

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:

BEL (HOL) Drop in daughters, herds, EDC and reliabilities due to corrections in pedigree.
CHE (ALL) Change in number of herds, EDC and reliabilities due to manual data edits and hYS assignment.
DEU (HOL) Overall base change. From this routine run onwards cow base is adjusted with each routine run, four months (birth month) forwards.
DFS (HOL,JER,RDC) Drop in EDC mostly cause by rounding effect.
ESP (HOL) Base changed. Drop in information due to new checks in data editing.
ITA (HOL) Drop in information due to changes in the input data.
Increase in the threshold of reliability and daughters per herd meant that many bulls no longer achieved the requirements for submission.
JPN (HOL) Changes in EDC due to pedigree editing.
NLD (ALL) Drop in information due to pedigree corrections.
POL (HOL) Drop in information due to data editing.

INTERBULL CHANGES COMPARED TO THE PREVIOUS ROUTINE RUN

In 2020 new post-processing windows\200\231 correlations for all breeds and traits have been applied: the upper bounds have been set to 0.99 as these were judged to have very little effect on evaluations while the lower values have been reduced to the 10th percentile. This reduction would provide post-processed correlations to be closer to the real estimated ones. The previously lower value adopted (based on the 25th percentile) had been found too high causing estimated and post-processed correlations to differ significantly from each other. It is a recommendation from the Interbull Technical Committee to review such windows every 5 years. The weight assigned to the magnitude of the changes tested by each country has also been revised. The new weight will allow post-processed correlations to take more in consideration the value of the new estimated ones even when no changes are applied by the countries. More information can be read on https://interbull.org/ib/rg_procedure

Since 2021 a new trait group has been added to the MACE evaluation, called stcm (SNP Training for clinical mastitis) evaluating the trait cma (pure clinical mastitis). New trait group codes have been issued as follows: 041 for international ebv files (.itb), 071 for parent average (ipr).

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
<http://www.interbull.org/ib/servicecalendar>.

NEXT TEST INTERNATIONAL EVALUATION

Dates for the next test run can be found on
<http://www.interbull.org/ib/servicecalendar>.

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

CAN	0	122	135	119	37	25	83
CHE	106	0	617	474	68	60	182
DEA	122	528	0	648	97	75	235
ITA	105	414	546	0	90	72	204
NLD	30	66	88	73	0	29	60
SVN	22	56	69	66	29	0	41
FRA	75	143	186	167	51	40	0

BSW

 GUE

 GUE

 HOL

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	879	1834	1345	1585	1516	1096	1755	204	328	1655	447	1183	607	1460
CHE	811	0	914	617	695	822	486	731	118	200	635	168	493	239	546
DEU	1264	803	0	1843	1943	2262	922	1630	315	313	1686	397	1137	777	1972
DFS	1048	567	1194	0	1599	1781	940	1389	201	397	1104	265	790	621	1241
FRA	1111	648	1113	884	0	1971	1054	1569	194	445	1298	356	1044	641	1553
NLD	1414	810	1783	1378	1289	0	1090	1711	231	543	1290	318	919	797	1579
AUS	951	409	597	554	658	850	0	1062	114	547	683	207	562	366	595
GBR	1835	728	1151	988	1069	1446	821	0	195	412	1335	322	903	579	1206
SVN	161	87	305	148	152	201	75	149	0	43	223	93	170	117	273
NZL	294	173	218	241	248	488	430	315	33	0	195	68	195	149	159
ITA	1450	571	1069	872	855	1095	519	1151	194	167	0	433	1065	583	1507
JPN	197	97	154	140	140	164	128	153	40	50	175	0	339	191	407
ESP	763	375	642	568	773	730	377	654	120	140	728	135	0	433	967
CZE	337	123	408	274	296	580	141	265	76	59	366	85	230	0	646
POL	1402	455	1756	991	1136	1438	421	1029	242	117	1291	190	681	461	0

HOL

 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	796	1684	983	1453	1422	1063	1720	316	1651	447	1435
CHE	730	0	761	433	632	683	430	678	176	611	168	522
DEU	998	630	0	1427	1860	2110	898	1504	285	1572	367	1743
DFS	639	370	711	0	1346	1364	830	1141	374	846	188	899
FRA	1096	585	1023	672	0	1844	1003	1515	416	1294	354	1525
NLD	1315	672	1461	858	1233	0	1081	1649	538	1248	310	1509
AUS	929	375	523	421	657	841	0	1063	546	682	207	589
GBR	1802	663	962	679	1058	1390	820	0	409	1334	322	1193
NZL	286	155	193	213	246	482	429	314	0	195	68	158
ITA	1443	550	939	590	854	1051	518	1152	167	0	433	1479
JPN	197	97	144	95	140	159	128	153	50	175	0	402
POL	1396	435	1359	608	1130	1377	421	1029	117	1290	190	0

JER

 common bulls below diagonal
 common three quarter sib group above diagonal

	CAN	DFS	NLD	AUS	NZL	CHE
CAN	0	67	13	194	70	31
DFS	52	0	24	87	81	43
NLD	10	20	0	19	17	9
AUS	195	59	19	0	191	32
NZL	70	60	15	176	0	26
CHE	30	43	6	31	25	0

JER

RDC

common bulls below diagonal

common three quarter sib group above diagonal

CAN DEU DFS NOR AUS NZL CAM

CAN	0	6	162	6	37	28	0
DEU	6	0	28	8	23	2	0
DFS	167	20	0	114	141	48	0
NOR	6	7	92	0	61	10	0
AUS	34	22	113	52	0	39	9
NZL	25	2	47	10	36	0	1
CAM	0	0	0	0	9	1	0

RDC

common bulls below diagonal

common three quarter sib group above diagonal

CAN DEU DFS NOR AUS NZL CAM

CAN	0	8	136	6	37	27	0
DEU	8	0	50	11	30	4	0
DFS	138	44	0	109	141	48	0
NOR	6	11	87	0	58	9	0
AUS	34	29	113	49	0	39	9
NZL	25	4	47	9	36	0	1
CAM	0	0	0	0	9	1	0

SIM

SIM
