

Introduction

The latest routine international evaluation for **udder traits** took place as scheduled at the Interbull Centre. Data from twenty seven (27) countries were included in this evaluation.

International genetic evaluations for udder health traits of bulls from Australia, Austria-Germany, Belgium, Canada, Czech Republic, Denmark-Finland-Sweden, Estonia, France, Hungary, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, South Africa, Slovak Republic, Spain, Switzerland, the United Kingdom, the United States of America, Poland, Lithuania, Latvia, Croatia, Slovenia and Portugal were computed. Brown Swiss, Holstein, Red Dairy Cattle, Guernsey, Jersey and Simmental breed data were included in this evaluation.

Changes in national procedures

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

NOR (RDC) The rolling definition of hys is causing the daughters to distribute somewhat differently over
number hys-classes at each evaluation. Therefore some bulls occasionally may lose EDC although the
of daughters stay the same. Reliability changes is a function of the EDC changes
JPN (HOL) Little changes in proofs caused by additional records and modification of pedigree
ZAF (HOL) The changes observed on a few Holstein bulls born in 1989, 1992 and 1998 are due to changes
in the genetic groups on the sire and dam lines of the pedigrees due to some new pedigree lines
entering the evaluation.
genetic value Therefore some genetic groups gained quite a few animals with a resultant change in the group's
ZAF (RDC) Data since December 2011 has now been included for herds participating in Milk Recording at
the ARC.
SVN (HOL, BSW, SIM) Some bulls losing informations (herds/daughters/EDC). These changes are mostly consequences
of changes in data base related to the pedigree completeness as well as phenotypic data improvement.
IRL (HOL) Introduced the new genetic base as tested in January.
NZL (ALL) Base change, decrease in information due to parentage testing
EST (HOL, RDC) Decrease in number of daughters/herds and reliability of some bulls is due to the pedigree
check for cows and to additional data checks.
CHE (HOL, BSW, SIM) Decrease in information due to continuous work on the raw data by herd-book organizations.
For HOL, some bulls changed from TOP 12 to 11. This is related to changes in the database by the herdbook
organizations resulting in a lower number of daughters of these bulls
CAN (HOL, JER, RDC) Some mastitis records were previously included in the EDC calculation while they were excluded
from breeding value calculation, this has been fixed.
HRV (HOL, SIM) Data cleaning is in the final stage, especially the pedigree part related to the old unsolved
animals.
of bulls due The consequence of these changes is, among others, decreased reliability for certain number
to reduction of number of daughters

INTERBULL CHANGES COMPARED TO THE APRIL ROUTINE RUN

None

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 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 udder health (August Routine Evaluation 2016). Number of records for milk somatic cells by breed

Country	BSW	GUE	HOL	JER	RDC	SIM
AUS		122	7146	1438	629	
BEL			1049			
CAN	206	91	11035	614	748	
CHE	2733		3015			2966
CZE			3534			
DEA	5264					20795
DEU			25922		399	
DFS			12450	1994	7419	
ESP			3263			
EST			982		388	
FRA	346		16000			408
FRM						3949
FRR			234			
GBR	103	261	6036	639	433	80
HUN			2471			152
IRL			2201			
ISR			1262			
ITA	1769		9292			1299
JPN			5447			
KOR			1033			
LTU			672		396	
LVA			528		564	
NLD	163		14433	123	62	302
NOR					3846	
NZL	38	57	6697	3991	1152	
POL			9059			
PRT			2088			
SVK			992			520
SVN	321		435			533
URY						
USA	983	667	34526	3912	613	37
ZAF		16	1124	524	121	
HRV			650			741
No. Records	11926	1214	183576	13235	16770	31782
Pub. Proofs	9768	952	144211	11006	16221	28768

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

BSW	scs									
	CAN	FRA	NLD	USA	CHE	DEA	NZL	ITA	GBR	SVN
CAN	0.24									
FRA	0.94	1.02								
NLD	0.91	0.93	4.12							
USA	0.92	0.91	0.88	0.21						
CHE	0.92	0.95	0.92	0.88	10.31					
DEA	0.93	0.96	0.91	0.88	0.97	11.94				
NZL	0.87	0.86	0.87	0.84	0.87	0.86	0.36			
ITA	0.91	0.90	0.88	0.88	0.95	0.91	0.87	17.91		
GBR	0.93	0.96	0.96	0.91	0.94	0.95	0.87	0.89	13.06	
SVN	0.90	0.87	0.88	0.89	0.89	0.87	0.85	0.89	0.88	10.38

BSW	mas									
	CAN	FRA	NLD	USA	CHE	DEA	NZL	ITA	GBR	SVN
CAN	0.24									
FRA	0.75	1.08								
NLD	0.84	0.81	3.68							
USA	0.87	0.83	0.87	0.21						
CHE	0.91	0.85	0.89	0.88	10.31					
DEA	0.90	0.70	0.87	0.86	0.96	11.94				
NZL	0.81	0.76	0.79	0.82	0.83	0.77	0.36			
ITA	0.89	0.87	0.89	0.88	0.96	0.91	0.84	17.91		
GBR	0.85	0.72	0.88	0.88	0.90	0.91	0.84	0.88	13.06	
SVN	0.77	0.68	0.79	0.78	0.85	0.85	0.69	0.87	0.77	10.38

HOL mas

	CAN	CHE	DEU	DFS	EST	FRA	FRR	GBR	NLD	USA	ISR	ITA	AUS	
	BEL	JPN	ESP	ZAF	NZL	IRL	CZE	SVK	POL	LTU	LVA	PRT	KOR	SVN
HUN														
HRV														
CAN	7.77													
CHE	0.81	10.84												
DEU	0.83	0.92	12.71											
DFS	0.92	0.80	0.85	12.19										
EST	0.78	0.82	0.90	0.80	13.18									
FRA	0.95	0.81	0.84	0.93	0.78	1.21								
FRR	0.64	0.63	0.70	0.65	0.65	0.65	1.00							
GBR	0.79	0.92	0.94	0.82	0.86	0.80	0.57	12.79						
NLD	0.86	0.87	0.93	0.87	0.88	0.87	0.72	0.90	4.85					
USA	0.87	0.87	0.88	0.87	0.85	0.87	0.49	0.89	0.88	0.21				
ISR	0.71	0.71	0.76	0.73	0.74	0.73	0.54	0.75	0.77	0.78	0.23			
ITA	0.83	0.87	0.94	0.85	0.88	0.85	0.64	0.89	0.90	0.89	0.78	5.84		
AUS	0.74	0.89	0.87	0.76	0.79	0.74	0.52	0.92	0.86	0.85	0.75	0.82	30.18	
HUN	0.83	0.86	0.91	0.85	0.85	0.84	0.60	0.88	0.89	0.91	0.79	0.92	0.83	
1.44														
BEL	0.84	0.91	0.96	0.85	0.90	0.85	0.68	0.94	0.94	0.88	0.75	0.94	0.86	
0.91	0.49													
JPN	0.80	0.86	0.86	0.81	0.81	0.81	0.50	0.87	0.84	0.88	0.74	0.86	0.84	
0.86	0.86	0.42												
ESP	0.84	0.90	0.95	0.86	0.88	0.87	0.64	0.93	0.92	0.91	0.79	0.95	0.84	
0.92	0.95	0.87	11.54											
ZAF	0.82	0.86	0.89	0.82	0.80	0.83	0.55	0.91	0.87	0.88	0.78	0.90	0.86	
0.90	0.90	0.86	0.93	26.42										
NZL	0.78	0.85	0.85	0.81	0.77	0.79	0.53	0.87	0.82	0.83	0.75	0.81	0.96	
0.83	0.84	0.84	0.83	0.84	0.40									
IRL	0.80	0.91	0.92	0.82	0.82	0.81	0.58	0.96	0.88	0.85	0.75	0.87	0.94	
0.85	0.93	0.85	0.91	0.89	0.91	0.11								
CZE	0.80	0.85	0.89	0.81	0.85	0.82	0.62	0.85	0.87	0.87	0.75	0.90	0.81	
0.89	0.88	0.86	0.90	0.85	0.82	0.84	14.58							
SVK	0.78	0.83	0.88	0.80	0.79	0.80	0.58	0.84	0.86	0.84	0.66	0.86	0.79	
0.92	0.86	0.84	0.88	0.84	0.80	0.81	0.87	0.41						
POL	0.87	0.90	0.96	0.88	0.90	0.88	0.78	0.91	0.93	0.88	0.79	0.94	0.85	
0.93	0.95	0.88	0.95	0.90	0.86	0.89	0.91	0.88	9.97					
LTU	0.74	0.75	0.85	0.76	0.75	0.72	0.56	0.81	0.80	0.81	0.66	0.82	0.77	
0.80	0.79	0.80	0.83	0.76	0.76	0.77	0.81	0.78	0.85	0.38				
LVA	0.75	0.81	0.90	0.78	0.87	0.76	0.64	0.84	0.85	0.83	0.68	0.87	0.80	
0.82	0.88	0.83	0.85	0.79	0.77	0.82	0.82	0.78	0.89	0.81	0.48			
PRT	0.86	0.87	0.88	0.87	0.82	0.87	0.53	0.88	0.86	0.88	0.75	0.87	0.84	
0.87	0.87	0.87	0.88	0.87	0.84	0.85	0.87	0.84	0.89	0.81	0.83	0.48		
KOR	0.81	0.83	0.85	0.81	0.79	0.84	0.60	0.85	0.84	0.87	0.70	0.87	0.81	
0.85	0.85	0.86	0.89	0.85	0.81	0.82	0.84	0.82	0.90	0.78	0.81	0.86	0.34	
SVN	0.75	0.80	0.82	0.78	0.77	0.76	0.60	0.81	0.81	0.80	0.68	0.82	0.77	
0.81	0.82	0.82	0.82	0.79	0.77	0.79	0.81	0.75	0.85	0.69	0.73	0.81	0.75	
10.84														
HRV	0.73	0.81	0.85	0.75	0.80	0.74	0.60	0.83	0.83	0.83	0.71	0.84	0.80	
0.84	0.84	0.82	0.84	0.80	0.78	0.78	0.83	0.78	0.88	0.81	0.82	0.84	0.76	
0.79	11.95													

JER scs

	CAN	DFS	GBR	NLD	USA	AUS	ZAF	NZL
CAN	0.22							
DFS	0.92	12.51						
GBR	0.92	0.91	11.36					
NLD	0.92	0.94	0.96	4.32				
USA	0.91	0.88	0.89	0.88	0.19			
AUS	0.86	0.87	0.88	0.92	0.86	29.02		
ZAF	0.90	0.87	0.88	0.91	0.88	0.90	20.98	
NZL	0.86	0.84	0.86	0.86	0.83	0.96	0.86	0.38

JER mas

	CAN	DFS	GBR	NLD	USA	AUS	ZAF	NZL
CAN	7.53							
DFS	0.89	12.34						
GBR	0.72	0.77	11.37					
NLD	0.85	0.86	0.90	4.18				
USA	0.86	0.86	0.88	0.88	0.19			
AUS	0.69	0.72	0.88	0.86	0.85	29.05		
ZAF	0.74	0.79	0.87	0.89	0.88	0.88	20.98	
NZL	0.76	0.77	0.85	0.82	0.84	0.95	0.85	0.38

RDC	scs												
	CAN	DFS	GBR	NOR	USA	DEU	AUS	EST	ZAF	NZL	LTU	LVA	NLD
CAN	0.25												
DFS	0.94	12.67											
GBR	0.94	0.92	11.40										
NOR	0.92	0.94	0.90	14.43									
USA	0.93	0.88	0.89	0.89	0.24								
DEU	0.93	0.94	0.94	0.90	0.89	13.63							
AUS	0.89	0.92	0.91	0.92	0.86	0.90	31.38						
EST	0.89	0.94	0.91	0.90	0.91	0.94	0.90	11.76					
ZAF	0.89	0.90	0.90	0.93	0.89	0.91	0.88	0.90	25.07				
NZL	0.86	0.87	0.86	0.87	0.84	0.86	0.96	0.87	0.85	0.41			
LTU	0.90	0.87	0.89	0.90	0.89	0.88	0.85	0.91	0.91	0.86	0.34		
LVA	0.90	0.88	0.89	0.90	0.89	0.93	0.90	0.95	0.89	0.87	0.89	0.44	
NLD	0.92	0.94	0.96	0.91	0.88	0.95	0.92	0.91	0.90	0.87	0.88	0.89	4.03

RDC	mas												
	CAN	DFS	GBR	NOR	USA	DEU	AUS	EST	ZAF	NZL	LTU	LVA	NLD
CAN	7.77												
DFS	0.87	13.18											
GBR	0.78	0.79	11.42										
NOR	0.89	0.88	0.89	14.43									
USA	0.87	0.87	0.89	0.89	0.24								
DEU	0.81	0.81	0.93	0.90	0.88	13.63							
AUS	0.72	0.73	0.89	0.90	0.85	0.87	31.44						
EST	0.75	0.77	0.82	0.89	0.86	0.91	0.84	11.76					
ZAF	0.86	0.86	0.89	0.91	0.89	0.89	0.85	0.82	25.16				
NZL	0.77	0.82	0.86	0.91	0.84	0.85	0.95	0.83	0.85	0.41			
LTU	0.71	0.75	0.84	0.89	0.85	0.86	0.86	0.88	0.79	0.84	0.34		
LVA	0.72	0.74	0.83	0.89	0.84	0.91	0.87	0.93	0.79	0.85	0.88	0.44	
NLD	0.85	0.87	0.89	0.90	0.88	0.93	0.86	0.87	0.88	0.82	0.83	0.85	3.74

SIM	scs												
	FRM	FRA	ITA	NLD	CHE	DEA	HUN	SVK	SVN	GBR	HRV	USA	
FRM	1.09												
FRA	0.92	1.01											
ITA	0.96	0.90	13.94										
NLD	0.92	0.94	0.88	4.42									
CHE	0.93	0.92	0.90	0.91	10.35								
DEA	0.93	0.92	0.88	0.90	0.90	12.16							
HUN	0.93	0.91	0.93	0.88	0.89	0.93	15.66						
SVK	0.88	0.89	0.89	0.89	0.89	0.87	0.93	0.38					
SVN	0.89	0.87	0.89	0.88	0.89	0.87	0.89	0.88	8.89				
GBR	0.92	0.96	0.89	0.95	0.90	0.92	0.89	0.87	0.87	11.17			
HRV	0.92	0.87	0.88	0.87	0.87	0.86	0.89	0.87	0.87	0.86	10.16		
USA	0.89	0.90	0.89	0.88	0.89	0.90	0.92	0.89	0.89	0.90	0.88	0.22	

SIM	mas												
	FRM	FRA	ITA	NLD	CHE	DEA	HUN	SVK	SVN	GBR	HRV	USA	
FRM	1.08												
FRA	0.90	1.00											
ITA	0.96	0.88	13.94										
NLD	0.88	0.88	0.88	3.79									
CHE	0.92	0.84	0.90	0.87	10.35								
DEA	0.92	0.92	0.88	0.88	0.89	12.16							
HUN	0.91	0.87	0.93	0.90	0.88	0.92	15.66						
SVK	0.88	0.87	0.90	0.88	0.88	0.86	0.93	0.38					
SVN	0.88	0.86	0.89	0.85	0.88	0.87	0.88	0.87	8.89				
GBR	0.92	0.82	0.89	0.90	0.90	0.90	0.89	0.86	0.85	11.17			
HRV	0.90	0.85	0.88	0.83	0.86	0.86	0.88	0.87	0.87	0.84	10.16		
USA	0.89	0.88	0.89	0.89	0.89	0.90	0.92	0.89	0.89	0.90	0.89	0.22	

^LAPPENDIX II. Number of common bulls

BSW

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	FRA	NLD	USA	CHE	DEA	NZL	ITA	GBR	SVN
CAN	0	76	46	145	110	110	16	103	56	22
FRA	69	0	76	117	145	188	14	164	49	46
NLD	42	62	0	71	83	126	15	111	34	35
USA	143	78	61	0	296	284	20	204	74	32
CHE	89	108	74	278	0	511	17	386	60	57
DEA	95	142	116	250	407	0	22	543	62	82
NZL	16	10	8	18	13	17	0	19	10	3
ITA	90	131	91	141	334	450	14	0	62	73
GBR	56	39	27	69	47	42	8	44	0	17
SVN	20	46	36	25	58	76	2	74	13	0

BSW

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	FRA	NLD	USA	CHE	DEA	NZL	ITA	GBR	SVN
CAN	0	65	43	145	110	110	16	103	56	22
FRA	59	0	59	101	139	168	11	146	45	43
NLD	36	49	0	65	73	108	15	94	32	31
USA	143	68	51	0	296	284	20	204	74	32
CHE	89	104	65	278	0	511	17	386	60	57
DEA	95	126	93	250	407	0	22	543	62	82
NZL	16	8	8	18	13	17	0	19	10	3
ITA	90	119	72	141	334	450	14	0	62	73
GBR	56	39	24	69	47	42	8	44	0	17
SVN	20	43	31	25	58	76	2	74	13	0

GUE

common bulls below diagonal
common three quarter sib group above diagonal

	CAN	GBR	USA	AUS	NZL	ZAF
CAN	0	25	60	41	13	1
GBR	20	0	79	31	13	3
USA	51	81	0	55	29	6
AUS	39	26	51	0	26	3
NZL	11	11	29	26	0	2
ZAF	0	2	3	2	0	0

JER

common bulls below diagonal
 common three quarter sib group above diagonal

	CAN	DFS	GBR	NLD	USA	AUS	ZAF	NZL
CAN	0	68	128	28	321	210	119	138
DFS	52	0	128	71	143	112	110	110
GBR	129	114	0	65	195	170	137	173
NLD	22	69	59	0	66	56	56	59
USA	328	114	213	71	0	417	235	302
AUS	210	75	174	47	446	0	188	350
ZAF	113	87	139	52	245	179	0	166
NZL	152	82	178	51	371	392	174	0

JER

common bulls below diagonal
 common three quarter sib group above diagonal

	CAN	DFS	GBR	NLD	USA	AUS	ZAF	NZL
CAN	0	30	64	10	141	91	52	54
DFS	24	0	123	52	131	101	102	101
GBR	61	109	0	52	193	170	136	172
NLD	4	45	47	0	56	47	50	49
USA	128	92	213	60	0	417	235	302
AUS	79	62	174	43	446	0	188	349
ZAF	45	77	139	45	245	179	0	166
NZL	54	70	178	41	371	391	174	0

RDC

common bulls below diagonal
 common three quarter sib group above diagonal

	CAN	DFS	GBR	NOR	USA	DEU	AUS	EST	ZAF	NZL	LTU	LVA	NLD
CAN	0	120	63	4	171	11	86	1	68	70	14	7	5
DFS	118	0	57	101	149	58	149	79	49	139	108	90	37
GBR	63	56	0	23	73	5	49	2	33	46	13	5	17
NOR	4	74	24	0	56	17	50	13	0	34	24	16	28
USA	157	145	69	57	0	21	100	13	57	91	30	14	28
DEU	10	48	5	17	21	0	37	23	2	15	32	28	14
AUS	86	125	47	41	101	36	0	20	31	113	40	26	22
EST	1	69	2	13	12	22	20	0	0	4	22	35	9
ZAF	70	46	29	0	51	2	31	0	0	30	5	1	3
NZL	68	136	44	32	91	15	114	3	26	0	24	12	12
LTU	13	92	12	19	24	30	36	21	5	20	0	37	12
LVA	7	59	5	14	11	23	25	28	1	10	32	0	9
NLD	5	37	16	27	27	14	20	8	3	12	11	8	0

RDC

common bulls below diagonal
 common three quarter sib group above diagonal

	CAN	DFS	GBR	NOR	USA	DEU	AUS	EST	ZAF	NZL	LTU	LVA	NLD
CAN	0	69	31	3	69	5	29	0	35	29	10	4	3
DFS	67	0	53	103	142	58	166	79	45	137	107	91	34
GBR	31	51	0	23	71	5	47	2	30	45	13	5	15
NOR	3	75	24	0	56	17	50	13	0	34	24	16	26
USA	70	141	69	58	0	21	98	13	53	89	30	14	25
DEU	5	48	5	17	21	0	37	23	2	15	32	28	14
AUS	29	144	46	41	100	36	0	20	29	112	40	26	20
EST	0	69	2	13	12	22	20	0	0	4	22	35	9
ZAF	37	44	28	0	51	2	31	0	0	28	5	1	2
NZL	28	132	44	32	91	15	113	3	26	0	24	12	10
LTU	9	91	12	19	24	30	36	21	5	20	0	37	11
LVA	4	59	5	14	11	23	25	28	1	10	32	0	7
NLD	3	34	14	25	24	14	18	8	2	10	10	6	0

SIM

common bulls below diagonal
common three quarter sib group above diagonal

	FRM	FRA	ITA	NLD	CHE	DEA	HUN	SVK	SVN	GBR	HRV	USA
FRM	0	3	146	105	161	209	2	55	17	63	2	23
FRA	1	0	118	48	12	218	4	49	46	0	82	0
ITA	178	105	0	148	77	675	10	125	85	42	190	19
NLD	128	48	145	0	75	205	3	51	40	46	75	14
CHE	210	10	78	77	0	264	2	31	5	50	1	17
DEA	248	179	579	213	231	0	27	334	155	46	450	16
HUN	0	3	7	3	1	15	0	6	6	0	9	0
SVK	55	42	107	42	23	340	5	0	40	10	79	3
SVN	17	43	81	38	5	141	5	39	0	0	64	0
GBR	80	0	46	45	57	49	0	5	0	0	0	17
HRV	1	76	182	75	1	473	9	62	53	0	0	0
USA	37	0	26	17	18	22	0	3	0	24	0	0

SIM

common bulls below diagonal
common three quarter sib group above diagonal

	FRM	FRA	ITA	NLD	CHE	DEA	HUN	SVK	SVN	GBR	HRV	USA
FRM	0	2	145	93	159	205	2	55	17	63	2	23
FRA	1	0	86	29	9	159	3	39	34	0	58	0
ITA	177	75	0	127	77	675	10	125	85	42	190	19
NLD	113	28	125	0	69	167	3	44	32	42	66	14
CHE	208	6	78	70	0	264	2	31	5	50	1	17
DEA	245	122	579	176	231	0	27	334	155	46	450	16
HUN	0	2	7	3	1	15	0	6	6	0	9	0
SVK	55	31	107	37	23	340	5	0	40	10	79	3
SVN	17	29	81	32	5	141	5	39	0	0	64	0
GBR	80	0	46	41	57	49	0	5	0	0	0	17
HRV	1	51	182	66	1	473	9	62	53	0	0	0
USA	37	0	26	17	18	22	0	3	0	24	0	0
