

COUNTRY'S NAME	FINLAND
Production traits	Milk, protein and fat
Breed	Ayrshire, Holstein-Friesian, Finncattle
Trait definition and unit of measurement	Direct: milk, fat and protein yield (kg) within a 24-hour test day period, EBVs are 305-d milk, fat and protein yields across lactations (first, later) Indirect: protein and fat percentages are calculated indirectly from yield EBVs
Criteria for inclusion & extension of records	Test-day records between 8 and 315 days in milk. No extension of records is needed.
Time period for data inclusion	Test-day records from 1.1.1988 onwards
Sire categories	All sires
Number of lactations included in the evaluation	All
Environmental effects: Pre-adjustment	None
Base for age pre-adjustment	None
Method (model) of genetic evaluation	MT (milk, protein and fat yield) –ML (first, later) -RR-TD-BLUP-AM
Environmental effects in the genetic evaluation model	Fixed: herd-year, calving age, days carried calf, test-year-month, lactation curves by calving season Random: herd-test month, animal lactation curve, lactation curves for permanent environmental effects (2)
Use of genetic groups	Genetic groups are defined according to breed, sex, birth year and importation status
Genetic parameters in the evaluation	See Appendix I
System validation	Mean, SD, min. and max values for EBVs are calculated and analysed. Results from last evaluation round are compared to previous ones. Genetic trend validation.
Expression of genetic evaluations	Relative breeding value (EBV) with mean=100 and SD=10
Genetic (reference) base	Rolling base calculated from bulls born 7-9 years before evaluation year, i.e. for 2000 the base is the average of bulls born in 1991-1993
Next base change	2001
Criteria for official publication of evaluations	75 % repeatability (50 % for Finncattle)
Number of evaluations / publications per year	4 (January, April, July and October)
Use in production / total merit index	$TMI=1.0*\text{protein yield} + 0.3*\text{fat yield} + 0.4*\text{daughter fertility} + 0.4*\text{udder health} + 0.3*\text{udder conformation}$
Anticipated changes in the near future	-
Key reference on methodology applied	Lidauer, M., Mäntysaari, E.A., Strandén and Pösö, J. 2000. Multiple-trait random regression test-day model for all lactations. INTERBULL Bulletin 25: Proceedings of the 2000 INTERBULL meeting, Bled, Slovenia, May 14-15, 2000.
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Appendix I. Genetic parameters (heritabilities on diagonal, genetic correlations above diagonal):

	Milk_first	Protein_first	Fat_first	Milk_later	Protein_later	Fat_later
Milk_first	0.42	0.80	0.60	0.75	0.54	0.43
Protein_first		0.28	0.70	0.47	0.65	0.52
Fat_first			0.29	0.37	0.43	0.70
Milk_later				0.34	0.72	0.50
Protein_later					0.27	0.71
Fat_later						0.30

COUNTRY: Finland											
Number of AI bulls (NB) tested, means (X), and standard deviations (SD) of proofs (kg, %) from most recent run, by bulls' year of birth (YB) and breed (The average proofs are calculated from bulls meeting the publishing criteria).											
YB	NB	Milk		Fat		Protein		Fat %		Protein %	
		X	SD	X	SD	X	SD	X	SD	X	SD
Breed Ayrshire											
1983	146	167	349	7.4	15.1	0.3	9.1	4.47	0.28	3.28	0.13
1984	156	188	383	9.4	16.1	2.5	9.8	4.49	0.27	3.31	0.13
1985	167	162	441	11.3	16.7	3.2	10.8	4.54	0.26	3.33	0.12
1986	174	203	413	16.1	17.0	4.8	11.5	4.59	0.26	3.33	0.11
1987	110	229	418	16.0	15.7	4.5	11.0	4.56	0.31	3.31	0.13
1988	167	313	379	18.2	14.7	9.7	10.0	4.54	0.27	3.35	0.13
1989	159	446	408	18.3	17.3	13.0	10.8	4.45	0.26	3.34	0.12
1990	110	529	458	17.2	18.9	14.6	12.1	4.38	0.26	3.32	0.11
1991	124	597	410	13.2	15.5	16.6	11.2	4.28	0.22	3.31	0.11
1992	124	724	464	18.2	19.3	19.2	12.3	4.27	0.23	3.29	0.13
1993	88	854	397	22.8	17.4	22.8	11.3	4.25	0.22	3.28	0.12
1994	96	796	432	25.8	19.5	25.8	12.7	4.33	0.24	3.31	0.14
1995	101	769	401	25.9	17.3	23.2	11.8	4.41	0.23	3.33	0.13
1996	5	838	486	33.4	24.0	28.6	12.9	4.48	0.24	3.37	0.10
Breed Holstein-Friesian											
1983	45	459	500	1.1	19.8	8.8	13.8	4.05	0.23	3.25	0.12
1984	38	442	429	-7.0	14.5	6.3	10.9	3.94	0.20	3.22	0.10
1985	55	381	333	-2.1	15.0	6.2	9.9	4.05	0.27	3.24	0.11
1986	58	599	611	6.8	20.8	13.0	18.1	4.06	0.32	3.24	0.13
1987	29	610	446	7.2	14.8	12.9	13.5	4.05	0.24	3.23	0.11
1988	59	770	579	7.2	16.7	17.2	16.8	3.96	0.26	3.22	0.11
1989	47	795	691	15.3	22.3	21.6	19.6	4.08	0.36	3.28	0.13
1990	46	874	514	9.0	18.4	22.7	13.2	3.93	0.24	3.25	0.13
1991	41	982	475	14.6	22.2	27.9	13.6	3.95	0.27	3.28	0.13
1992	49	852	429	4.5	21.0	20.1	11.2	3.87	0.28	3.23	0.12
1993	46	823	444	3.0	17.1	19.8	11.8	3.87	0.25	3.24	0.12
1994	56	1200	484	12.3	18.9	32.0	14.3	3.83	0.21	3.23	0.12
1995	22	1325	477	22.7	22.2	38.0	17.9	3.97	0.19	3.25	0.12
1996	1	1805	-	-9.9	-	34.6	-	3.28	-	3.00	-
Breed Finncattle											
1983	7	-976	383	-31.2	18.4	-29.1	11.5	4.85	0.44	3.57	0.17
1984	5	-1099	897	-36.6	38.2	-33.3	25.1	4.88	0.44	3.60	0.18
1985	8	-989	360	-36.2	12.6	-32.8	9.4	4.76	0.26	3.51	0.13
1986	6	-1651	701	-72.7	38.3	-54.7	27.8	4.61	0.31	3.53	0.14
1987	8	-1220	755	-42.2	42.6	-38.5	25.9	4.84	0.30	3.56	0.10
1988	10	-1008	975	-35.3	44.7	-31.5	32.4	4.80	0.24	3.56	0.12
1989	9	-1615	1257	-68.3	53.1	-52.8	39.8	4.73	0.34	3.58	0.16
1990	5	-1788	1176	-78.8	55.6	-60.0	40.1	4.62	0.18	3.53	0.08
1991	8	-1077	734	-45.7	34.0	-32.4	28.7	4.64	0.30	3.57	0.11
1992	7	-1092	1071	-45.6	47.3	-33.5	36.7	4.67	0.35	3.57	0.14
1993	5	-726	1322	-47.3	43.3	-27.9	40.1	4.34	0.33	3.44	0.18
1994	3	-174	651	-14.3	19.0	-9.0	14.2	4.42	0.23	3.40	0.20
1995	1	-683	-	-32.9	-	-25.2	-	4.41	-	3.33	-

COUNTRY: Finland											
Average of unadjusted 305d production (1-3 lactations) records (kg, %) included in the most recent evaluation run, by daughters' year of calving (YC), number of cows (NC) and breed. Extended records from first lactation included.											
YC	NC	Milk		Fat		Protein		Fat %		Protein %	
		X	SD	X	SD	X	SD	X	SD	X	SD
Breed											
Ayrshire											
1990	136969	6047	1243	272	56	197	40	4.54	0.55	3.27	0.22
1991	136105	6030	1263	269	57	196	41	4.51	0.56	3.26	0.22
1992	137629	6214	1277	279	58	205	41	4.53	0.57	3.30	0.22
1993	138668	6448	1312	289	60	212	42	4.51	0.58	3.29	0.22
1994	139582	6528	1327	289	61	215	43	4.46	0.57	3.31	0.22
1995	137848	6535	1353	287	61	215	44	4.43	0.57	3.30	0.22
1996	137843	6715	1387	295	63	222	45	4.43	0.58	3.31	0.23
1997	137156	6856	1424	301	65	228	46	4.42	0.58	3.33	0.23
1998	136600	6898	1480	301	67	229	49	4.40	0.59	3.33	0.23
1999	103333	7038	1454	305	68	239	49	4.37	0.60	3.41	0.23
Breed											
Holstein-Friesian											
1990	32399	6166	1313	255	56	197	42	4.16	0.51	3.19	0.21
1991	33394	6157	1347	253	57	196	43	4.15	0.52	3.19	0.21
1992	34570	6370	1372	263	59	204	44	4.16	0.54	3.21	0.21
1993	36762	6619	1408	272	60	212	45	4.14	0.54	3.20	0.20
1994	38180	6731	1450	275	61	217	46	4.12	0.54	3.23	0.21
1995	39340	6720	1467	273	61	217	47	4.10	0.55	3.24	0.21
1996	40923	6902	1486	281	63	224	48	4.10	0.57	3.26	0.22
1997	41510	7046	1544	286	66	229	50	4.09	0.57	3.26	0.22
1998	42966	7148	1620	286	68	232	52	4.04	0.58	3.25	0.22
1999	33858	7331	1617	290	68	244	53	3.99	0.58	3.33	0.22
Breed											
Finncattle											
1990	1501	4966	1212	226	56	167	40	4.59	0.57	3.36	0.22
1991	1466	4953	1263	224	57	166	42	4.56	0.56	3.37	0.22
1992	1402	5051	1214	229	57	171	41	4.57	0.57	3.40	0.23
1993	1436	5268	1280	240	61	178	43	4.59	0.58	3.38	0.23
1994	1464	5307	1352	239	62	180	45	4.55	0.55	3.40	0.23
1995	1561	5160	1414	230	65	175	47	4.50	0.58	3.40	0.23
1996	1659	5237	1448	236	67	178	48	4.53	0.57	3.41	0.23
1997	1749	5351	1494	241	67	182	49	4.55	0.58	3.42	0.23
1998	1829	5415	1591	241	72	184	53	4.48	0.60	3.40	0.23
1999	1437	5448	1603	240	71	189	54	4.45	0.60	3.48	0.23