COUNTRY'S NAME	NEW ZEALAND
Production traits	**Milk, fat, and Protein**
Breed	AYS, BSW, GUE, JER, HOL, MSH, Beef Breeds, and all crosses of these breeds. These breeds and crosses are all evaluated in the same analysis.
Trait definition and unit of measurement	Direct: Milk (litres), milk fat (Kg), Protein (Kg).
Criteria for inclusion & extension of records	Include and extend all test day records unless date of calving is within 590 days of date of birth, or is 20 years later than date of birth; or unless the herd test occurs more than 305 days after the date of calving. Records where the sire and/or dam are unidentified are included. All records with at least one test day are extended to obtain 270-day contemporary group comparisons.
Time period for data inclusion	Lactation records commencing with a date of calving from June 1986 onwards. Recorded relationships from 1940 onwards are included.
Sire categories	All sires are evaluated. AI=16% (sire to 90% of all heifers), NS=78%, Imported semen=6%. Results are published for AI sires only.
Number of lactations included in the evaluation	All lactations are included. Weighting is by the accuracy of the extended lactation measure (which is a function of number of tests and the intervals between tests).
Environmental effects: Pre-adjustment **Base for age pre-adjustment**	Heterogeneous variance. Not applicable.
Method (model) of genetic evaluation	ST – R – BLUP – AM (2 stage Test Day Model)
Environmental effects in the genetic evaluation model	Fixed: Herd-season-age contemporary group, period of calving relative to the mean calving date of the contemporary group (10 day intervals), induced lactation (within age), age at calving (within breed), heterosis. Random: Permanent environment plus non-additive genetic, and residual.
Use of genetic groups	Breed (8 breeds), sex of missing parent, birth year, country of origin (10 groups), comprising a total of 3360 genetic groups.
Genetic parameters in the evaluation	h^2: Milk =0.35, milk fat =0.28, protein =0.31, (Effective h^2 based on average number of tests per lactation is 0.28, 0.25, 0.22 respectively); t (all traits)=0.60; σ^2_A: Milk =67228, milk fat =100.75, protein =60.06
System validation	Extensive checks on data input (29 edits) and on output, e.g. checks on breed mean trends, breed standard deviation trends, BV correlations with previous evaluation, report of each sire outside the 95% Confidence Interval predicted from the previous evaluation.
Expression of genetic evaluations	EBV
Genetic (reference) base **Next base change**	1985 born cows measured for milk, fat and protein and 17 traits Other than production. Not before 2001
Criteria for official publication of evaluations	Website reporting: Minimum reliability of 60% for the selection index, Breeding Worth (BW); Printed reporting: BW reliability at least 75%.
Number of evaluations / publications per year	17 evaluations (each reported on the website) and one printed publication per year based on the May evaluation.
Use in production / total merit index	The total merit index is called Breeding Worth. The economic weights are +$0.796 (Milk fat); +$3.354 (Protein); -$0.047 (Milk Volume); -$0.427 (Live weight kgs); +$0.909 (Survival percentage).
Anticipated changes in the near future	Model for Survival BV to be changed (ST model for days of herd life) in February 2000.
Key reference on methodology applied	Harris, B.L.; Clark, J. M.; Jackson R. G.1996. Across breed evaluation of dairy cattle. *Proceedings of the New Zealand Society of Animal Production* **56** Johnson D. L. 1996. Estimation of lactation yield from repeated measures of test day yields. *Proceedings of the New Zealand Society of Animal Production* **56**
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COUNTRY: New Zealand

Number of AI bulls (NB) tested, means (X), and standard deviations (SD) of proofs (kg BV) from most recent run, by bulls' year of birth (YB) and breed.

		Milk		Fat		Protein		Fat %		Protein %	
YB	NB	X	SD	X	SD	X	SD	X	SD	X	SD
Breed						Friesian					
1980	136	527.8	307.5	10.1	9.7	10.7	8.2	4.42	0.31	3.47	0.16
1981	186	519.9	343.2	10.5	11.1	10.8	9.8	4.44	0.32	3.48	0.15
1982	194	527.5	299.6	11	9.9	10.7	8.9	4.44	0.31	3.47	0.13
1983	206	569.2	315.1	11.8	10.4	13.1	8.5	4.42	0.29	3.5	0.15
1984	206	633.7	376.9	13.1	11.7	15	10.9	4.38	0.33	3.49	0.16
1985	192	693.6	354.8	16.1	10.9	16.3	10	4.4	0.33	3.47	0.16
1986	183	842.1	371.3	19.7	11	21	11.5	4.33	0.33	3.46	0.13
1987	203	763.8	394.3	19.3	11	18.1	11.5	4.4	0.37	3.46	0.16
1988	212	861.4	410.5	23.3	10.2	22.1	12	4.4	0.38	3.47	0.14
1989	226	978.1	346.9	24.9	10.5	26	10.2	4.31	0.34	3.47	0.16
1990	202	940.1	330.9	24.4	9.9	25.7	9	4.33	0.33	3.49	0.14
1991	226	1007.4	308.5	23.5	10	27.5	8.3	4.24	0.3	3.47	0.15
1992	230	1118.5	285.6	24.6	9.6	31.2	8.2	4.16	0.29	3.47	0.14
1993	221	1156.3	318.5	28.3	9.7	32.9	7.8	4.21	0.34	3.48	0.15
1994	215	1237.9	297.2	31.3	10.6	36.2	8.4	4.2	0.3	3.49	0.13
Breed						Jersey					
1980	137	-507.4	220.2	-5.4	12.3	-9.7	7.7	5.48	0.28	4.02	0.15
1981	127	-506.3	253	-7.5	12.3	-9.5	8.9	5.41	0.32	4.03	0.17
1982	127	-521.7	226	-5.4	11	-10	7.3	5.52	0.40	4.03	0.18
1983	122	-433.8	256.8	-3.2	12.7	-7.4	7.9	5.42	0.37	4.00	0.18
1984	106	-395.5	269.9	-1.2	12.4	-6.3	9.1	5.42	0.33	3.98	0.16
1985	102	-435.6	280	-1.9	13.6	-7.7	8.7	5.48	0.42	3.99	0.17
1986	95	-356.5	308.5	2.1	12.8	-5	8.8	5.47	0.42	3.98	0.19
1987	107	-358.4	319.7	3.2	14	-5	9.9	5.52	0.46	3.98	0.21
1988	104	-300.5	301.2	6.4	10.8	-2.8	8.3	5.53	0.56	3.98	0.21
1989	123	-223.7	331.1	8.2	12.3	-0.2	9.3	5.45	0.51	3.96	0.20
1990	108	-185.4	278.6	8.8	12.1	0	7.7	5.39	0.53	3.92	0.21
1991	106	-101.8	271.5	7.8	11.3	1.9	7.8	5.23	0.52	3.88	0.19
1992	121	-21.9	314.9	8.1	11	4.3	8	5.11	0.52	3.87	0.21
1993	121	12	301.6	14.9	14.1	7.8	6.9	5.27	0.65	3.93	0.24
1994	111	94	262	19	10.6	12.8	7	5.25	0.47	3.98	0.21
Breed						Ayrshire					
1980	27	232.6	201.4	-6.5	9.4	3.5	6.2	4.31	0.22	3.55	0.12
1981	31	166.8	211.6	-4.2	9.1	3.7	5.7	4.46	0.32	3.64	0.17
1982	36	256.4	282.9	-3.6	10.5	5.1	8.2	4.37	0.3	3.58	0.13
1983	24	232.7	250.9	-4	10.1	4.6	8.2	4.39	0.27	3.59	0.13
1984	35	320.5	325.3	0.1	10.3	8.2	9	4.4	0.32	3.6	0.15
1985	28	257.5	281.6	0.9	9.8	6.6	7.3	4.5	0.28	3.62	0.14
1986	24	414.1	318.2	8.3	12.3	12	8.7	4.52	0.41	3.61	0.17
1987	23	350.4	278.5	1.8	12.3	7.2	7.9	4.39	0.28	3.53	0.08
1988	28	382.6	319.8	6.1	12.4	9.4	8.8	4.49	0.3	3.58	0.15
1989	28	292.6	228.8	2.5	9.2	7.2	6.5	4.49	0.27	3.6	0.14
1990	36	483.8	276.9	5.5	10.7	12.4	7.8	4.35	0.26	3.56	0.12
1991	30	542.7	252.4	7.4	9.4	15	8.7	4.33	0.19	3.58	0.13
1992	34	598.8	289.4	9.1	7.3	16.4	7.7	4.31	0.26	3.56	0.11
1993	29	579.8	241.4	9.8	11.2	18.2	6.2	4.34	0.28	3.62	0.14
1994	25	747.6	246.3	14	7	23.4	6.4	4.27	0.27	3.59	0.1