testing and herds records being updated. First time in Direct Gestation Length evaluation
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 calving (August Routine Evaluation 2025).
Number of records for direct calving ease by breed

Country	BSW	GUE	HOL	JER	RDC	SIM
AUS			6928			
BEL			1370			
CAN	177		13966		550	
CHE	1784		2408			
CZE						
DEA	3811					
DEU			21357		322	
DFS			11661		6788	
ESP			2553			
EST						
FRA	431		13689			
FRM						
GBR			3480			
HUN			1745			
IRL			1229		26	
ISR			695			
ITA			8748			
JPN			4939			
KOR						
LTU						
LVA						
NLD	207		16197		93	
NOR					4088	
NZL			615		33	
POL			7854			
PRT						
SVK			757			
SVN						
URY						
USA	583		38763			
ZAF						
HRV						
CAM						
No.Records	6993		158954		11900	
Pub. Proofs	7361	0	141584	9578	14192	0

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

BSW dce

	DEA	NLD	USA	CHE	CAN	FRA
DEA	9.28					

NLD	0.82	5.48				
USA	0.65	0.84	0.13			
CHE	0.84	0.90	0.81	10.66		
CAN	0.78	0.94	0.89	0.91	7.82	
FRA	0.63	0.74	0.73	0.70	0.78	0.52

BSW mce

	DEA	NLD	USA	CHE	CAN	FRA
DEA	9.70					
NLD	0.60	4.59				
USA	0.68	0.72	0.15			
CHE	0.72	0.78	0.73	13.12		
CAN	0.33	0.75	0.84	0.71	6.34	
FRA	0.83	0.74	0.78	0.85	0.71	0.77

BSW ges

	AUS	USA
AUS	3.39	
USA	0.98	1.95

HOL dce

	AUS	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	GBR	HUN	DEU	BEL	IRL	SVK	ESP	POL	JPN	NZL
AUS	0.04																		
CAN	0.75	8.02																	
CHE	0.70	0.91	8.81																
DFS	0.73	0.92	0.82	11.09															
FRA	0.69	0.86	0.82	0.79	0.73														
ISR	0.69	0.81	0.65	0.83	0.69	2.61													
ITA	0.37	0.44	0.48	0.46	0.40	0.46	4.22												
NLD	0.82	0.97	0.87	0.93	0.83	0.81	0.44	7.19											
USA	0.69	0.90	0.88	0.84	0.82	0.80	0.44	0.86	0.12										
GBR	0.67	0.80	0.60	0.72	0.64	0.66	0.26	0.82	0.65	6.13									
HUN	0.44	0.53	0.43	0.37	0.47	0.54	0.22	0.54	0.48	0.47	1.25								
DEU	0.79	0.95	0.90	0.90	0.86	0.79	0.40	0.93	0.86	0.75	0.54	12.29							
BEL	0.55	0.58	0.67	0.62	0.62	0.44	0.32	0.65	0.62	0.38	0.47	0.58	8.70						
IRL	0.58	0.76	0.75	0.75	0.68	0.69	0.38	0.79	0.76	0.48	0.45	0.73	0.51	0.11					
SVK	0.37	0.21	0.19	0.20	0.19	0.24	0.20	0.21	0.20	0.20	0.22	0.20	0.21	0.21	13.08				
ESP	0.61	0.85	0.81	0.73	0.78	0.63	0.42	0.84	0.78	0.57	0.54	0.83	0.58	0.69	0.20	11.73			
POL	0.37	0.38	0.38	0.39	0.36	0.40	0.23	0.43	0.35	0.25	0.19	0.44	0.32	0.27	0.19	0.30	19.07		
JPN	0.69	0.80	0.76	0.81	0.71	0.67	0.41	0.82	0.75	0.62	0.49	0.79	0.57	0.64	0.26	0.67	0.39	2.67	
NZL	0.66	0.64	0.53	0.66	0.63	0.56	0.27	0.71	0.63	0.51	0.35	0.62	0.46	0.79	0.24	0.57	0.28	0.44	4.60

HOL mce

	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	GBR	HUN	DEU	BEL	SVK	ESP	POL	JPN
CAN	8.05															
CHE	0.86	11.42														
DFS	0.84	0.85	11.43													
FRA	0.76	0.86	0.81	0.99												
ISR	0.85	0.73	0.80	0.70	2.59											
ITA	0.30	0.45	0.41	0.40	0.48	7.15										
NLD	0.78	0.82	0.78	0.76	0.77	0.42	4.75									
USA	0.92	0.80	0.77	0.76	0.86	0.28	0.77	0.15								
GBR	0.43	0.40	0.38	0.58	0.39	0.21	0.45	0.44	5.84							
HUN	0.36	0.40	0.35	0.34	0.45	0.22	0.37	0.36	0.26	1.28						
DEU	0.85	0.93	0.90	0.81	0.80	0.42	0.81	0.79	0.44	0.41	12.13					
BEL	0.64	0.76	0.67	0.70	0.58	0.32	0.76	0.66	0.42	0.42	0.71	9.62				
SVK	0.23	0.29	0.23	0.23	0.35	0.23	0.22	0.23	0.36	0.24	0.22	0.39	15.12			
ESP	0.78	0.83	0.85	0.74	0.77	0.34	0.79	0.71	0.33	0.49	0.87	0.64	0.25	12.31		
POL	0.48	0.54	0.52	0.46	0.60	0.25	0.47	0.46	0.26	0.22	0.56	0.46	0.23	0.51	20.84	
JPN	0.68	0.74	0.66	0.81	0.70	0.37	0.73	0.68	0.50	0.46	0.72	0.69	0.38	0.71	0.33	1.74

HOL dsb

	AUS	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	DEU	POL	JPN
AUS	0.04											
CAN	0.61	8.62										
CHE	0.16	0.68	17.61									
DFS	0.64	0.88	0.64	11.06								
FRA	0.27	0.61	0.52	0.56	0.61							
ISR	0.76	0.70	0.35	0.68	0.32	1.58						
ITA	0.42	0.55	0.44	0.51	0.38	0.49	6.67					
NLD	0.33	0.80	0.74	0.73	0.58	0.43	0.49	4.55				
USA	0.34	0.73	0.58	0.63	0.59	0.40	0.40	0.62	0.07			
DEU	0.52	0.92	0.77	0.86	0.56	0.59	0.55	0.83	0.68	12.00		
POL	0.36	0.63	0.60	0.68	0.43	0.20	0.46	0.63	0.51	0.69	9.53	
JPN	0.29	0.66	0.65	0.61	0.53	0.41	0.46	0.65	0.61	0.66	0.51	1.55

HOL msb

	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	DEU	POL	JPN
CAN	6.61										
CHE	0.92	16.30									
DFS	0.95	0.91	10.41								
FRA	0.80	0.75	0.84	0.78							
ISR	0.90	0.77	0.86	0.69	1.70						
ITA	0.66	0.64	0.69	0.62	0.64	6.55					
NLD	0.93	0.89	0.95	0.79	0.86	0.70	4.36				
USA	0.88	0.81	0.85	0.77	0.84	0.53	0.78	0.12			
DEU	0.95	0.95	0.97	0.81	0.87	0.72	0.95	0.82	12.42		
POL	0.82	0.76	0.79	0.75	0.78	0.58	0.75	0.75	0.77	14.53	
JPN	0.78	0.75	0.77	0.81	0.78	0.60	0.75	0.76	0.79	0.75	2.35

HOL ges

	AUS	NLD	NZL	USA
AUS	2.94			
NLD	0.99	5.87		
NZL	0.98	0.98	2.96	
USA	0.99	1.00	0.98	1.59

JER ges

	AUS	NZL	USA
AUS	2.89		
NZL	0.96	3.08	
USA	0.98	0.95	1.60

RDC dce

	CAN	DFS	NOR	NLD	DEU	IRL	NZL
CAN	7.04						
DFS	0.88	10.78					
NOR	0.74	0.90	11.72				
NLD	0.95	0.90	0.87	4.76			
DEU	0.93	0.88	0.83	0.92	13.32		
IRL	0.74	0.72	0.76	0.78	0.72	0.12	
NZL	0.63	0.66	0.64	0.68	0.62	0.76	4.28

RDC mce

	CAN	DFS	NOR	DEU
CAN	7.18			
DFS	0.73	11.50		
NOR	0.57	0.77	13.40	

DEU 0.83 0.87 0.65 11.61

RDC ges

	AUS	NOR	NZL	USA
AUS	2.95			
NOR	0.97	12.52		
NZL	0.98	0.96	2.93	
USA	0.98	0.98	0.97	1.72

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^LAPPENDIX II. Number of common bulls

BSW dce

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common bulls below diagonal
common three quarter sib group above diagonal

	DEA	NLD	USA	CHE	CAN	FRA
DEA	0	130	192	466	101	210
NLD	120	0	50	89	22	63
USA	149	45	0	161	112	76
CHE	396	81	127	0	90	132
CAN	88	20	105	76	0	60
FRA	162	51	60	99	52	0

BSW mce

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common bulls below diagonal
common three quarter sib group above diagonal

	DEA	NLD	USA	CHE	CAN	FRA
DEA	0	134	113	523	37	171
NLD	119	0	41	93	17	58
USA	103	38	0	108	32	53
CHE	428	90	94	0	34	118
CAN	33	14	30	29	0	24
FRA	133	51	47	89	21	0

BSW dsb

BSW msb

BSW ges

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common bulls below diagonal
common three quarter sib group above diagonal

	AUS	USA
AUS	0	16
USA	15	0

GUE dce

GUE mce

GUE dsb

GUE msb

GUE ges

HOL dce

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common bulls below diagonal
common three quarter sib group above diagonal

	AUS	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	GBR	HUN	DEU	BEL	IRL	SVK	ESP	POL	JPN	NZL

AUS	0	1498	461	1106	1124	97	1061	1279	1865	819	440	1455	538	224	204	624	872	642	135
CAN	1446	0	755	1469	1561	136	1963	1646	4039	1037	695	2591	663	207	312	1017	1537	1181	54
CHE	403	670	0	457	535	35	571	623	778	386	196	922	384	120	115	357	488	375	22
DFS	753	1185	395	0	1510	124	1347	1737	1993	873	523	2294	629	212	266	713	1225	707	63
FRA	821	1210	476	912	0	93	1615	1791	2284	966	665	2390	741	186	309	885	1569	886	57
ISR	62	92	18	85	55	0	127	152	214	95	54	139	56	46	38	77	138	89	16
ITA	836	1717	501	1048	1086	84	0	1608	2724	1113	684	2531	672	208	323	1009	1671	1077	42
NLD	994	1463	587	1207	1121	108	1303	0	2485	1127	559	3188	836	285	351	811	1627	873	77
USA	1784	4402	681	1410	1376	199	2275	1901	0	1456	841	3532	712	266	408	1141	2241	1586	76
GBR	630	867	339	525	565	55	827	764	1096	0	379	1334	471	239	186	536	953	608	33
HUN	274	556	131	335	412	34	503	315	658	216	0	832	282	99	173	396	511	426	20
DEU	1145	2120	851	1633	1499	107	1840	2725	2718	881	544	0	944	264	526	1130	2381	1229	55
BEL	499	637	378	556	763	29	677	854	664	419	210	978	0	160	168	457	610	413	24
IRL	209	179	107	178	168	28	185	264	248	222	74	237	149	0	54	121	196	123	73
SVK	98	216	51	143	200	19	221	228	292	82	110	418	97	24	0	181	290	196	12
ESP	490	821	301	593	772	42	827	696	918	401	279	806	453	109	91	0	832	624	32
POL	695	1396	377	967	1133	104	1414	1438	2293	771	361	2081	550	163	191	642	0	905	29
JPN	490	825	284	493	472	47	676	601	1066	393	232	733	325	101	89	415	579	0	28
NZL	115	33	16	34	29	12	28	49	60	17	11	37	18	62	6	20	21	17	0

HOL mce

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	GBR	HUN	DEU	BEL	SVK	ESP	POL	JPN
CAN	0	691	1402	1291	116	1570	1364	2661	947	653	2215	602	278	788	1322	1192
CHE	592	0	596	582	48	597	712	745	448	243	954	417	123	343	520	408
DFS	1247	548	0	1681	133	1460	2203	2053	943	632	2870	703	264	694	1552	969
FRA	991	521	1025	0	101	1404	1883	1973	813	687	2464	749	267	736	1572	1087
ISR	73	24	91	56	0	123	151	205	105	62	149	60	31	70	136	102
ITA	1342	523	1246	937	82	0	1494	2324	929	640	2235	625	267	777	1555	1103
NLD	1300	680	1877	1264	112	1298	0	2169	1028	663	3311	869	320	703	1713	1043
USA	2702	650	1703	1159	191	1987	1807	0	1215	852	3196	664	337	877	2103	1731
GBR	1030	427	962	826	80	1002	1115	1412	0	401	1161	500	177	498	860	621
HUN	548	179	435	426	40	494	452	720	368	0	900	304	175	365	551	525
DEU	1711	866	2096	1413	111	1641	2864	2394	1232	603	0	914	396	914	2409	1407
BEL	590	415	664	771	35	619	934	611	548	240	944	0	156	413	589	424
SVK	193	50	145	152	15	190	213	245	115	119	291	85	0	161	248	202
ESP	622	290	604	618	39	663	634	714	477	282	659	401	84	0	665	570
POL	1154	399	1271	1085	100	1320	1521	2106	888	393	2062	518	180	510	0	962
JPN	765	299	606	487	49	644	630	1010	504	290	722	322	86	380	557	0

HOL dsb

common bulls below diagonal
common three quarter sib group above diagonal

	AUS	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	DEU	POL	JPN
AUS	0	1453	449	1110	998	97	1064	1450	1737	1455	817	655
CAN	1436	0	724	1425	1412	132	1982	1927	3714	2579	1434	1208
CHE	394	638	0	449	527	34	563	681	721	903	436	376
DFS	758	1190	389	0	1370	126	1363	1899	1856	2308	1146	720
FRA	770	1148	470	875	0	82	1580	1802	1852	2300	1448	889
ISR	62	91	18	85	52	0	129	154	210	141	131	90
ITA	843	1749	496	1065	1089	88	0	1845	2655	2557	1597	1117
NLD	1262	1917	662	1487	1404	119	1620	0	2618	3568	1617	986
USA	1690	4169	622	1355	1155	196	2254	2327	0	3298	1987	1607
DEU	1150	2128	827	1638	1481	107	1900	3278	2583	0	2162	1261
POL	651	1302	331	881	1039	97	1352	1442	2042	1847	0	868
JPN	501	860	287	504	481	48	707	699	1112	759	566	0

HOL msb

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	CHE	DFS	FRA	ISR	ITA	NLD	USA	DEU	POL	JPN
CAN	0	689	1409	1222	115	1669	1415	2461	2171	1279	1211

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  CHE  591    0  608  576   48  635  726  703  938  499  415
  DFS 1286  558    0 1587  136 1592 2279 1871 2881 1511 1001
  FRA  969  518 1018    0   96 1501 1787 1616 2332 1500 1065
  ISR   73   24   93   54    0  125  152  200  146  132  103
  ITA 1417  556 1341  973   85    0 1700 2388 2495 1620 1190
  NLD 1403  698 2001 1268  114 1479    0 1992 3289 1658 1082
  USA 2587  617 1719 1058  190 2058 1801    0 2807 1900 1622
  DEU 1656  842 2114 1338  107 1759 2874 2210    0 2252 1427
  POL 1118  386 1236 1034   96 1348 1493 1933 1900    0  949
  JPN  790  308  639  498   50  684  683 1048  744  568    0
 ------------------------------------------------------------------------------
HOL ges
--------
 common bulls below diagonal
 common three quarter sib group above diagonal
       AUS  NLD  NZL  USA
 ------------------------------------------------------------------------------
  AUS    0  803  758 1086
  NLD  684    0 1161 2231
  NZL  701  980    0 1178
  USA 1116 1740 1091    0
 ------------------------------------------------------------------------------
JER dce
--------
JER mce
--------
JER dsb
--------
JER msb
--------
JER ges
--------
 common bulls below diagonal
 common three quarter sib group above diagonal
       AUS  NZL  USA
 ------------------------------------------------------------------------------
  AUS    0  260  233
  NZL  261    0  421
  USA  229  448    0
 ------------------------------------------------------------------------------
RDC dce
--------
 common bulls below diagonal
 common three quarter sib group above diagonal
       CAN  DFS  NOR  NLD  DEU  IRL  NZL
 ------------------------------------------------------------------------------
  CAN    0  183    6    5   11    2    0
  DFS  188    0  164   63   98    9    3
  NOR    5  140    0   55   33   25    2
  NLD    5   61   54    0   28    7    1
  DEU   11   90   31   27    0    3    1
  IRL    2    6   24    7    2    0    0
  NZL    0    3    2    1    1    0    0
 ------------------------------------------------------------------------------
RDC mce
--------
 common bulls below diagonal
 common three quarter sib group above diagonal
       CAN  DFS  NOR  DEU
 ------------------------------------------------------------------------------
  CAN    0  119    5    9
  DFS  117    0  149   63
  NOR    4  123    0   20
  DEU    9   55   19    0
 ------------------------------------------------------------------------------
RDC dsb
--------
RDC msb
--------
```

RDC ges
----
 common bulls below diagonal
 common three quarter sib group above diagonal

	AUS	NOR	NZL	USA
AUS	0	58	72	60
NOR	51	0	64	80
NZL	71	63	0	121
USA	58	81	122	0

SIM dce

SIM mce

SIM dsb

SIM msb

SIM ges
