**Form GENO**

Status as of: 2016-06-01

**DESCRIPTION OF NATIONAL GENOMIC EVALUATION SYSTEMS**

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| --- | --- | --- |
| **Country (or countries)** | Canada | |
| **Main trait group1 NOTE!** Only one trait group per form! | ALL | |
| **Breed(s)** | HOL, JER, BSW, RDC, GUE | |
| **Trait definition(s) and unit(s) of measurement2** Attach an appendix if needed | Same as regular genetic evaluation |
| **Source of genotypes** (chips used) | Evaluation is based on the 50K panel. But many other chips are used |
| **Imputation method for missing genotypes** | No imputation of genotypes for ancestors that have not been genotyped. Genotyped animals are imputed using FImpute |
| **Propagation of genomic information to non-genotyped descendants and ancestors** | Yes |
| **Animals included in reference population** (males, females, countries included, total number) | All males with an official proof genotyped using at least a 50k panel.  Non HO breeds: Cows with a domestic proof and genotyped using at least a 6K panel are also included in the reference population |
| **Source of phenotypic data** (DYD, deregressed proofs, national EBVs and/or MACE evaluations) | Deregressed proofs |
| **Other criteria (data edits) for inclusion of records** | None |
| **Criteria for extension of records** (if applicable) | NA |
| **Sire categories** |  |
| **Genomic model** (linear, Bayesian, polygenic effect, genotypes or haplotypes) | Linear model with a polygenic effect |
| **Blending of direct genomic value (DGV) with traditional EBV** | Yes |
| **Environmental effects in the genetic evaluation model** | Same as regular genetic evaluation |
| **Adjustment for heterogeneous variance in evaluation model** | Same as regular genetic evaluation |
| **Computation of genomic reliability** | DGV reliability is calculated using snp1101 |
| **Blending of foreign/Interbull information in evaluation** | Yes |
| **Genetic parameters in the evaluation** | 20% polygenic effect |
| **System validation** | Yes |
| **Expression of genetic evaluations** If standardised (e.g. RBV), give standardisation formula in the appendix | Same as regular genetic evaluation |
| **Definition of genetic reference base** | Same as regular genetic evaluation |
| **Labeling of genomic evaluations** | Genotyped animals are labelled with a G |
| **Criteria for official publication of evaluations** | Same as regular genetic evaluation |
| **Number of evaluations / publications per year** | Same as regular genetic evaluation |
| **Use in total merit index** | Same as regular genetic evaluation |
| **Anticipated changes in the near future** | New chips for which we have genotypes in our database will be added. |
| **Key reference on methodology applied** | snp1101 using a polygenic weight of 0.20 |
| **Key organisation: name, address, phone, fax, e-mail, web site** | Canadian Dairy Network, 660 Speedvale Avenue West  Suite 102  N1K 1E5, Guelph, Ontario, Canada  Tel:-    1-519 767 9660  Fax:-   1 519 767 6768  Web:-  [www.cdn.ca](http://www.cdn.ca/)  E-mail: [brian@cdn.ca](mailto:vandoorm@cdn.ca) |

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.