COUNTRY'S NAME	GERMANY – BSW, SIM
Production traits	**Milk, fat and protein**
Breed	SIM, BSW
Trait definition and unit of measurement	Milk, fat and protein yield (kg). Test plans for data collection: monthly supervised (all milkings or 1 of 2 milkings)
Criteria for inclusion & extension of records	Sire or dam can be missing (missing sire in BSW=3.5%, in SIM=7.5%). Age at calving 600-1200 days; less than 65 days from calving to first test day; other criteria are level of herd production and production of the cow relative to herd production level; First lactation: First interval (days 1-100 of lactation 1) extended to 100 days if cow has ≥ 46 days in milk (cubic regression). Second interval (days 101-200 of lactation 1) not extended. Third interval (days 201-305 of lactation 1) and lactations 2 and 3 included only if cow has at least 249 days in milk in the respective lactation.
Time period for data inclusion	Records: Calvings since 1979 Pedigree: Since 1947
Sire categories	All sires
Number of lactations included in the evaluation	Three (1-3); first lactation is divided in three intervals (see above)
Environmental effects: Pre-adjustment	Age at calving, calving interval (current and previous), days from calving to first test day
Base for age pre-adjustment	30 months
Method (model) of genetic evaluation	ST – ML (5 intervals within each trait) – BLUP – AM
Environmental effects in the genetic evaluation model	Fixed: Region*year*season*herd production level
Use of genetic groups	Full relationship matrix accounting for inbreeding; groups defined by birth year and origin for missing pedigree (foreign vs domestic)
Genetic parameters in the evaluation	See Appendix I
System validation	Data quality is being checked by the organisation providing the data. Genetic evaluation: mean breeding values for cows and bulls by year; correlations among breeding values within yield trait; correlations among and differences between breeding values from current and previous evaluations;
Expression of genetic evaluations	EBV (kg)
Genetic (reference) base	Fixed base; cows born in 1990
Next base change	2000; cows born in 1995
Criteria for official publication of evaluations	20 daughters in 5 herds (with complete first interval), reliability 60% (70% for sire going into service)
Number of evaluations / publications per year	4 (February, May, August, November)
Use in production / total merit index	Relative breeding value with a mean of 100 points and a standard deviation of 12 points; economic weights for breeding values for fat kg and protein kg are 0.2 and 0.8, respectively. A rolling base is used for this index (currently: sires born from 1988 through 1990) For Simmental only: Combines relative breeding values for milk production, beef production, fertility traits and somatic cell count; has a mean of 100 points and a standard deviation of 12 points; rolling base (currently sires born from 1988 through 1990)
Anticipated changes in the near future	None
Key reference on methodology applied	Graser, H.and Averdunk, G. 1991. Die Zuchtwertschätzung für Milchleistungsmerkmale in Bayern. Sonderdruck Schule und Beratung.
Key organization: name, address, phone, fax, e-mail, web site	Bayerische Landesanstalt für Tierzucht Prof.-Dürrwaechter-Platz 1 D-85586 Poing Phone +49 89 99141 0; Fax +49 89 99141 105 E-mail info@blt.bayern.de Web site: www.blt.bayern.de

Appendix I

a. Milk yield

trait	heritability	genetic correlations				
days 1-100	.32		.84	.51	.62	.60
days 101-200	.32			.78	.73	.74
days 201-305	.28				.64	.54
lactation 2	.25					.82
lactation 3	.22					

Trait	Phenotypic (co)variances				
days 1-100	65,800	32,000	22,200	58,000	55,000
days 101-200		35,500	29,000	58,600	56,900
days 201-305			75,000	68,600	61,400
lactation 2				520,000	234,800
lactation 3					524,000

b. Fat yield

trait	heritability	genetic correlations				
days 1-100	35		.87	.61.	.75	.71
days 101-200	.37			.81	.82	.79
days 201-305	.31				.78	.69
lactation 2	.29					.90
lactation 3	.26					

Trait	Phenotypic (co)variances				
days 1-100	136.1	49.4	35.0	91.5	86.3
days 101-200		92.1	43.9	82.6	82.3
days 201-305			124.2	113.6	96.4
lactation 2				908.3	396.4
lactation 3					970.0

c. Protein yield

trait	heritability	genetic correlations			
days 1-100	.32	.81	.45	.55	.49
days 101-200	.33		.64	.66	.61
days 201-305	.28			.66	.49
lactation 2	.25				.80
lactation 3	.23				

Trait	Phenotypic (co)variances				
days 1-100	65.4	27.6	18.7	56.2	51.5
days 101-200		61.3	34.5	61.5	56.2
days 201-305			100.2	87.1	66.1
lactation 2				552.1	258.6
lactation 3					551.6

COUNTRY: Germany – BSW, SIM

Number of AI and NS bulls (NB) tested, means (X), and standard deviations (SD) of proofs (kg, %) 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						Fleckvieh					
1977	586	-289	343	-16.0	14.0	-11.4	10.3	-0.08	0.19	-0.02	0.12
1978	622	-247	328	-13.9	14.1	-9.8	10.4	-0.07	0.20	-0.02	0.11
1979	588	-213	321	-12.2	12.7	-8.7	9.4	-0.07	0.19	-0.02	0.12
1980	590	-200	291	-11.1	12.7	-7.6	9.2	-0.06	0.18	-0.01	0.12
1981	582	-149	334	-8.7	14.1	-5.6	10.3	-0.05	0.20	-0.00	0.12
1982	531	-137	322	-7.9	13.7	-5.1	9.9	-0.04	0.19	-0.00	0.12
1983	533	-132	320	-6.3	13.8	-4.6	9.7	-0.01	0.19	0.00	0.12
1984	515	-66	353	-1.7	15.4	-2.6	10.7	0.03	0.23	-0.00	0.12
1985	530	-50	325	-1.0	14.7	-1.2	10.0	0.03	0.23	0.01	0.11
1986	490	-55	372	-0.1	14.8	-0.3	10.7	0.05	0.22	0.04	0.13
1987	489	8	379	2.3	15.7	1.9	11.4	0.05	0.23	0.04	0.12
1988	504	3	326	3.8	14.4	2.0	10.1	0.08	0.22	0.04	0.12
1989	515	12	362	3.0	15.6	1.8	11.1	0.05	0.23	0.03	0.11
1990	451	44	357	7.7	15.7	4.5	11.0	0.12	0.24	0.06	0.13
1991	441	141	346	9.9	14.8	7.6	10.5	0.09	0.25	0.06	0.12
1992	490	267	367	14.3	14.8	11.0	10.7	0.07	0.25	0.04	0.12
1993	490	383	324	18.4	13.9	15.5	9.3	0.05	0.23	0.04	0.11
1994	356	506	334	22.0	14.8	20.2	9.6	0.02	0.20	0.05	0.11
Breed						Braunvieh					
1977	93	-256	382	-15.7	13.8	-11.1	11.4	-0.09	0.18	-0.04	0.12
1978	110	-175	344	-13.6	11.9	-9.6	10.3	-0.12	0.18	-0.06	0.12
1979	101	-128	322	-8.2	13.6	-6.5	11.3	-0.05	0.17	-0.04	0.11
1980	104	-118	311	-7.9	13.9	-6.3	9.9	-0.05	0.20	-0.04	0.12
1981	104	-101	329	-8.1	14.4	-5.7	10.3	-0.07	0.19	-0.04	0.12
1982	112	-77	327	-5.6	12.7	-4.5	10.7	-0.04	0.19	-0.03	0.11
1983	99	-37	362	-3.6	16.1	-2.6	11.9	-0.04	0.21	-0.02	0.13
1984	106	-53	322	-1.8	12.5	-3.1	10.1	0.01	0.18	-0.02	0.11
1985	110	57	382	0.1	14.9	0.2	11.9	-0.04	0.20	-0.03	0.13
1986	98	-54	382	-1.0	15.1	-1.7	11.2	0.03	0.23	0.01	0.13
1987	92	-27	450	1.3	16.6	0.6	14.0	0.06	0.23	0.03	0.13
1988	88	107	410	4.6	18.4	3.4	13.6	0.01	0.22	-0.00	0.14
1989	97	26	395	-0.2	16.0	1.3	12.1	-0.02	0.20	0.01	0.10
1990	87	169	356	9.8	16.0	7.0	11.4	0.06	0.25	0.02	0.12
1991	97	319	380	13.5	15.8	11.8	11.7	0.01	0.21	0.01	0.12
1992	102	376	369	13.4	16.0	11.6	11.3	-0.03	0.17	-0.02	0.10
1993	104	539	356	22.9	15.4	17.9	11.1	0.02	0.20	-0.01	0.09
1994	55	500	317	21.3	11.5	18.5	9.6	0.02	0.16	0.02	0.12

COUNTRY: Germany – BSW, SIM

Average of adjusted first lactation production records (kg, %) included in the most recent evaluation run, by daughters' year of calving (YC) and breed.

	Milk		Fat		Protein		Fat %		Protein %	
YC	X	SD	X	SD	X	SD	X	SD	X	SD
Breed					Fleckvieh					
1979	4149		163		142		3.93		3.42	
1980	4086		161		139		3.93		3.39	
1981	4121		162		138		3.92		3.36	
1982	4253		167		143		3.93		3.36	
1983	4265		169		144		3.96		3.38	
1984	4109		163		138		3.96		3.36	
1985	4262		169		145		3.97		3.40	
1986	4325		174		147		4.02		3.39	
1987	4216		169		141		4.00		3.35	
1988	4382		177		149		4.03		3.40	
1989	4496		185		153		4.11		3.41	
1990	4553		189		156		4.15		3.43	
1991	4584		191		158		4.17		3.46	
1992	4678		196		163		4.18		3.49	
1993	4689		197		165		4.20		3.51	
1994	4751		200		168		4.20		3.53	
1995	4770		201		169		4.21		3.55	
1996	4832		203		171		4.21		3.55	
1997	5036		213		178		5.28		3.54	
1998	5194		219		184		4.21		3.54	
Breed					Braunvieh					
1979	4337		169		147.9		3.89		3.41	
1980	4351		169		147.4		3.89		3.39	
1981	4421		172		147.8		3.90		3.34	
1982	4435		171		147.1		3.85		3.32	
1983	4503		175		151		3.88		3.34	
1984	4438		173		148		3.89		3.33	
1985	4561		179		153		3.93		3.36	
1986	4569		180		153		3.95		3.34	
1987	4492		178		150		3.95		3.33	
1988	4710		188		159		3.99		3.37	
1989	4803		195		162		4.06		3.37	
1990	4822		197		163		4.09		3.38	
1991	4884		201		167		4.12		3.43	
1992	4997		206		173		4.12		3.46	
1993	4999		205		173		4.10		3.45	
1994	5106		209		178		4.09		3.48	
1995	5226		216		183		4.13		3.49	
1996	5313		219		186		4.13		3.50	
1997	5486		227		192		4.14		3.49	
1998	5564		231		195		4.15		3.51	