

**Within birth year standard deviations of national proofs
and daughter yield deviations**

Following are standard deviations of national proofs and daughter yield deviations used to derive standardization factors within country, by bull birth year, production trait, and country. Only bulls first sampled in these countries are considered.

STANDARD DEVIATIONS FOR MILK															
BY	ITA			FRA			NLD			DEU			USA		
	NB	NP	DY	NB	NP	DY	NB	NP	DY	NB	NP	DY	NB	NP	DY
70	197	225	252	293	256	272	73	189	196	3	99	321	513	701	752
71	227	237	258	346	287	308	111	219	234	6	137	348	581	636	685
72	257	269	292	365	327	341	186	191	204	31	188	343	663	669	718
73	210	250	279	403	296	313	258	196	206	307	173	258	690	668	710
74	224	247	275	360	317	331	285	206	215	539	193	272	723	677	730
75	215	253	276	390	336	353	292	214	221	574	216	296	748	645	690
76	189	239	263	378	346	362	307	240	246	566	207	267	865	649	697
77	195	280	301	394	328	346	323	220	229	528	196	245	887	652	702
78	168	283	309	482	344	359	341	226	236	450	191	250	840	626	679
79	148	280	304	503	311	324	339	231	239	484	188	254	1053	657	718
80	106	310	332	441	310	326	345	240	250	451	189	251	1180	641	707
81	81	273	296	581	309	326	370	229	240	442	193	261	1155	631	689
82	102	323	352	740	310	327	408	237	252	437	190	244	1180	655	717
83	107	277	308	725	319	343	335	237	248	450	223	297	1147	619	693
84	117	282	315	335	278	304	360	246	259	366	223	294	1138	687	758
85	100	258	293	533	304	341	365	232	243	358	215	305	1219	588	669
86	186	198	244	492	301	381	328	257	274	369	203	321	1234	514	640
87	30	140	239	180	263	409	236	224	253	95	194	369	416	434	654
U	ITA - kg			FRA - kg			NLD - kg			DEU - kg			USA - lb		

BY: birth year, NB: number of bulls, NP: national proof (estimated transmitting ability); DY: daughter yield deviation; U: units of measurement.

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STANDARD DEVIATIONS FOR FAT YIELD															
BY	ITA			FRA			NLD			DEU			USA		
	NB	NP	DY	NB	NP	DY	NB	NP	DY	NB	NP	DY	NB	NP	DY
70	197	8.2	9.3	293	8.6	9.2	73	6.5	6.8	3	3.1	22.7	513	22.9	24.6
71	227	8.3	9.2	346	9.3	10.1	111	8.1	8.7	6	3.1	7.8	581	22.2	24.0
72	257	8.9	9.8	365	10.0	10.7	186	7.0	7.6	31	8.8	15.0	663	23.3	25.1
73	210	8.9	10.1	403	10.3	11.0	258	7.3	7.7	307	7.2	10.1	690	22.7	24.0
74	224	8.7	9.7	360	11.0	11.6	285	7.6	8.0	539	8.2	11.1	723	23.2	25.0
75	215	8.6	9.6	390	10.9	11.7	292	8.4	8.8	574	8.4	11.2	748	23.6	25.2
76	189	8.6	9.4	378	11.3	12.0	307	8.8	9.2	566	8.3	10.5	865	23.3	25.0
77	195	9.9	10.8	394	12.1	12.8	323	9.0	9.4	528	7.9	10.0	887	22.0	23.7
78	168	10.5	11.6	482	11.0	11.6	341	8.9	9.3	450	7.7	10.0	840	21.9	24.1
79	148	9.9	11.0	503	10.8	11.4	339	8.9	9.3	484	7.2	9.8	1053	22.1	24.4
80	106	10.7	11.7	441	11.3	11.9	345	9.5	10.1	451	7.6	10.1	1180	22.4	24.8
81	81	11.1	12.0	581	11.5	12.4	370	9.1	9.7	442	7.4	10.4	1155	21.4	23.7
82	102	11.3	12.3	740	11.8	12.7	408	9.6	10.3	437	8.1	10.6	1180	21.7	24.3
83	107	9.8	11.1	725	11.6	12.7	335	8.9	9.5	450	8.6	11.3	1147	20.6	23.3
84	117	10.2	11.4	335	10.5	11.8	360	8.8	9.5	366	8.7	11.6	1138	21.8	24.7
85	100	8.5	9.9	533	11.0	12.5	365	8.6	9.3	358	8.4	12.4	1219	20.3	23.1
86	186	7.3	9.1	492	10.8	14.3	328	8.3	8.9	369	7.9	13.4	1234	18.5	22.4
87	30	4.8	8.6	180	10.4	16.8	236	8.4	9.6	95	8.7	17.1	416	17.5	23.3
U	ITA - kg			FRA - kg			NLD - kg			DEU - kg			USA - lb		

BY: birth year, NB: number of bulls, NP: national proof (estimated transmitting ability); DY: daughter yield deviation; U: units of measurement.

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STANDARD DEVIATIONS FOR PROTEIN YIELD															
BY	ITA			FRA			NLD			DEU			USA		
	NB	NP	DY	NB	NP	DY	NB	NP	DY	NB	NP	DY	NB	NP	DY
70	197	6.3	7.3	265	6.9	7.4	73	5.5	5.8	3	2.3	12.3	203	19.8	19.5
71	227	6.5	7.1	332	7.9	8.5	111	6.4	6.9	6	2.7	6.8	259	18.4	18.1
72	257	7.4	8.1	356	8.2	8.7	186	5.7	6.2	31	5.1	10.4	359	19.3	19.7
73	210	7.0	7.9	401	7.9	8.5	258	5.8	6.2	307	5.2	8.3	407	18.9	19.1
74	224	7.1	8.0	359	8.1	8.6	285	5.9	6.2	539	5.7	8.7	483	18.9	19.7
75	215	7.1	7.9	390	8.6	9.2	292	6.3	6.6	574	6.1	8.9	539	18.1	19.5
76	189	7.1	7.9	378	8.9	9.4	307	6.5	6.9	566	5.7	7.9	668	18.0	19.8
77	195	8.4	9.2	394	8.5	9.3	323	6.1	6.6	528	5.3	6.9	719	18.3	19.9
78	168	8.5	9.4	482	8.7	9.2	341	6.2	6.6	450	4.9	6.9	721	17.6	19.7
79	148	7.9	8.7	503	7.8	8.3	339	6.3	6.7	484	5.1	7.3	941	18.4	20.2
80	106	9.7	10.5	441	8.0	8.6	345	6.4	6.9	451	5.0	7.1	1108	18.5	20.3
81	81	8.9	9.6	581	8.2	8.8	370	6.2	6.7	442	5.2	7.5	1091	17.6	19.4
82	102	9.5	10.5	740	8.6	9.3	408	6.3	6.9	437	5.4	7.2	1131	18.3	20.2
83	107	8.1	9.0	725	8.3	9.1	335	6.3	6.8	450	5.5	7.6	1097	17.5	19.7
84	117	8.2	9.2	335	6.9	7.8	360	6.2	6.7	366	5.5	7.7	1094	17.9	19.9
85	100	7.4	8.5	533	7.6	8.7	365	6.3	6.8	358	5.6	8.5	1181	15.2	17.7
86	186	5.6	6.7	492	7.7	10.0	328	6.5	7.1	369	5.4	8.6	1179	14.2	17.9
87	30	4.3	7.5	180	7.1	11.5	236	5.9	6.6	95	5.4	10.5	385	12.5	19.3
U	ITA - kg			FRA - kg			NLD - kg			DEU - kg			USA - lb		

BY: birth year, NB: number of bulls, NP: national proof (estimated transmitting ability); DY: daughter yield deviation; U: units of measurement.