Form GE

Status as of: 2016-01-31

DESCRIPTION OF NATIONAL GENETIC EVALUATION SYSTEMS

Country (or countries)	NZL
Main trait group[1]	Longevity
Breed(s)	BSW, GUE, HOL, JER, RDC
Trait definition(s) and unit(s) of measurement[2] Attach an appendix if needed	Survival first to fifth lactation, using MT model with correlated traits • Survival first to second • Survival first to third • Survival first to fourth • Parity one protein yield • Parity one Body Condition Score • Parity two calving early in herd's calving period • Parity one owner opinion • Parity one milking speed • Parity one leg conformation • Parity one dairy conformation • Parity one udder conformation • Parity one Somatic Cell Score
Method of measuring and collecting data	Milk recording system, plus the conformation and management trait recording system
Time period for data inclusion	Records since 1987
Age groups (e.g. parities) included	Parities 1-5
Other criteria (data edits) for inclusion of records	Milk recorded in parity one
Criteria for extension of records (if applicable)	
Sire categories	All bulls including domestic and foreign AI bulls plus natural service herd sires
Environmental effects[3]**, pre-adjustments**	
Method (model) of genetic evaluation[3]	MT-ML-BLUP-Animal Model
Environmental effects[3] **in the genetic evaluation model**	F: HYS, heterosis
Adjustment for heterogeneous variance in evaluation model	None
Use of genetic groups and relationships	Genetic groups were assigned by breed, gender of missing parent, birth year and country of origin. Four breed classes were assigned genetic grouping: HOL, JER, RDC, and other breeds. Genetic groups were assigned in 5 year intervals from 1960 to 1980 then yearly, with the first birth year group being prior to 1960. Country of origin was defined as NZL, North American and Other. If a genetic group had fewer than 200 animals per group, birth years were clustered. No clustering occurred across breed, origin or gender genetic groups.
Blending of foreign/Interbull information in evaluation	Not applicable for test evaluation

Genetic parameters in the evaluation	
System validation	Interbull trend validation test III
Expression of genetic evaluations If standardised (e.g. RBV), give standardisation formula in the appendix	Days of herd life
Definition of genetic reference base	2000 born cows of all breeds and crosses with records for each of milk, fat, protein and 17 traits other than production in 2002.
Next base change	June 2016
Calculation of reliability	Information source method. Harris, B.L. and Johnson, D.L.. (1998) *J Dairy Sci* **81**:2723-2728; the method is extended for multi-trait evaluation in *25 Jan 2005 Somatic Cell Score Testday Model for National Genetic Evaluation* at www.aeu.org.nz/page.cfm?id=59
Criteria for official publication of evaluations	Test evaluation only — not official
Number of evaluations / publications per year	2 – February and May
Use in total merit index[4]	The total merit index is called Breeding Worth (BW). In 2011, relative emphasis in percentage terms (VanRaden, 2002, 7th World Congress on Genetics Applied to Livestock Production, Communication No 01-21) was respectively 12, 39, 15, 14, 7.5, 6.5, 6 for Milkfat, Protein, Milk (-), Liveweight (-), Cow Fertility, Somatic Cell Score (-) and Residual Survival not genetically associated with other traits in the index.
Anticipated changes in the near future	Not applicable
Key reference on methodology applied	
Key organisation: name, address, phone, fax, e-mail, web site	DairyNZ Jeremy Bryant Private Bag 3016 Hamilton NEW ZEALAND Phone: +64 (0)21 814 163 jeremy.bryant@dairynz.co.nz Website: http://www.dairynz.co.nz/animal/animal-evaluation/

1) Either: Production (e.g. milk, fat, protein), Conformation, Health (e.g. mastitis resistance, milk somatic cell, resistance to diseases other than mastitis), Longevity, Calving (e.g. stillbirth, calving ease), Female fertility (e.g. non-return rate, interval between reproductive events, number of AI's, heat strength), Workability (e.g. milking speed, temperament), Beef production, Efficiency (e.g. body weight, energy balance, body conditioning score), or Other traits.
2) Indicate frequencies per category if the trait is categorical and specify transformation of data if practiced.
3) Use abbreviations for most common effects (see document with list of abbreviations at http://www-interbull.slu.se/service_documentation/General/list_of_abbreviations.rtf) and indicate random (R) or fixed (F).
4) Please give economic weights and indicate how they are expressed (preferably in genetic standard deviation units).

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Parameters for national genetic evaluations for longevity traits as provided to Interbull

Country (or countries): NZL
Main trait group: Longevity (for Interbull test evaluation)
Breed(s): BSW, GUE, HOL, JER, RDC

Trait	h^2	genetic variance	official proof standardisation formula[a]
Direct longevity:	0.055	67,244	
Combined longevity:	Not applicable		

[a] Expressed as follows:
StandEval=((eval-a)/b)*c+d where a=mean of the base adjustment, b=standard deviation of the base, c=standard deviation of expression (include sign if scale is reversed), and d=base of expression.