COUNTRY'S NAME	ITALY – HOL
Production traits	**Milk, fat and protein**
Breed	Holstein
Trait definition and unit of measurement	ME 305-days milk, fat and protein yield (kg)
Criteria for inclusion & extension of records	Records with non-identified parents are used with separate genetic groups. Records in progress are extended to 305 days from 60 days of lactation using last test day method. Naturally terminated lactations: In first lactation records less than 200 days are discarded; records $\geq$ 200 and < 305 days are extended to 305 days using same coefficients and method used for records in progress. In later lactations records $\geq$ 120 days are extended to 305 days.
Time period for data inclusion	Cows born since 1980, calving since 1983
Sire categories	Bulls with at least 10 daughters in 10 herds(april 99) AI 4477 NS 577 First crop 3126 second crop 722 Young bulls $\cong$ 400 per year since 1998 (year of test) Proven bulls $\cong$ 300 per year since 1990 (year of birth) ET produced over 60% of bulls tested in 1998
Number of lactations included in the evaluation	A maximum of three lactation per cow, using weighting on lactations in progress and on records (closed or in progress) from AM/PM milk recording schemes.
Environmental effects: Pre-adjustment	- Lactation length (extension of records to 305 days as previously described) - Number of milkings per day (base is two) - Age*month of calving*parity - Days open (current lactation) applied if known and after 200 days of lactations For records in progress (last updated 1994); - Heterogeneity of variance (phenotypic adjustment)
Base for age pre-adjustment	84 month of age (last updated 1998), calving in january, 3+ parity
Method (model) of genetic evaluation	ST – ML – BLUP – AM
Environmental effects in the genetic evaluation model	Fixed: Herd-year-season-parity groups Random: PE
Use of genetic groups	Fixed genetic groups when parents are missing based on birth year, country of origin (ITA known first generation pedigree, ITA unknown first generation pedigree, Europe, USA, Canada)
Genetic parameters in the evaluation	$h^2 = 0.30$ r= 0.50 $\sigma_g =$ 729 milk kg, 25 fat yield, 20 protein yield
System validation	Checks on trend (Consistency with previous runs, Interbull Method 1 and 2), checks on variability per first publication date, major changes for bulls (all sources of variations) and cows. EBV correlations.
Expression of genetic evaluations	EBV
Genetic (reference) base	Cows born in 1990
Next base change	January 2000 (cows born in 1995)
Criteria for official publication of evaluations	20 daughters in 20 herds
Number of evaluations / publications per year	4 end of: January, April, July, October
Use in production / total merit index	ILQ = 4.5 $\times$ (-0.173 $\times$ milk + fat kg + 11.3 $\times$ protein kg) ILQM = 0.90 $\times$ ILQ + 180 $\times$ ICM ICM = combination of 6 linear udder traits
Anticipated changes in the near future	Use of first 3 lactations (July 1999).

Key reference on methodology applied	Wiggans G.R., Misztal I. & Van Vleck L.D., 1998. Implementation of an Animal Model for genetic evaluation of Dairy cattle in the United States. J. Dairy Sci., 71 (Suppl. 2): 54-69.
	Meyer K., 1989. Approximate Accuracy of Genetic Evaluation under an Animal Model. Livestock Prod. Sci., 21: 87-100.
	Hill W. G., 1984. On selection among groups with heterogeneous variance. Anim. Prod. 39: 473-477.
Key organization: name, address, phone, fax, e-mail, web site	ANAFI Via Bergamo, 292 26100 CREMONA ITALY Phone: +39-0372-4741 Fax: +39-0372-474203 e-mail: ricercasvil@anafi.it web site: www.anafi.it

COUNTRY: Italy – HOL

Number of AI bulls (NB) tested, means (X), and standard deviations (SD) of proofs (kg, %) from April 1999 run, by bulls' year of birth (YB) and breed.

YB	NB	Milk X	Milk SD	Fat X	Fat SD	Protein X	Protein SD	Fat % X	Fat % SD	Protein % X	Protein % SD
Breed						Holstein					
1975	33	-638	428	-23	17.9	-23	13.5	-0.03	0.19	-0.04	0.1
1976	34	-634	418	-22	17.7	-21	13.3	-0.01	0.19	-0.02	0.08
1977	65	-621	407	-20	16.2	-20	12	0.01	0.16	-0.01	0.07
1978	58	-684	441	-20	17.1	-22	13.1	0.04	0.18	-0.01	0.07
1979	55	-635	433	-19	17	-21	12.5	0.02	0.16	-0.02	0.08
1980	41	-354	396	-120	13.6	-11	10.5	0.01	0.13	0	0.07
1981	34	-301	432	-2	16.2	-9	12.2	0.08	0.17	0	0.08
1982	61	-118	418	-3	17.9	-5	13.2	0	0.13	-0.02	0.06
1983	74	246	317	3	13.6	3	10.4	-0.07	0.13	-0.05	0.06
1984	91	163	436	2	17.1	2	13	-0.05	0.15	-0.03	0.08
1985	96	164	439	6	17	4	13.4	-0.01	0.16	-0.01	0.08
1986	212	452	404	14	16.1	14	12.3	-0.04	0.15	0.01	0.08
1987	246	577	410	18	16.1	19	12.3	-0.04	0.17	0.02	0.09
1988	248	764	409	24	16.1	25	12.4	-0.04	0.15	0.02	0.07
1989	291	862	410	27	15.9	29	12.2	-0.05	0.15	0.03	0.08
1990	329	869	409	31	15.9	32	12.2	-0.01	0.17	0.06	0.08
1991	288	1067	413	37	15.5	40	11.7	-0.02	0.15	0.08	0.08
1992	275	1185	451	41	16.33	46	13.6	-0.01	0.15	0.1	0.07
1993	290	1222	424	43	17.7	46	12.6	-0.01	0.19	0.08	0.07
1994	180	1332	399	48	15.5	49	11.1	0.01	0.18	0.08	0.07

COUNTRY: Italy – HOL

Average of adjusted production records (kg) included in the April 1999 run, by daughters' year of calving (YC), number of cows (NC) and breed.

YC	NC	Milk X	Milk SD	Fat X	Fat SD	Protein X	Protein SD	Fat % X	Fat % SD	Protein % X	Protein % SD
Breed						Holstein					
83	143826	6600	1412	232	50.99	199	52.21				
84	228001	6706	1455	233	52.73	203	53.16				
85	285826	6935	1516	241	54.69	210	53.80				
86	358193	7191	1603	247	59.72	216	55.78				
87	405426	7469	1680	251	74.32	227	51.21				
88	469913	7619	1766	258	75.25	229	54.79				
89	521259	7903	1825	272	67.47	235	55.67				
90	548882	8085	1863	280	66.46	242	55.52				
91	546238	8249	1899	287	68.00	249	57.56				
92	560637	8381	1933	292	70.39	254	59.12				
93	566156	8581	1975	300	71.98	263	61.27				
94	579620	8734	1998	305	72.50	268	62.53				
95	609262	9013	2084	314	76.54	281	65.75				
96	606327	9220	2124	319	78.97	288	66.96				
99	9109	8871	2410	329	100.57	282	78.77				