Country Austria

Trait category:	*Individual trait(s):*
Reproduction-calving	**Calving performance (direct, maternal)**
Reproduction-fertility	**Non-return rate 90 (female, male)**
Longevity	**Productive live**

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Reproduction calving traits	Calving performance (direct, maternal)
Breed(s)	Fleckvieh (= Simmental), Braunvieh (crossed with Brown Swiss), Pinzgauer (crossed with Red Friesian), Schwarzbunte (crossed with Holstein Friesian), Grauvieh
Trait definition and unit(s) of measuring	Scored in 5 categories; easy/no help necessary (1), normal/help of one person necessary (2), difficult/help of more than one person necessary (3), caesarean (4), embryotomy (5). Transformed to a standard normal distribution
Method of measuring and collecting data	Scored by farmer and collected by milk recording system
Time period for data inclusion	Since 1992
Age groups	All
Genetic parameters	$h^2_{\text{calving performance (direct)}} = 0.05$ $h^2_{\text{calving performance (maternal)}} = 0.05$ $r_{g(\text{calving performance (direct, maternal)})} = -0.10$
Sire categories	All sires with offspring
Environmental effects pre-adjustment evaluation model	None Permanent environment, herd x year of calving, month of calving, number of calving (x age of calving for first and second parity), sex of calf
Base for age adjustment	None
Use of genetic groups and/or relationships	Depending on birth year
Method (model) of genetic evaluation	Maternal effects ST BLUP AM for repeated records
System validation	Detailed data quality control, genetic trend estimation
Expression of proof	Combined RBV with M = 100 and SD = 12, higher values indicate easier calving
Genetic (reference) base	Rolling reference base, e.g. in 1995 bulls born between 1986 and 1988 with minimum accuracy for publication
Criteria for official publication of sire proofs	REL $\geq$ 0.30
Number of evaluations/ publications per year	One; June
Use in total merit index	No
Key reference on methodology applied	Gierdziewicz et al., 1994 (EAAP)

Reproduction fertility traits	Non-return rate 90 (female, male)
Breed(s)	Fleckvieh (= Simmental), Braunvieh (crossed with Brown Swiss), Pinzgauer (crossed with Red Friesian), Schwarzbunte (crossed with Holstein Friesian), Grauvieh
Trait definition and unit(s) of measuring	Not re-inseminated (0) or re-inseminated (1) within 90 days after first insemination
Method of measuring and collecting data	Calculated from milk recording records
Time period for data inclusion	Since 1990
Age groups	All
Genetic parameters	$h^2_{\text{non-return rate 90 (female)}} = 0.02$, t = 0.03 $h^2_{\text{non-return rate 90 (male)}} = 0.02$, t = 0.03 $r_{g(\text{non-return rate 90 (female, male)})} = 0.00$
Sire categories	All sires with offspring
Environmental effects pre-adjustment evaluation model	None Permanent environment, herd x year of insemination, month of insemination, parity of cow x age at first insemination (heifers only) x service period (cows only)
Base for age adjustment	None
Use of genetic groups and/or relationships	Depending on birth year
Method (model) of genetic evaluation	ST BLUP AM, for repeated records, including paternal and the maternal effects
System validation	Detailed data quality control, genetic trend estimation
Expression of proof	Combined RBV with M = 100 and SD = 12, higher values are more desirable
Genetic (reference) base	Rolling reference base, e.g. in 1995 bulls born between 1986 and 1988 and minimum accuracy for publication
Criteria for official publication of sire proofs	REL ≥ 0.30 for paternal and/or maternal EBV
Number of evaluations/ publications per year	One; June
Use in total merit index	No
Key reference on methodology applied	Thaller et al., 1994 (EAAP)

Longevity traits	Productive life
Breed(s)	Fleckvieh (= Simmental), Braunvieh (crossed with Brown Swiss), Pinzgauer (crossed with Red Friesian), Schwarzbunte (crossed with Holstein Friesian), Grauvieh
Trait definition and unit(s) of measuring	Time between first parturition and culling (in days), adjusted for yield
Method of measuring and collecting data	Calculated form milk recording records
Time period for data inclusion	Since 1979
Age groups	All
Genetic parameters	$h^2_{\text{productive life}} = 0.10$
Sire categories	All sires with offspring
Environmental effects **pre-adjustment** **evaluation model**	None Average length of productive life of herd mates (classes), relative milk yield of cow in herd (linear and quadratic, as covariable), relative fat and protein percentage of cow in herd (linear and quadratic, as covariable)
Base for age adjustment	None
Use of genetic groups and/or relationships	No genetic groups
Method (model) of genetic evaluation	ST ML Cox-regression model (survival analysis) AM (for Schwarzbunte, Pinzgauer and Grauvieh) ST ML Cox regression model (survival analysis) sire-MGS model (for Fleckvieh and Braunvieh)
System validation	Detailed data quality control, genetic trend estimation
Expression of proof	RBV with M = 100 and SD = 12, higher values indicate longer productive life
Genetic (reference) base	All bulls
Criteria for official publication of sire proofs	Born after 1975 and REL ≥ 0.30
Number of evaluations/ publications per year	One; June
Use in total merit index	No
Key reference on methodology applied	Egger-Danner et al., 1993 (EAAP); Egger-Danner, 1993 (Diss. Univ. für Bodenkultur, Vienna

Country Belgium

Trait category:	*Individual trait(s):*
Workability	**Milking speed**
	Temperament
Conformation	**Udder**
	Locomotion
	Other

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BELGIUM

Workability traits	Milking speed Temperament
Breed(s)	Holstein, Red, Red & White, East Flemish, Red Flanders, MRY, Black & White
Trait definition and unit(s) of measuring	Workability traits are scored on a linear 1-5 point scale
Method of measuring and collecting data	Scored by farmer and collected by classifier
Time period for data inclusion	Since 1991
Age groups	22 to 38 months
Genetic parameters	$h^2_{\text{milking speed}} = 0.20$ $h^2_{\text{temperament}} = 0.11$
Sire categories	AI-bulls
Environmental effects **pre-adjustment** **evaluation model**	None Standard x herd x date of classification x classifier, month in milk, age at classification
Base for age adjustment	None
Use of genetic groups and/or relationships	All known relationships are used and unknown parents are grouped in genetic groups according to breed, sex and birth year
Method (model) of genetic evaluation	ST BLUP AM
System validation	-
Expression of proof	Standardized EBV from -3 to +3
Genetic (reference) base	Average EBV of cows born in 1990
Criteria for official publication of sire proofs	RPT $\geq$ 0.50 if sampled in Belgium
Number of evaluations/ publications per year	Two; January, July
Use in total merit index	No
Key reference on methodology applied	Detilleux et al., 1995. Interbull report (Prague)

Conformation traits	**Udder:**	**fore udder attachment, udder depth, rear udder height, rear udder width, suspensory ligament, teat placement, teat length, udder overall**
	Locomotion:	**rear leg set, claw diagonal**
	Other:	**stature, forehand, middlehand, loin & chine, rump angle, rump width, muscularity, size overall, type overall, muscularity overall, final score**

Breed(s)	Holstein, Red, Red & White, East Flemish, Red Flanders, MRY, Black & White
Trait definition and unit(s) of measuring	Individual traits are scored on a linear 1-9 point scale, following recommendation of the European and World-wide group for harmonization of linear type classification Overall traits are scored on a 65-99 scale
Method of measuring and collecting data	Scored by classifier
Time period for data inclusion	Since 1991
Age groups	22 to 38 months
Genetic parameters	$h^2_{\text{udder traits}}$ = 0.22 to 0.38 $h^2_{\text{locomotion traits}}$ = 0.14 to 0.19 $h^2_{\text{other traits}}$ = 0.23 to 0.59
Sire categories	AI-bulls
Environmental effects **pre-adjustment** **evaluation model**	None Standard x herd x date of classification x classifier, month in milk, age at classification
Base for age adjustment	None
Use of genetic groups and/or relationships	All known relationships are used and unknown parents are grouped in genetic groups according to breed, sex and birth year
Method (model) of genetic evaluation	ST BLUP AM
System validation	-
Expression of proof	Standardized EBV from -3 to +3
Genetic (reference) base	Average EBV of cows born in 1990
Criteria for official publication of sire proofs	RPT ≥ 0.50 if sampled in Belgium
Number of evaluations/ publications per year	Two; January, July
Use in total merit index	No
Key reference on methodology applied	Detilleux et al., 1995. Interbull report (Prague)