

FACTS ON APPLIED SIRE-EVALUATION PROCEDURES FOR DAIRY PRODUCTION TRAITS

COUNTRY	NEW ZEALAND
Breed(s)	Ayrshire, Friesian, Jersey, Brown Swiss, Shorthorn, Simmental, Guernsey
Traits evaluated and units of measurement	Milk (l), fat and protein (kg)
Number of lactations	All
Genetic parameters applied	$h^2 = 0.25$ $t = 0.6$ between lact. $r_{G1,2} \dots n \text{ lact.} = 0.8,$ $r_{G2,3} \dots n \text{ lact.} = 1.0$
Inclusion and extension of records	Age at calving <10 years Lact. records of 100-305 days normally included without extension Lact. 100-200 days excluded if terminated for non-production reasons All records >200 days included without extension Rec. in progress are not utilized
Sire categories evaluated	All sires
Effects considered by preadjustments	-
by model of evaluation	Herd-year-age, sire
Base of age adjustment	-
Use of genetic groups/relationships/pedigree	Ancestry info. is used for sire groupings which are not as such included in the model
Method of evaluation used	MCC
Expression of genetic merit	RBV (yields), BV (fat and protein %)
Genetic base, kind/definition	Fixed, average RBV (BV) of all bulls evaluated in 1968
Minimum requirements for official publication of sire proofs	20 daughters in min. 6 herds and $r_{pt} \geq 0.5$
Use of selection index or total merit index	Total merit index used
Name and address of organization responsible for sire evaluations and publishing of results	New Zealand Dairy Board Farm Production Division Private Bag, Hamilton New Zealand
Key references on methodology applied	

Country: New Zealand

App. 1/1

Number of tested widespread usage bulls, means and standard deviations of proofs by year

		Relative breeding values					
Year of birth of bulls	No. of bulls	Milk yield		Fat yield		Protein yield	
		\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
Breed: Ayrshire							
1970	27	110	10.1	111	10.3		
71	16	109	7.6	112	6.1		
72	21	108	7.9	109	8.0		
73	10	114	6.0	115	9.0		
74	15	111	9.4	114	10.8		
75	13	112	8.2	118	10.2		
76	8	111	12.2	119	10.5		
77	9	119	7.0	118	7.2		
78	9	115	6.4	123	8.0		
79	3	122	2.3	125	2.5		
80	5	125	5.7	133	2.9		
81	3	119	6.6	129	3.1		
82	5	124	6.8	130	10.2	119	7.5
Breed: Friesian							
1970	135	111	8.4	117	7.5		
71	118	111	7.9	118	6.8		
72	134	110	8.9	118	8.3		
73	118	111	8.6	120	8.2		
74	97	113	8.0	121	7.5		
75	91	112	7.0	123	8.1		
76	97	115	7.8	124	7.5		
77	87	114	6.8	124	7.4		
78	82	115	7.8	125	7.5		
79	62	119	6.6	127	6.6		
80	69	120	7.6	130	7.0		
81	73	116	7.3	130	7.3		
82	78	121	7.6	134	7.1	123	6.5

Country: New Zealand

App. 1/2

Number of tested widespread usage bulls, means and standard deviations of proofs by year

		Relative breeding values					
Year of birth of bulls	No. of bulls	Milk yield		Fat yield		Protein yield	
		\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
Breed: Jersey							
1970	120	107	8.8	112	8.9		
71	113	108	8.3	114	8.9		
72	134	108	8.9	114	8.2		
73	119	110	10.2	118	9.6		
74	101	111	11.1	119	10.7		
75	109	113	9.7	121	8.9		
76	85	116	9.4	122	8.2		
77	76	116	8.6	125	9.0		
78	79	117	7.5	129	7.2		
79	72	116	7.3	128	7.9		
80	74	120	7.7	131	7.5		
81	58	121	8.1	131	9.1		
82	58	121	8.3	134	8.8	122	7.4

Country: New Zealand

App.2

Average phenotypic levels of (adjusted) production records included in the sire evaluation procedures

Year of birth of sire	Breed: Ayrshire		Breed: Friesian		Breed: Jersey	
	Milk l	Fat kg	Milk l	Fat kg	Milk l	Fat kg
1970	4174	179	3899	167	2879	160
71	4117	179	3793	193	2954	165
72	4155	181	3899	168	2927	163
73	4083	179	3741	163	2966	164
74	4270	185	3909	170	3001	167
75	4192	185	3865	170	3030	169
76	4201	182	3594	161	3006	166
77	4046	179	3729	163	1996	168
78	3991	178	3654	165	2994	168
79	3943	173	3696	167	2996	168