

Holstein Production conversions

December 2023

When to use these formulas

These conversions should only be used for converting cow evaluations and bulls which do not have an Interbull evaluation. Please check with AHDB Dairy if in doubt.

The formulae provide a guide only to the expected evaluations of the relevant bull or cow in the UK.

How to convert a foreign proof using figures in the table below

$$\text{Approximate UK PTA} = a + (b * \text{Foreign proof})$$

How to adjust the converted reliability

To take into account the loss of accuracy when converting a foreign proof into a UK equivalent, Interbull guidelines recommend that the foreign reliabilities should be adjusted by the squared correlations between the foreign and UK genetic evaluations.

When converting the foreign production proofs to UK equivalents, the foreign production reliability must therefore be multiplied by 0.8 (i.e. **UK reliability = 0.8 * Foreign reliability**)

				a		b		
HOL	milk	GBR	=	-206.73	+	0.503	*	AUS
HOL	fat	GBR	=	-7.51	+	0.509	*	AUS
HOL	pro	GBR	=	-5.82	+	0.461	*	AUS
HOL	milk	GBR	=	-108.17	+	0.612	*	BEL
HOL	fat	GBR	=	-8.76	+	0.529	*	BEL
HOL	pro	GBR	=	-4.51	+	0.634	*	BEL
HOL	milk	GBR	=	170.67	+	0.342	*	CAN
HOL	fat	GBR	=	2.05	+	0.308	*	CAN
HOL	pro	GBR	=	1.9	+	0.343	*	CAN
HOL	milk	GBR	=	-207.74	+	0.492	*	CHE
HOL	fat	GBR	=	-5.95	+	0.409	*	CHE
HOL	pro	GBR	=	-5.86	+	0.45	*	CHE
HOL	milk	GBR	=	101.86	+	0.376	*	CZE
HOL	fat	GBR	=	-0.28	+	0.457	*	CZE
HOL	pro	GBR	=	2.48	+	0.442	*	CZE

HOL	milk	GBR	=	168.12	+	0.424	*	DEU
HOL	fat	GBR	=	2.79	+	0.384	*	DEU
HOL	pro	GBR	=	5.27	+	0.408	*	DEU
HOL	milk	GBR	=	-2200.26	+	22.615	*	DFS
HOL	fat	GBR	=	-80.9	+	0.844	*	DFS
HOL	pro	GBR	=	-61.63	+	0.678	*	DFS
HOL	milk	GBR	=	93.16	+	0.501	*	ESP
HOL	fat	GBR	=	-4.26	+	0.461	*	ESP
HOL	pro	GBR	=	-1.81	+	0.508	*	ESP
HOL	milk	GBR	=	-38.36	+	0.465	*	EST
HOL	fat	GBR	=	-2.41	+	0.394	*	EST
HOL	pro	GBR	=	-0.74	+	0.417	*	EST
HOL	milk	GBR	=	135.68	+	0.413	*	FRA
HOL	fat	GBR	=	0.11	+	0.376	*	FRA
HOL	pro	GBR	=	4.32	+	0.425	*	FRA
HOL	milk	GBR	=	-1612.85	+	15.442	*	HRV
HOL	fat	GBR	=	-55.99	+	0.516	*	HRV
HOL	pro	GBR	=	-41.46	+	0.402	*	HRV
HOL	milk	GBR	=	92.64	+	0.336	*	HUN
HOL	fat	GBR	=	-2.26	+	0.294	*	HUN
HOL	pro	GBR	=	-0.1	+	0.29	*	HUN
HOL	milk	GBR	=	-693.31	+	1.474	*	IRL
HOL	fat	GBR	=	-19.95	+	1.13	*	IRL
HOL	pro	GBR	=	-17.35	+	1.177	*	IRL
HOL	milk	GBR	=	-101.39	+	0.575	*	ISR
HOL	fat	GBR	=	-2.95	+	0.46	*	ISR
HOL	pro	GBR	=	-1.4	+	0.578	*	ISR
HOL	milk	GBR	=	148.35	+	0.429	*	ITA
HOL	fat	GBR	=	0.12	+	0.367	*	ITA
HOL	pro	GBR	=	2.3	+	0.384	*	ITA
HOL	milk	GBR	=	180.2	+	0.445	*	JPN
HOL	fat	GBR	=	-2.24	+	0.411	*	JPN
HOL	pro	GBR	=	0.48	+	0.466	*	JPN
HOL	milk	GBR	=	15.25	+	0.461	*	KOR
HOL	fat	GBR	=	-7.68	+	0.467	*	KOR
HOL	pro	GBR	=	-5.55	+	0.468	*	KOR
HOL	milk	GBR	=	-662.44	+	0.633	*	LTU
HOL	fat	GBR	=	-17.96	+	0.469	*	LTU
HOL	pro	GBR	=	-19.53	+	0.629	*	LTU
HOL	milk	GBR	=	-46.54	+	0.64	*	LVA
HOL	fat	GBR	=	-3.76	+	0.501	*	LVA
HOL	pro	GBR	=	-2.12	+	0.608	*	LVA

HOL	milk	GBR	=	86.21	+	0.393	*	NLD
HOL	fat	GBR	=	4.03	+	0.344	*	NLD
HOL	pro	GBR	=	7.04	+	0.364	*	NLD
HOL	milk	GBR	=	-1068.49	+	0.561	*	NZL
HOL	fat	GBR	=	-20.42	+	0.404	*	NZL
HOL	pro	GBR	=	-20.3	+	0.417	*	NZL
HOL	milk	GBR	=	-58.86	+	0.637	*	POL
HOL	fat	GBR	=	-4.77	+	0.523	*	POL
HOL	pro	GBR	=	-2.3	+	0.617	*	POL
HOL	milk	GBR	=	87.33	+	0.396	*	PRT
HOL	fat	GBR	=	-4.63	+	0.428	*	PRT
HOL	pro	GBR	=	-1.55	+	0.364	*	PRT
HOL	milk	GBR	=	-36.52	+	0.522	*	SVK
HOL	fat	GBR	=	-3.02	+	0.43	*	SVK
HOL	pro	GBR	=	-1.67	+	0.472	*	SVK
HOL	milk	GBR	=	-2489	+	23.211	*	SVN
HOL	fat	GBR	=	-93.62	+	0.851	*	SVN
HOL	pro	GBR	=	-81.54	+	0.746	*	SVN
HOL	milk	GBR	=	-45.85	+	1.065	*	URY
HOL	fat	GBR	=	-4.33	+	0.991	*	URY
HOL	pro	GBR	=	-0.72	+	0.826	*	URY
HOL	milk	GBR	=	193.92	+	0.381	*	USA
HOL	fat	GBR	=	1.11	+	0.363	*	USA
HOL	pro	GBR	=	2.4	+	0.417	*	USA
HOL	milk	GBR	=	-6.93	+	0.379	*	ZAF
HOL	fat	GBR	=	-3.18	+	0.332	*	ZAF
HOL	pro	GBR	=	-1.68	+	0.354	*	ZAF

Calculating percentage PTAs

Apply the following formula using the converted yield PTAs to obtain estimates for the percentage PTAs.

$$\text{PTA Fat \%} = \frac{(\text{PTA fat (kg)} \times 100) - (\text{PTA milk (kg)} \times 4.01)}{(\text{PTA milk (kg)} + 8266)}$$

$$\text{PTA Prot \%} = \frac{(\text{PTA prot (kg)} \times 100) - (\text{PTA milk (kg)} \times 3.29)}{(\text{PTA milk (kg)} + 8266)}$$