

FACTS ON APPLIED SIRE-EVALUATION PROCEDURES FOR DAIRY PRODUCTION TRAITS

COUNTRY	AUSTRIA																
Breed(s)	Fleckvieh, Braunvieh, Pinzgauer, Grauvieh, Schwarzbunte																
Traits evaluated and units of measurement	Milk (kg), fat and protein (kg, %)																
Number of lactations	First three lactations																
Genetic parameters applied	<table><tr><td></td><td>Milk kg</td><td>Fat kg</td><td>Prot.kg</td></tr><tr><td>h^2 first lact.=</td><td>0.34</td><td>0.30</td><td>0.28</td></tr><tr><td>second "</td><td>= 0.30</td><td>0.27</td><td>0.27</td></tr><tr><td>third "</td><td>= 0.26</td><td>0.23</td><td>0.27</td></tr></table>		Milk kg	Fat kg	Prot.kg	h^2 first lact.=	0.34	0.30	0.28	second "	= 0.30	0.27	0.27	third "	= 0.26	0.23	0.27
	Milk kg	Fat kg	Prot.kg														
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third "	= 0.26	0.23	0.27														
Inclusion and extension of records	Rec. from culled cows not included if <305 days and without a dry period Lact. finished between 200 and 305 days after calving are included without extension																
Sire categories evaluated	All sires																
Effects considered by preadjustments	Month of calving, age at calving (first and second lactation), service period, alpine grazing, lactation number																
by model of evaluation	Herd-year, group of sires, sire, cow																
Base of age adjustment	Average age within first lactation (30 months)																
Use of genetic groups/relationships/pedigree	Gen. group of sires by year of birth/no relationships																
Method of evaluation used	Multiple trait BLUP																
Expression of genetic merit	BV for all traits, RBV also for fat yield																
Genetic base, kind/definition	Rolling, average BV of all bulls born between 1975 and 1977																
Minimum requirements for official publication of sire proofs	40 completed daughters (Fleckvieh, Braunvieh) 20 completed daughters (Schwarzbunte, Pinzgauer)																
Use of selection index or total merit index	No total merit index used																
Name and address of organization responsible for sire evaluations and publishing of results	Zentrale Arbeitsgemeinschaft Österreichischer Rinderzüchter A-1060 Wien, Gumpendorfer Strasse 15/2 Österreich																

Key references on methodology
applied

FUCHS 1985: Untersuchung über die Anwendung der BLUP-Zuchtwertschätzung beim Rind in Österreich; Dissertation, Wien.

Country: Austria

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

Genetic group			Breeding values									
by year of birth	by % of foreign genes	No. of bulls	Milk kg		Fat %		Fat kg		Prot. %		Prot. kg	
			$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Breed: Fleckvieh (foreign genes may be RF or HF)												
<1973	0%	212	+53	286	-0.09	0.15	+1.3	12.4	-0.03	0.10	+1.3	8.5
=1973	0%	559	+48	285	-0.08	0.17	+1.6	12.5	-0.05	0.10	+0.5	9.2
=1974	0%	311	-15	271	-0.08	0.19	-1.1	11.3	-0.04	0.10	-1.4	8.2
=1975	0%	367	+23	273	-0.09	0.18	+0.3	11.8	-0.04	0.09	0.0	8.4
=1976	0%	356	+16	290	-0.07	0.19	+0.8	12.0	-0.03	0.10	+0.1	8.8
=1977	0%	359	+49	284	-0.05	0.17	+2.7	12.5	-0.03	0.09	+1.2	8.4
=1978	0%	337	+96	277	-0.07	0.18	+3.9	12.2	-0.02	0.11	+3.0	8.2
=1979	0%	313	+103	279	-0.06	0.18	+4.4	12.8	-0.01	0.10	+4.0	8.4
>1979	0%	458	+199	283	-0.05	0.18	+8.8	12.6	-0.02	0.10	+6.8	8.2
	1-50%	84	+289	309	-0.12	0.23	+9.5	15.3	-0.07	0.10	+7.4	9.1
	>50%	44	+1114	366	-0.07	0.25	+45.0	17.4	-0.25	0.12	+25.8	11.2
Breed: Braunvieh (foreign genes are BS)												
00	<50%	20	-7	251	-0.10	0.20	-1.1	11.1	-0.06	0.14	-0.1	7.8
<73	<50%	79	-221	204	-0.18	0.13	-12.6	8.8	-0.12	0.07	-9.0	6.4
73-75	<50%	167	-206	269	-0.15	0.12	-10.8	11.8	-0.07	0.09	-6.5	8.7
76-78	<50%	91	-92	280	-0.11	0.14	-4.7	11.5	-0.05	0.08	-2.1	8.3
>78	<50%	23	+173	286	-0.05	0.16	+8.1	10.8	-0.02	0.09	+7.9	9.4
00	=50%	8	+35	239	-0.04	0.15	+2.7	11.9	-0.09	0.11	0.0	9.0
<73	=50%	59	+109	260	-0.11	0.16	+3.3	10.0	-0.08	0.13	+3.2	8.1
73-75	=50%	262	+78	291	-0.08	0.14	+3.4	11.6	-0.09	0.09	+1.6	8.7
76-78	=50%	232	+115	272	-0.08	0.16	+5.0	11.8	-0.06	0.10	+4.1	8.3
>78	=50%	121	+313	261	-0.06	0.13	+13.3	11.0	-0.04	0.08	+11.4	7.8
00	51-99%	4	+358	194	0.00	0.15	+18.3	1.8	-0.04	0.10	+12.9	1.7
<73	51-99%	16	+433	370	-0.13	0.16	+15.5	15.6	-0.06	0.07	+14.4	11.8
73-75	51-99%	100	+292	273	-0.05	0.18	+13.4	11.3	-0.07	0.12	+9.5	8.1
76-78	51-99%	260	+332	288	-0.04	0.17	+15.2	11.8	-0.06	0.10	+11.2	8.9
>78	51-99%	268	+365	287	-0.04	0.16	+16.6	12.5	-0.05	0.10	+13.1	8.7
00	=100%	5	+376	117	-0.04	0.06	+17.0	5.4	-0.01	0.05	+15.4	3.6
<73	=100%	60	+445	332	0.00	0.18	+22.1	14.3	-0.04	0.10	+16.0	10.1
73-75	=100%	30	+431	368	+0.03	0.15	+23.1	14.1	-0.05	0.12	+15.1	10.8
76-78	=100%	28	+563	344	+0.04	0.18	+29.3	14.4	-0.06	0.11	+18.9	10.6
>78	=100%	16	+527	269	-0.02	0.14	+24.1	10.4	-0.12	0.08	+15.0	8.6

Country: Austria

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

Genetic group			Breeding values									
by year of birth	by % of foreign genes	No. of bulls	Milk kg		Fat %		Fat kg		Prot. %		Prot. kg	
			$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Breed: Pinzgauer (foreign genes may be RF or HF)												
<74	0%	74	+19	198	+0.06	0.14	+1.5	8.4	+0.05	0.07	+1.8	6.5
74-75	0%	88	+37	215	-0.02	0.13	-0.3	8.8	0.00	0.07	+0.7	6.4
76-77	0%	85	+17	222	+0.05	0.14	+1.4	9.8	+0.01	0.08	+0.7	7.6
78-79	0%	74	+138	200	+0.02	0.16	+5.3	9.0	+0.01	0.08	+4.6	6.2
>79	0%	25	+112	193	+0.09	0.13	+7.1	8.8	+0.03	0.07	+4.7	6.2
	1-49%	47	+424	269	+0.03	0.20	+16.3	9.6	0.00	0.10	+13.1	6.8
	=50%	28	+628	243	+0.01	0.18	+24.3	11.2	-0.06	0.08	+17.4	7.3
	51-99%	38	+1025	242	+0.02	0.26	+40.0	14.7	-0.14	0.08	+27.2	7.8
	=100%RF	19	+1414	249	+0.01	0.24	+55.0	14.4	-0.20	0.11	+36.7	9.1
	=100%HF	9	+1550	304	+0.17	0.13	+66.7	14.2	-0.20	0.07	+40.4	11.8
Breed: Grauvieh												
<1973		19	+37	189	-0.09	0.10	-0.8	5.9	-0.09	0.07	-1.8	5.1
=1973		10	+53	215	-0.03	0.14	+1.8	7.1	-0.03	0.12	+0.6	6.6
=1974		25	-25	187	-0.01	0.14	-0.4	7.9	-0.01	0.07	-1.1	5.8
=1975		12	+84	215	-0.09	0.14	-1.0	9.5	-0.03	0.12	+1.8	7.0
=1976		12	-29	181	-0.03	0.11	-1.1	6.7	+0.03	0.06	+0.5	4.9
=1977		21	+123	216	+0.01	0.10	+6.5	8.6	+0.07	0.08	+6.8	6.7
=1978		19	+96	209	-0.04	0.13	+3.1	8.2	+0.04	0.09	+4.7	6.7
>1978		45	+187	269	+0.01	0.12	+9.3	11.6	+0.12	0.07	+10.9	8.0
Breed: Schwarzbunte (foreign genes may be HF or RF)												
<73	<50%	12	+133	333	+0.10	0.27	+11.1	18.1	-0.01	0.10	+4.7	11.2
73-75	<50%	12	-19	370	0.00	0.15	-0.8	16.1	-0.02	0.05	-0.6	12.7
76-78	<50%	10	+54	442	-0.01	0.27	+0.8	15.8	-0.04	0.10	+0.1	12.4
>78	<50%	6	+140	244	-0.13	0.10	-1.5	9.4	-0.08	0.06	+0.8	5.4
<73	50-99%	4	-50	176	+0.02	0.09	-0.3	9.3	-0.01	0.04	-0.5	7.1
73-75	50-99%	16	+266	306	-0.05	0.20	+7.9	11.8	-0.06	0.08	+6.0	8.8
76-78	50-99%	18	+275	305	-0.04	0.23	+8.2	10.5	-0.09	0.09	+4.9	8.5
>78	50-99%	19	-11	223	-0.01	0.18	-0.2	13.7	-0.11	0.07	-4.2	8.5
<73	=100%	86	+472	337	-0.04	0.24	+16.5	12.2	-0.09	0.10	+10.9	9.6
73-75	=100%	44	+244	355	+0.04	0.24	+11.4	13.3	-0.11	0.11	+2.8	9.2
76-78	=100%	33	+164	405	0.00	0.30	+6.4	19.0	-0.08	0.11	+2.2	10.8
>78	=100%	9	+50	124	-0.05	0.15	-0.6	9.5	-0.08	0.06	-1.3	5.2

Country: Austria

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

Year of production	Traits			
	Milk kg	Fat kg	Fat %	Prot. %
Breed: Fleckvieh				
1978	3740	154	4.12	3.28
79	3764	154	4.09	3.28
80	3826	156	4.09	3.30
81	3900	159	4.08	3.29
82	3951	161	4.08	3.25
83	3976	161	4.06	3.26
84	3993	163	4.08	3.26
85	3969	162	4.07	3.27
87	3924	162	4.08	3.24
Breed: Braunvieh				
1978	3769	152	4.03	3.27
79	3882	155	4.03	3.27
80	3954	160	4.03	3.28
81	4119	166	4.02	3.26
82	4245	171	4.02	3.22
83	4283	172	4.02	3.22
84	4344	174	4.01	3.23
85	4103	164	3.98	3.23
87	4182	171	4.04	3.19
Breed: Pinzgauer				
1978	3159	124	3.93	3.22
79	3209	125	3.90	3.23
80	3299	130	3.93	3.18
81	3562	142	3.97	3.22
82	3625	145	4.00	3.24
83	3577	141	3.94	3.23
84	3647	145	3.97	3.25
85	3556	142	3.97	3.26
87	3669	146	3.97	3.21

Country: Austria

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

Year of production	Traits			
	Milk kg	Fat kg	Fat %	Prot. %
Breed: Grauvieh				
1978	3279	132	4.03	3.19
79	3305	134	4.05	3.19
80	3353	135	4.02	3.20
81	3397	137	4.02	3.16
82	3387	135	4.00	3.21
83	3493	140	4.00	3.23
84	3441	135	3.94	3.25
85	3515	139	3.94	3.19
87	3535	143	4.02	3.18
Breed: Schwarzbunte				
1978	4650	186	4.01	3.15
79	4654	187	4.02	3.14
80	4819	194	4.03	3.16
81	5020	201	4.01	3.14
82	5022	202	4.01	3.11
83	5052	202	4.00	3.11
84	5085	204	4.01	3.11
85	4858	198	4.06	3.12
87	4815	196	4.06	3.12