Status as of: 2014-11-16

**DESCRIPTION OF NATIONAL GENETIC EVALUATION SYSTEMS**

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| **Country (or countries)** | Israel | |
| **Main trait group1 NOTE!** Only one trait group per form! | Longevity | |
| **Breed(s)** | Holstein | |
| **Trait definition(s) and unit(s) of measurement2** Attach an appendix if needed | Days from first calving to exit to a maximum of 2922 days. For cows still milking exit date is predicted. Units are days. |
| **Method of measuring and collecting data** | Calving dates and exit dates are recorded by farmers and sent to the central computer of the Israel Cattle Breeders’ Association |
| **Time period for data inclusion** | Calvings since 1985. |
| **Age groups (e.g. parities) included** | First through seventh parity. |
| **Other criteria (data edits) for inclusion of records** | Sire and herd number, and valid cow birth and first calving dates are required. Age at first calving between 570 and 1000 days. Cows are deleted if any calving interval < 150 days, if days in milk > 1000 for any lactation, if mean calving interval < 250 days or > 650 days and there were at least 2 parities, if days open <20, or if no exit date is recorded and the last recorded event occurred > 180 days prior to the evaluation date. |
| **Criteria for extension of records** (if applicable) | All cows with valid records, with at least 180 days in milk in first parity, without valid exit dates and with < 2922 days since first calving. |
| **Sire categories** | The numbers of bulls born since 1980 in each category are given in parenthesis after each group: young Israeli Holstein bulls (908), proven Israeli Holstein bulls (325), young “promising” Israeli Holstein bulls (30), foreign Holstein proven bulls (247), breeds other than Holstein (122), and sires of foreign bulls with no local daughters (7). Young “promising” bulls are used more widely than normal young bulls. About 20% of young bulls are from ET. All insemination is AI. |
| **Environmental effects3, pre-adjustments** | Calving ease, twinning, calving age and month in first parity. |
| **Method (model) of genetic evaluation3** | Single trait AM |
| **Environmental effects3 in the genetic evaluation model** | Herd-year-season, discontinuous, 47,678 levels (F) |
| **Adjustment for heterogeneous variance in evaluation model** | Yes, see Weller and Ezra (2014) and Settar and Weller (1999) below. |
| **Use of genetic groups and relationships** | Relationship matrix is not modified. Individuals with unknown parents are groups by sex of animal, birth year, and which parents are unknown. |
| **Blending of foreign/Interbull information in evaluation** | No |
| **Genetic parameters in the evaluation** | Use Appendix GE for heritability/genetic variance estimates; for multiple-trait genetic evaluations, provide genetic correlation estimates between traits separately.  Use **also** appendices PR, CO, BCO, SM, as applicable, if you participate in the international genetic evaluations of Interbull |
| **System validation** | Method 3 |
| **Expression of genetic evaluations** If standardised (e.g. RBV), give standardisation formula in the appendix | ETA, in days, relative to genetic base |
| **Definition of genetic reference base**  **Next base change** | Mean genetic value of all cows with valid herdlife records born in 2005.  Next base change in 2015. |
| **Calculation of reliability** | Misztal I. and G. R. Wiggans, (1988) J.Dairy Sci, 71: (Supp. 2) 27-32.  Corrected in: Misztal, I. et al. (1991) J. Dairy Sci, 74: 2001-2009. |
| **Criteria for official publication of evaluations** | Reliability > 0.5 |
| **Number of evaluations / publications per year** | Two, May and November |
| **Use in total merit index4** | PD11 = 7.9\*(kg fat) +23.7\*(kg protein) – 300\*(SCS) + 26\*(% female fertility) + 0.6\*(days survival) + 10\*(% persistency) – 3\*(% dystocia) – 6\*(calf mortality) |
| **Anticipated changes in the near future** | None |
| **Key reference on methodology applied** | Settar, P., and Weller, J. I. (1999) Genetic analysis of cow survival in the Israeli dairy cattle population. *J. Dairy Sci*. 82; 2170-2177.  Weller, J. I., and Ezra, E. (2014) Environmental and genetic factors affecting cow survival of Israeli Holsteins. *J. Dairy Sci.* **97**; (In press). |
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1) Either: Production (e.g. milk, fat, protein), Conformation, Health (e.g. mastitis resistance, milk somatic cell, resistance to diseases other than mastitis), Longevity (e.g. direct longevity, combined 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).

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

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| **Country (or countries):** | Israel |
| **Main trait group:** | Longevity |
| **Breed(s):** | Holstein |

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| Trait | h2 | genetic  variance | official proof  standardisation formulaa |
| Direct longevity: | 0.11 | 54,800 days2 | No standardization is applied |
| Combined longevity: |  |  |  |

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.