

COUNTRY'S NAME	SWITZERLAND – RED, SIM
Production traits	Milk, fat and protein
Breed	RED, SIM
Trait definition and unit of measurement	305-days standard lactation records; milk recording with ICAR A4-method; Milk, fat and protein yield (kg), fat and protein content (%)
Criteria for inclusion & extension of records	All records (92.5% from cows with known sire) from the official milk recording scheme with at least 80 DIM are used; all records with 80 to 269 DIM are extended to 305 days (with a multiplicative method) for the genetic evaluation.
Time period for data inclusion	Lactation data since calving year 1979 is used. No limit on the pedigree data.
Sire categories	about 80% of data from AI-daughters; 20% from NS-sires; all data (AI first crop, AI second crop and NS) are used in the evaluations; around 70% of first lactating cows are inseminated with young bulls; about 100 young AI-bulls per year enter the progeny test program, of which ≈15 are unproven foreign bulls and ≈35 are ET products
Number of lactations included in the evaluation	Lactations 1-5 are used with a repeatability model. Lactations 1 to 5 are equally weighed. Lactations with <270 days are less weighed following the proposal of Wiggans et al. , J. Dairy Sci. 71 (suppl. 2), 1988
Environmental effects: Pre-adjustment	Calving age, lactation number and lactation length. (Last updated 1996).
Base for age pre-adjustment	1 st lactation (calving at 31 months)
Method (model) of genetic evaluation	ST – R – BLUP – AM
Environmental effects in the genetic evaluation model	Fixed: Herd or herdclass*time period*parity, calving year*calving season*alpine pasture Random: PE, animal
Use of genetic groups	Full relationship matrix and genetic groups for unknown parents based on sex, year of birth and percentage of (Red) Holstein genes.
Genetic parameters in the evaluation	Milk ($h^2 = 0.38$, $t = 0.58$); fat yield ($h^2 = 0.34$, $t = 0.55$); fat % ($h^2 = 0.66$, $t = 0.80$); protein yield ($h^2 = 0.39$, $t = 0.58$); protein % ($h^2 = 0.54$, $t = 0.70$)
System validation	Checks on input data (management and pedigree information, age, production level, etc.). Genetic trends were validated according to the Interbull rules (method II and III).
Expression of genetic evaluations	EBV
Genetic (reference) base	Stepwise, cows born in 1990. Three different bases : i) animals with 0-13% Red Holstein, ii) 14-to 74 %, iii) ≥ 75%
Next base change	Jan / Feb 2001 to cows born in 1995
Criteria for official publication of evaluations	Reliability of 75% for AI-proven bulls 15 daughters in 3 herds for NS-proven bulls
Number of evaluations / publications per year	4 evaluations; January, April, July and October
Use in production / total merit index	A total merit index is in development
Anticipated changes in the near future	Introduction of test day model (Jan / Feb 2001)
Key reference on methodology applied	Casanova, L. 1991: Zuchtwertschätzung mit einem Wiederholbarkeits-Tiermodell beim Schweizer Braunvieh. Diss. ETH Nr. 9389
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COUNTRY: Switzerland – Simmental											
Number of AI bulls (NB) tested, means (X), and standard deviations (SD) of breeding values from most recent run, by bulls' year of birth (YB) and breed.											
YB	NB	Milk		Fat		Protein		Fat %		Protein %	
		X	SD	X	SD	X	SD	X	SD	X	SD
Breed											
Section SI (animals with less than 14% Red Holstein)											
1980	207	-155.65		-4.43		0.0374		-4.57		0.0244	
1981	175	-146.06		-4.23		0.0282		-5.30		-0.0022	
1982	190	-166.88		-3.34		0.0666		-6.02		-0.0083	
1983	190	-107.88		-1.91		0.0497		-3.67		-0.0011	
1984	197	-5.49		1.59		0.0381		-0.46		-0.0063	
1985	190	20.82		2.79		0.0413		1.39		0.0147	
1986	181	-25.60		-0.25		0.0171		-1.12		-0.0073	
1987	164	-24.50		-0.05		0.0237		-0.49		0.0093	
1988	170	-5.91		3.11		0.0950		0.41		0.0140	
1989	167	47.17		2.26		0.0236		2.57		0.0201	
1990	142	-13.80		0.78		0.0604		0.87		0.0313	
1991	129	-8.91		2.36		0.1003		0.82		0.0281	
1992	149	34.15		3.61		0.0830		3.33		0.0444	
1993	90	133.33		5.91		0.0396		5.18		0.0098	
1994	38	86.68		3.82		0.0337		3.82		0.0197	
Breed											
Section FT (animals with 14 to 75% Red Holstein)											
1980	115	-192.34		-8.82		-0.0185		-6.13		0.0065	
1981	132	-134.66		-5.82		-0.0042		-5.10		-0.0143	
1982	112	-140.76		-6.71		-0.0143		-5.80		-0.0212	
1983	128	-108.87		-4.71		-0.0087		-5.07		-0.0339	
1984	98	-36.53		-1.27		0.0042		-1.56		-0.0069	
1985	106	-81.01		-2.88		0.0032		-2.03		0.0156	
1986	124	-98.08		-3.40		0.0037		-3.06		0.0063	
1987	135	-88.96		-4.47		-0.0139		-2.55		0.0086	
1988	116	-66.41		-2.59		0.0019		-1.54		0.0142	
1989	148	-23.48		0.16		0.0284		0.53		0.0262	
1990	134	40.27		2.55		0.0325		2.52		0.0235	
1991	134	78.12		5.04		0.0417		3.10		0.0083	
1992	124	157.02		6.87		0.0120		6.33		0.0228	
1993	104	186.70		8.21		0.0159		7.16		0.0212	
1994	50	328.00		10.24		-0.0670		10.04		-0.0194	
1995	2	230.50		13.50		0.1100		8.00		0.0150	
Breed											
Section RH (animals with at least 75% (Red) Holstein)											
1980	61	-206.49		-7.62		0.0180		-7.16		-0.0192	
1981	48	-355.27		-12.23		0.0288		-10.31		0.0140	
1982	67	-214.12		-7.82		0.0079		-8.06		-0.0291	
1983	54	-22.07		-3.09		-0.0594		-3.91		-0.0657	
1984	63	-35.83		-4.44		-0.0732		-4.97		-0.0802	
1985	61	-106.49		-6.89		-0.0685		-5.15		-0.0392	
1986	77	-86.17		-1.44		0.0229		-4.53		-0.0383	
1987	65	81.28		4.78		0.0131		1.15		-0.0340	
1988	92	-9.11		4.42		0.0622		-0.01		-0.0029	
1989	93	97.32		7.85		0.0565		2.90		-0.0101	
1990	128	85.83		7.77		0.0645		3.70		0.0094	
1991	133	36.56		7.29		0.0911		1.88		0.0070	
1992	134	95.43		7.53		0.0375		3.28		-0.0054	
1993	155	168.10		8.00		-0.0034		5.05		-0.0150	
1994	94	229.86		10.02		-0.0194		7.06		-0.0160	
1995	4	243.00		10.50		-0.0050		5.00		-0.0675	

* The above three tables are bulls' EBV for SI, FT and RH sections, respectively, obtained by using 3 different bases corresponding to each section. EBVs can easily be converted from one base to the next using the following procedure:
SI to FT : -600; -30; -0.15; -15; +0.10 for milk yield, fat yield, fat content, protein yield and protein content, respectively;
RH to FT : +400; +15; +0.00; +10; -0.05 for milk yield, fat yield, fat content, protein yield and protein content, respectively

COUNTRY: Switzerland - Simmental											
Average of uncorrected production records (kg, %) of cows* included in the most recent evaluation run, by daughters' year of calving (YC), number of cows (NC) and breed.											
YC	NC	Milk		Fat		Protein		Fat %		Protein %	
		X	SD	X	SD	X	SD	X	SD	X	SD
Breed											
Section SI (animals with less than 14% Red Holstein)											
1970	2	5147.00		187.00		173.00		3.5950		3.3500	
1971	18	5271.44		209.06		170.22		3.9678		3.2222	
1972	195	5465.96		208.52		177.74		3.8097		3.2518	
1973	2531	5258.93		198.50		173.64		3.7754		3.3044	
1974	9950	5246.14		199.10		173.77		3.7957		3.3160	
1975	21590	5130.96		195.55		170.37		3.8118		3.3249	
1976	51130	4713.58		180.06		157.16		3.8220		3.3404	
1977	59028	4651.70		178.23		154.89		3.8329		3.3377	
1978	47602	4661.66		178.99		155.03		3.8390		3.3346	
1979	37172	4678.37		180.67		155.84		3.8605		3.3395	
1980	34419	4781.24		185.72		159.28		3.8830		3.3379	
1981	31567	4796.72		186.88		158.73		3.8990		3.3146	
1982	29653	4853.27		188.89		159.15		3.8971		3.2874	
1983	28710	4884.82		189.13		159.75		3.8764		3.2802	
1984	26848	4979.71		192.67		161.78		3.8737		3.2573	
1985	26979	5058.17		195.88		163.96		3.8738		3.2473	
1986	26875	5092.83		196.76		164.85		3.8646		3.2397	
1987	24435	5093.50		197.45		165.30		3.8781		3.2479	
1988	23367	5068.46		197.88		165.51		3.9055		3.2678	
1989	20808	4989.50		195.32		164.06		3.9141		3.2893	
1990	19817	4972.27		195.56		163.59		3.9312		3.2900	
1991	18800	5017.01		199.77		164.90		3.9815		3.2869	
1992	16798	5000.25		200.10		165.05		4.0061		3.3030	
1993	13520	4974.33		200.51		164.75		4.0348		3.3132	
1994	10311	4904.59		197.99		162.26		4.0438		3.3096	
1995	6890	4785.08		193.27		158.20		4.0475		3.3066	
1996	2665	4580.41		185.54		151.34		4.0602		3.3064	
1997	63	4202.37		168.13		137.71		4.0133		3.2714	
Breed											
Section FT (animals with 14 to 75% Red Holstein)											
1972	31	6150.87		236.97		197.90		3.8568		3.2258	
1973	511	6489.97		249.14		208.85		3.8508		3.2290	
1974	4455	6116.62		234.02		198.35		3.8308		3.2501	
1975	12420	5905.50		228.40		193.78		3.8723		3.2883	
1976	39329	5479.55		211.69		179.52		3.8657		3.2828	
1977	64756	5367.96		207.75		175.70		3.8718		3.2809	
1978	84165	5448.55		212.51		178.43		3.8999		3.2840	
1979	94192	5405.95		211.87		177.79		3.9167		3.2986	
1980	95795	5494.98		216.70		179.39		3.9419		3.2734	
1981	94314	5503.59		217.90		178.69		3.9650		3.2548	
1982	95100	5578.00		220.68		179.39		3.9635		3.2255	
1983	99159	5564.07		221.58		178.93		3.9905		3.2271	
1984	101773	5611.74		224.82		179.97		4.0125		3.2173	
1985	99821	5673.49		228.71		182.25		4.0358		3.2208	
1986	104037	5738.59		232.81		183.99		4.0617		3.2128	
1987	105605	5801.48		234.22		185.42		4.0418		3.2010	
1988	107161	5796.50		233.93		186.47		4.0407		3.2219	
1989	104007	5763.06		234.06		186.68		4.0679		3.2454	
1990	103777	5786.50		237.03		187.34		4.1015		3.2420	
1991	100251	5838.24		241.52		189.06		4.1425		3.2413	
1992	90772	5877.19		243.92		191.07		4.1587		3.2560	
1993	76629	5858.28		243.43		191.06		4.1678		3.2672	
1994	60141	5819.15		240.70		189.19		4.1506		3.2566	
1995	40186	5721.00		234.56		185.04		4.1145		3.2384	
1996	18214	5478.11		223.30		175.72		4.0908		3.2106	
1997	926	5157.11		206.72		164.06		4.0219		3.1831	

Breed		Section RH (animals with at least 75% (Red) Holstein)				
1973	18	6324.61	244.17	203.06	3.8394	3.1944
1974	191	6351.05	242.03	201.03	3.8115	3.1754
1975	1420	6384.68	246.26	205.60	3.8582	3.2236
1976	5758	6035.02	230.47	192.88	3.8239	3.2011
1977	9512	5875.96	226.05	187.97	3.8533	3.2056
1978	9672	5913.85	228.36	189.38	3.8636	3.2099
1979	11444	5919.63	230.16	190.22	3.8878	3.2206
1980	12296	5945.44	235.19	190.71	3.9576	3.2146
1981	10640	5950.61	235.05	189.42	3.9605	3.1902
1982	12339	6059.93	239.51	191.61	3.9605	3.1695
1983	12868	6160.16	243.72	194.23	3.9696	3.1635
1984	14417	6193.90	244.54	194.05	3.9587	3.1436
1985	16757	6207.33	246.02	194.21	3.9741	3.1377
1986	17293	6306.79	254.94	198.02	4.0521	3.1465
1987	15539	6423.07	259.18	202.30	4.0435	3.1545
1988	15871	6493.50	262.88	206.70	4.0571	3.1875
1989	19944	6480.89	263.47	207.16	4.0750	3.2020
1990	25590	6486.54	266.39	208.30	4.1165	3.2159
1991	27682	6513.80	269.65	209.40	4.1505	3.2188
1992	29282	6556.33	271.77	211.78	4.1582	3.2353
1993	31199	6507.36	270.62	210.51	4.1751	3.2422
1994	29531	6445.63	265.91	207.40	4.1460	3.2242
1995	25117	6379.13	261.13	204.62	4.1132	3.2120
1996	14655	6100.87	247.93	194.94	4.0808	3.1979
1997	961	5823.82	232.55	184.96	4.0121	3.1769

* The average production of the cows were computed without any corrections (e.g. mature equivalent). Short lactations with 80 to 269 day in milk are expanded for genetic evaluations but are excluded in the table "average production of the cows".