

FACTS ON APPLIED SIRE-EVALUATION PROCEDURES FOR DAIRY PRODUCTION
TRAITS

COUNTRY	GREAT BRITAIN
Breed(s)	Ayrshire, British Friesian/Holstein, Dairy Shorthorn, Guernsey, Jersey
Traits evaluated and units of measurement	Milk, fat and protein (kg), fat and protein %
Number of lactations	1
Genetic parameters applied	h^2 milk, fat and prot. yield = 0.3 h^2 fat % = 0.40 h^2 prot. % = 0.44
Inclusion and extension of records	Lact. not included if <200 days Rec. in progress not utilized Age at calving 22-38 months
Sire categories evaluated	All sires
Effects considered by preadjustments	Age and month of calving
by model of evaluation	Herd-year-season, sire, group of sires, maternal grandsire, group of maternal grandsires
Base for age adjustment	31 months
Use of genetic groups/relationships/pedigree	Year of birth within AI organisation, NS-groups, imported bulls
Method of evaluation used	Single trait BLUP (ICC) for AI/widespread use bulls, CC for limited use or NS bulls
Expression of genetic merit	PD (kg, %)
Genetic base, kind/definition	a) Friesian/Holstein, Ayrshire: Fixed average ICC of the sires of heifers calving in 1983 (denoted ICC83) b) Dairy Shorthorn, Guernsey, Jersey: Fixed, average merit of limited use bulls born 1962-1967 with daughters calving from Dec-68
Minimum requirements for official publication of sire proofs	5 efficient daughters
Use of selection index or total merit index	Total merit index not used

Name and address of organization responsible for sire evaluations and publishing of results

Milk Marketing Board
Thames Ditton, Surrey KT7 OEL
Great Britain

Key references on methodology applied

QUAAS, R.L., EVERETT, R.W. and McCLINTOCK, A.E. (1979). Maternal grandsire model for dairy sire evaluation. J. Dairy Sci. 62: 1648-1654
MILK MARKETING BOARD. Report of the Breeding and Production Organisation. (Various).

Country: Great Britain

App. 1

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

		Predicted differences (ICC83)									
Year of birth	No. of bulls	Milk kg		Fat kg		Prot. kg		Fat%		Prot. %	
		\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
Breed: Friesian/Holstein											
1970	123	-92	139	-4.2	4.9	-2.2	4.2	+0.01	0.07	-0.01	0.04
71	115	-113	156	-4.9	5.3	-3.1	4.4	+0.02	0.09	-0.01	0.06
72	142	-113	166	-4.5	6.6	-2.9	4.8	+0.02	0.09	-0.01	0.05
73	141	-136	174	-4.5	6.7	-3.7	5.0	+0.05	0.10	-0.01	0.06
74	137	-87	180	-4.2	6.4	-2.8	4.6	+0.02	0.10	-0.02	0.06
75	128	-145	170	-6.2	5.9	-4.0	4.8	+0.02	0.10	-0.01	0.04
76	133	-198	164	-7.9	6.9	-4.8	5.0	+0.03	0.09	+0.01	0.05
77	156	-77	177	-2.2	6.3	-1.2	4.6	+0.05	0.11	0.00	0.06
78	132	-64	174	-2.1	6.2	-1.0	4.8	+0.04	0.11	0.00	0.06
79	116	-38	175	-1.1	6.4	-1.2	5.0	+0.04	0.11	-0.03	0.05
80	186	-79	171	-0.9	6.3	-0.9	4.8	+0.08	0.11	+0.01	0.05
Breed Holstein*											
	95	+148	201	+5.0	7.3	+3.4	5.2	+0.02	0.13	-0.06	0.05

* Bulls purebred in Canada and tested by MMB but not included in above because in separate genetic group.

Country: Great Britain

App. 2

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

Year of birth of sire	Traits				
	Milk kg	Fat kg	Protein kg	Fat %	Protein %
Breed: Friesian/Holstein					
1970	4898	191.1	160.3	3.91	3.27
71	4671	183.7	152.4	3.94	3.27
72	4798	193.1	156.2	4.03	3.26
73	4725	188.3	158.3	3.99	3.26
74	4787	187.6	154.8	3.93	3.24
75	4807	186.8	156.7	3.89	3.27
76	4594	177.1	151.5	3.86	3.31
77	4742	184.8	154.7	3.91	3.27
78	4652	182.7	151.6	3.94	3.27
79	4705	186.4	151.8	3.97	3.23
80	4752	190.6	154.7	4.02	3.26
Breed: Holstein*					
	5200	202.5	167.0	3.91	3.21

* Bulls purebred in Canada and tested by MMB but not included in above because in separate genetic group