

INTRODUCTION

The latest genomic test international evaluation for calving traits took place as scheduled at the Interbull Centre. Data from 18 countries were included in this evaluation.

International genetic evaluations for calving traits of bulls were computed from:
AUS BEL CAN CHE DEU DFS FRA GBR HUN IRL ISR ITA NLD NZL USA SVK ESP POL
Holstein data were included in this evaluation.

CAN, DEU, DFS, GBR, ITA, NLD, HUN, ESP, POL submitted GEBVs.

dce: CAN, DEU, DFS, GBR, ITA, NLD, HUN, ESP, POL
dsb: CAN, DEU, DFS, , ITA, NLD, POL
mce: CAN, DEU, DFS, GBR, ITA, NLD, HUN, POL
msb: CAN, DEU, DFS, , ITA, NLD, POL

CHANGES IN NATIONAL PROCEDURES

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

CAN (HOL) Base change
DFS (HOL) Changes in official status of bulls
FRA (HOL) Base change
ITA (HOL) Cut off one year of data and base change
NLD (HOL) Added the sex effect to the model for the stillbirth traits, minor data edits.
ESP (HOL) Exclusion from national genomic evaluation of candidates and culled bulls older than 2 years old.
Reduction in reliability due to reduction of parent average's reliability
BEL (HOL) Base change
GBR (HOL) Base change
DEU (HOL) Base change
INTERBULL CHANGES COMPARED TO THE DECEMBER ROUTINE RUN

No changes in Interbull procedures

DATA AND METHOD OF ANALYSIS

Thirteen Holstein populations sent GEBV data for up to 38 traits, while classical EBVs for the same traits were used in the analyses. Young bull GEBVs from the GEBV providers have been converted to the scales of all countries participating in classical MACE. A bull will get a MACE EBV or a GMACE EBV but not both.

From those thirteen countries, National GEBVs of bulls less than seven years of age and with no classical MACE proofs were included for the breeding value prediction with a further requirement of either a MACE-PA or a GMACE-PA (for young genomic bulls with young genomic sires) being available.

The parameter-space approach is used for the GMACE genetic evaluations (Sullivan, 2016)

SCIENTIFIC LITERATURE

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

Sullivan, P.G. 2016. Defining a Parameter Space for GMACE. Interbull Bulletin 50, p 85-93.

VanRaden, P.M. and Sullivan, P.G. 2010. International genomic evaluation methods for dairy cattle. Gen. Sel. Evol. 42:7

Sullivan, P.G. and Jakobsen, J.H. 2012. Robust GMACE for young bulls methodology. Interbull Bulletin 45, Article 1.

Sullivan, P.G. 2012a. GMACE reliability approximation. Report to the GMACE working group of Interbull. GMACE_rels 2013

Sullivan, P.G. 2012b. GMACE variance estimation. Report to the GMACE working group of Interbull. GMACE_vce 2013

Sullivan, P.G. 2012c. GMACE Weighting Factors. Report to the GMACE working group of Interbull. GMACE_gedcs 2013

NEXT ROUTINE INTERNATIONAL EVALUATION

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

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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 minimising the need to resort to conversions.

At the same time, all recipients of Interbull results are expected to honour 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.

Table 1. National evaluation dates in GMACE run April 2021

Country	Date
CAN	20210401
DFS	20210302
ITA	20210311
NLD	20210401
GBR	20210309
HUN	20210317
DEU	20210407
BEL	20201201
ESP	20210319
POL	20210208

Table 2.

Number of bulls in reference population for		dce
CAN	36712.0	
DFS	4556.0 33801.0	
ITA	33069.0 3644.0 33843.0	
NLD	4052.0 31548.0 3261.0 33916.0	
GBR	33984.0 4785.0 32310.0 4338.0 36226.0	
HUN	1922.0 7183.0 1804.0 7342.0 1987.0 8172.0	
DEU	7581.0 32958.0 6624.0 32157.0 7840.0 7598.0 38091.0	
BEL	691.0 624.0 680.0 733.0 664.0 498.0 715.0 1434.0	
ESP	4963.0 32806.0 4095.0 32039.0 5185.0 7439.0 33690.0 688.0 34352.0	
POL	4059.0 28853.0 3200.0 28269.0 4233.0 7198.0 29109.0 829.0 29157.0 30092.0	

 Number of bulls in reference population for

		mce
CAN	29233.0	
DFS	4333.0 35124.0	
ITA	26924.0 3532.0 27556.0	

NLD	3830.0	32974.0	3130.0	34622.0					
GBR	26682.0	4575.0	25945.0	4058.0	27801.0				
HUN	1875.0	6800.0	1766.0	6961.0	1942.0	7755.0			
DEU	6703.0	34316.0	5904.0	33547.0	6946.0	7201.0	38706.0		
POL	3991.0	29580.0	3203.0	29008.0	4097.0	6820.0	29816.0	30876.0	

Number of bulls in reference population for dsb

CAN	33517.0								
DFS	4373.0	32218.0							
ITA	30266.0	3520.0	30993.0						
NLD	3834.0	30016.0	3107.0	31702.0					
DEU	7244.0	31459.0	6367.0	30655.0	36368.0				
POL	3878.0	26946.0	3074.0	26370.0	27251.0	28138.0			

Number of bulls in reference population for msb

CAN	26986.0								
DFS	4158.0	33671.0							
ITA	24912.0	3396.0	25508.0						
NLD	3656.0	31613.0	2992.0	33145.0					
DEU	6380.0	32928.0	5628.0	32211.0	37089.0				
POL	3822.0	27933.0	3072.0	27410.0	28200.0	29174.0			