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 Conversion Factors For Production Traits. Source: INTERBULL 1908  
 Converted Canadian Proof = A + (B\* Foreign Proof)  
 Converted Proof Reliability = PCORR2\*Foreign Reliability

breed	country2	amilk	bmilk	afat	bfat	aprot	bprot	pcorr2
AYS	AUS	317.50	1.2000	21.500	1.3270	17.400	1.3040	0.4761
AYS	CAM	-520.02	1.0872	-28.325	0.8899	-17.698	1.3063	0.7921
AYS	DEU	464.90	0.9120	34.700	0.9240	24.200	0.9330	0.7921
AYS	DFS	-4394.40	53.6980	-160.400	2.0530	-114.200	1.5800	0.7921
AYS	EST	432.30	1.1050	18.000	1.1310	19.900	1.0450	0.6889
AYS	GBR	-424.60	1.9560	-19.400	2.1800	-12.100	2.2110	0.6889
AYS	IRL	693.81	2.9976	23.662	2.5909	27.335	2.5599	0.5625
AYS	LTU	-603.90	1.5740	-13.700	1.3850	-12.800	1.7590	0.6889
AYS	LVA	129.00	1.7820	12.200	1.7610	10.000	1.9350	0.6724
AYS	NLD	1338.35	0.7216	50.295	0.7693	47.551	0.6061	0.7744
AYS	NOR	-3487.90	41.6480	-145.700	1.7210	-99.100	1.3130	0.7744
AYS	NZL	-22.60	1.5790	27.400	1.4790	15.800	1.7160	0.4761
AYS	USA	-285.50	0.8650	-16.600	0.9150	-10.200	0.8820	0.7921
AYS	ZAF	-44.53	0.8071	-6.616	0.9677	-1.484	0.8981	0.6561

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 Conversion Factors For SCS Traits. Source: INTERBULL 1908  
 Converted Canadian Proof = A + (B\* Foreign Proof)  
 Converted Proof Reliability = SCORR2\*Foreign Reliability

breed	country2	a	b	scorr2
AYS	AUS	97.300	-16.4690	0.7744
AYS	CAM	3.494	0.9372	0.8836
AYS	DEU	60.800	0.3780	0.8649
AYS	DFS	60.300	0.4070	0.8836
AYS	EST	57.600	0.4110	0.7921
AYS	GBR	98.900	-0.4590	0.8649
AYS	LTU	96.600	-13.5420	0.8100
AYS	LVA	96.300	-11.4030	0.8100
AYS	NLD	-37.694	1.3545	0.8281
AYS	NOR	62.000	0.3700	0.8464
AYS	NZL	94.400	-12.4880	0.7744
AYS	USA	166.600	-22.4970	0.8464
AYS	ZAF	99.708	-0.1990	0.7921

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 Conversion Factors For Type. Source = INTERBULL MACE 1908  
 Converted Canadian Proof = A + (B\* Foreign Proof)  
 Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=AUS

c c f  
 a o o  
 n u r a b t

b	t	n	t	v	v	c
r	r	t	r	a	a	o
e	a	r	a	l	l	r
e	i	y	i	u	u	r
d	t	2	t	e	e	2

AYS	CONFORMATION	AUS	CONFORMATION	-5.136	4.5329	0.3
6						
AYS	FEET AND LEGS	AUS	OVERALL FEET & LEG	-37.780	0.3248	
AYS	MAMMARY SYSTEM	AUS	OVERALL UDDER SCORE	-5.245	5.8218	
AYS	STATURE	AUS	STATURE	-4.320	8.8976	
AYS	CHEST WIDTH	AUS	CHEST WIDTH	2.059	12.5212	
AYS	BODY DEPTH	AUS	BODY DEPTH	-1.090	11.3822	
AYS	PIN WIDTH	AUS	RUMP WIDTH	-2.261	12.8120	
AYS	RUMP ANGLE	AUS	RUMP ANGLE	-1.283	13.0235	
AYS	FOOT ANGLE	AUS	FOOT ANGLE	-1.374	14.0838	
AYS	REAR LEGS SIDE VIEW	AUS	REAR LEG SET	3.670	18.7690	
AYS	REAR LEG REAR VIEW	AUS	REAR LEG REAR VIEW	-2.607	13.7432	
AYS	UDDER DEPTH	AUS	UDDER DEPTH	-4.477	10.0043	
AYS	MEDIAN SUSPENSORY	AUS	MEDIAN SUSPENSORY	-3.669	11.2667	
AYS	FORE ATTACHMENT	AUS	FORE UDDER	-3.982	9.6015	
AYS	TEAT PLACEMENT	AUS	FRONT TEAT PLACEMENT	-1.115	9.0438	
AYS	TEAT LENGTH	AUS	TEAT LENGTH	1.512	10.2957	
AYS	REAR ATTACHMENT HEIGHT	AUS	REAR UDDER HEIGHT	-8.014	9.2538	
AYS	REAR TEAT PLACEMENT	AUS	REAR TEAT PLACEMENT	-2.620	14.5253	
AYS	ANGULARITY	AUS	ANGULARITY	-6.552	9.1941	

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 Conversion Factors For Type. Source = INTERBULL MACE 1908  
 Converted Canadian Proof = A + (B\* Foreign Proof)  
 Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=CAM

	c	c	f			
	a	o	o			
	n	u	r	a	b	t
b	t	n	t	v	v	c
r	r	t	r	a	a	o
e	a	r	a	l	l	r

e d	i t	y 2	i t	u e	u e	r 2
AYS	CONFORMATION		CAM CONFORMATION	-8.012	0.7329	0.7
4						
AYS	FET AND LEGS		CAM OVERALL FEET & LEG	-6.325	0.5820	
AYS	MAMMARY SYSTEM		CAM OVERALL UDDER SCORE	-8.831	0.7419	
AYS	STATURE		CAM STATURE	-4.441	1.0303	
AYS	CHEST WIDTH		CAM CHEST WIDTH	-1.448	0.8407	
AYS	BODY DEPTH		CAM BODY DEPTH	-3.506	1.0455	
AYS	PIN WIDTH		CAM RUMP WIDTH	-3.870	0.7966	
AYS	RUMP ANGLE		CAM RUMP ANGLE	0.368	1.0475	
AYS	FOOT ANGLE		CAM FOOT ANGLE	-2.014	0.5969	
AYS	REAR LEGS SIDE VIEW		CAM REAR LEG SET	2.604	0.8231	
AYS	REAR LEG REAR VIEW		CAM REAR LEG REAR VIEW	-4.327	0.7039	
AYS	UDDER DEPTH		CAM UDDER DEPTH	-4.608	1.0734	
AYS	MEDIAN SUSPENSORY		CAM MEDIAN SUSPENSORY	-4.085	0.7629	
AYS	FORE ATTACHMENT		CAM FORE UDDER	-6.630	0.7019	
AYS	TEAT PLACEMENT		CAM FRONT TEAT PLACEMENT	-2.710	0.7313	
AYS	TEAT LENGTH		CAM TEAT LENGTH	1.174	0.6539	
AYS	REAR ATTACHMENT HEIGHT		CAM REAR UDDER HEIGHT	-8.384	0.8120	
AYS	REAR TEAT PLACEMENT		CAM REAR TEAT PLACEMENT	-2.491	0.9280	
AYS	ANGULARITY		CAM ANGULARITY	-8.671	0.7294	

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Conversion Factors For Type. Source = INTERBULL MACE 1908  
Converted Canadian Proof = A + (B\* Foreign Proof)  
Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=DEU

b r e e d	c a n t r a i t	c o u n t r y 2	f o r a i t	a b l u e	b v a l u e	t c o r r e c t
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AYS	FEET AND LEGS	DEU	OVERALL FEET & LEG	-30.119	0.2963
AYS	MAMMARY SYSTEM	DEU	OVERALL UDDER SCORE	-34.722	0.3277
AYS	STATURE	DEU	STATURE	-43.200	0.4483
AYS	CHEST WIDTH	DEU	CHEST WIDTH	-48.060	0.4923
AYS	BODY DEPTH	DEU	BODY DEPTH	-53.175	0.5384
AYS	PIN WIDTH	DEU	RUMP WIDTH	-55.096	0.5703
AYS	RUMP ANGLE	DEU	RUMP ANGLE	-68.029	0.6441
AYS	FOOT ANGLE	DEU	FOOT ANGLE	-32.978	0.3591
AYS	REAR LEGS SIDE VIEW	DEU	REAR LEG SET	-63.237	0.6142
AYS	REAR LEG REAR VIEW	DEU	REAR LEG REAR VIEW	-54.244	0.5595
AYS	UDDER DEPTH	DEU	UDDER DEPTH	-44.989	0.4428
AYS	MEDIAN SUSPENSORY	DEU	MEDIAN SUSPENSORY	-44.125	0.4306
AYS	FORE ATTACHMENT	DEU	FORE UDDER	-47.511	0.4497
AYS	FRONT TEAT PLACEMENT	DEU	FRONT TEAT PLACEMENT	-40.342	0.3944
AYS	TEAT LENGTH	DEU	TEAT LENGTH	-35.538	0.3413
AYS	REAR ATTACHMENT HEIGHT	DEU	REAR UDDER HEIGHT	-40.333	0.3588
AYS	REAR TEAT PLACEMENT	DEU	REAR TEAT PLACEMENT	-46.005	0.4334
AYS	ANGULARITY	DEU	ANGULARITY	-44.850	0.4375

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 Conversion Factors For Type. Source = INTERBULL MACE 1908  
 Converted Canadian Proof = A + (B\* Foreign Proof)  
 Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=DFS

	c	c	f			
	a	o	o			
	n	u	r	a	b	t
b	t	n	t	v	v	c
r	r	t	r	a	a	o
e	a	r	a	l	l	r
e	i	y	i	u	u	r
d	t	2	t	e	e	2
AYS	CONFORMATION	DFS	OVERALL CONFORMATION	-43.556	0.3732	0.5
8						
AYS	FEET AND LEGS	DFS	OVERALL FEET & LEG	-38.712	0.3586	
AYS	MAMMARY SYSTEM	DFS	OVERALL UDDER SCORE	-46.815	0.4350	

AYS	STATURE	DFS	STATURE	-70.605	0.6878
AYS	CHEST WIDTH	DFS	CHEST WIDTH	-45.123	0.4629
AYS	BODY DEPTH	DFS	BODY DEPTH	-47.991	0.4433
AYS	PIN WIDTH	DFS	RUMP WIDTH	-54.021	0.5311
AYS	RUMP ANGLE	DFS	RUMP ANGLE	-56.432	0.5679
AYS	FOOT ANGLE	DFS	FOOT ANGLE	-49.356	0.4987
AYS	REAR LEGS SIDE VIEW	DFS	REAR LEG SET	-61.424	0.6570
AYS	REAR LEG REAR VIEW	DFS	REAR LEG REAR VIEW	-52.502	0.5092
AYS	UDDER DEPTH	DFS	UDDER DEPTH	-49.293	0.4913
AYS	MEDIAN SUSPENSORY	DFS	MEDIAN SUSPENSORY	-37.114	0.3361
AYS	FORE ATTACHMENT	DFS	FORE UDDER	-41.167	0.3942
AYS	FRONT TEAT PLACEMENT	DFS	FRONT TEAT PLACEMENT	-41.878	0.4184
AYS	TEAT LENGTH	DFS	TEAT LENGTH	-43.205	0.4219
AYS	REAR ATTACHMENT HEIGHT	DFS	REAR UDDER HEIGHT	-53.866	0.4772
AYS	REAR TEAT PLACEMENT	DFS	REAR TEAT PLACEMENT	-47.464	0.4551
AYS	ANGULARITY	DFS	ANGULARITY	-67.357	0.6079

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Conversion Factors For Type. Source = INTERBULL MACE 1908  
Converted Canadian Proof = A + (B\* Foreign Proof)  
Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=GBR

	c	c	f			
	a	o	o			
	n	u	r	a	b	t
b	t	n	t	v	v	c
r	r	t	r	a	a	o
e	a	r	a	l	l	r
e	i	y	i	u	u	r
d	t	2	t	e	e	2
AYS	FEET AND LEGS	GBR	OVERALL FEET & LEG	-3.496	2.8844	
AYS	MAMMARY SYSTEM	GBR	OVERALL UDDER SCORE	-1.841	3.3169	
AYS	STATURE	GBR	STATURE	-2.183	5.0726	
AYS	CHEST WIDTH	GBR	CHEST WIDTH	2.319	4.0992	

AYS	BODY DEPTH	GBR	BODY DEPTH	0.910	3.9217
AYS	PIN WIDTH	GBR	RUMP WIDTH	-1.098	4.4714
AYS	RUMP ANGLE	GBR	RUMP ANGLE	-2.243	3.8969
AYS	FOOT ANGLE	GBR	FOOT ANGLE	-1.562	3.0407
AYS	REAR LEGS SIDE VIEW	GBR	REAR LEG SET	-0.632	3.7295
AYS	UDDER DEPTH	GBR	UDDER DEPTH	-0.473	2.9499
AYS	MEDIAN SUSPENSORY	GBR	MEDIAN SUSPENSORY	-1.505	2.7523
AYS	FORE ATTACHMENT	GBR	FORE UDDER	-0.198	3.0183
AYS	TEAT PLACEMENT	GBR	FRONT TEAT PLACEMENT	1.814	3.2660
AYS	TEAT LENGTH	GBR	TEAT LENGTH	-0.640	3.2741
AYS	REAR ATTACHMENT HEIGHT	GBR	REAR UDDER HEIGHT	-3.474	3.9523
AYS	ANGULARITY	GBR	ANGULARITY	-5.890	5.4276

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Conversion Factors For Type. Source = INTERBULL MACE 1908  
Converted Canadian Proof = A + (B\* Foreign Proof)  
Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=NLD

	c	c	f			
	a	o	o		a	b
	n	u	r		v	v
b	t	n	t		a	a
r	r	t	r		l	l
e	a	r	a		u	u
e	i	y	i		e	e
d	t	2	t			2
AYS	CONFORMATION	NLD	CONFORMATION	-118.850	1.2364	0.5
9						
AYS	FEET AND LEGS	NLD	OVERALL FEET & LEG	-54.517	0.5266	
AYS	MAMMARY SYSTEM	NLD	OVERALL UDDER SCORE	-104.810	1.0925	
AYS	STATURE	NLD	STATURE	-110.742	1.2226	
AYS	CHEST WIDTH	NLD	CHEST WIDTH	-132.242	1.4096	
AYS	BODY DEPTH	NLD	BODY DEPTH	-112.398	1.2323	
AYS	PIN WIDTH	NLD	RUMP WIDTH	-90.741	0.9749	
AYS	RUMP ANGLE	NLD	RUMP ANGLE	-100.470	0.9962	
AYS	FOOT ANGLE	NLD	FOOT ANGLE	-96.811	1.0126	

AYS	REAR LEGS SIDE VIEW	NLD	REAR LEG SET	-115.793	1.1331
AYS	REAR LEG REAR VIEW	NLD	REAR LEG REAR VIEW	-103.900	1.0429
AYS	UDDER DEPTH	NLD	UDDER DEPTH	-109.424	1.1339
AYS	MEDIAN SUSPENSORY	NLD	MEDIAN SUSPENSORY	-98.726	1.0027
AYS	FORE ATTACHMENT	NLD	FORE UDDER	-111.330	1.1375
AYS	TEAT PLACEMENT	NLD	FRONT TEAT PLACEMENT	-119.740	1.2374
AYS	TEAT LENGTH	NLD	TEAT LENGTH	-82.377	0.8407
AYS	REAR ATTACHMENT HEIGHT	NLD	REAR UDDER HEIGHT	-88.292	0.9231
AYS	REAR TEAT PLACEMENT	NLD	REAR TEAT PLACEMENT	-111.468	1.1402
AYS	ANGULARITY	NLD	ANGULARITY	-100.758	1.0934

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Conversion Factors For Type. Source = INTERBULL MACE 1908  
Converted Canadian Proof = A + (B\* Foreign Proof)  
Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=NOR

	c	c	f			
	a	o	o		a	b
	n	u	r		v	v
b	t	n	t		a	a
r	r	t	r		l	l
e	a	r	a		u	u
e	i	y	i		e	e
d	t	2	t			2
AYS	CONFORMATION	NOR	OVERALL CONFORMATION	-44.970	0.3806	0.7
1						
AYS	FEET AND LEGS	NOR	OVERALL FEET & LEG	-34.377	0.2729	
AYS	MAMMARY SYSTEM	NOR	OVERALL UDDER SCORE	-47.386	0.4011	
AYS	STATURE	NOR	STATURE	-52.560	0.4592	
AYS	CHEST WIDTH	NOR	CHEST WIDTH	-33.783	0.3934	
AYS	BODY DEPTH	NOR	BODY DEPTH	-38.163	0.3436	
AYS	PIN WIDTH	NOR	RUMP WIDTH	-39.129	0.4066	
AYS	RUMP ANGLE	NOR	RUMP ANGLE	-42.897	0.4448	
AYS	FOOT ANGLE	NOR	FOOT ANGLE	-33.603	0.3156	
AYS	REAR LEGS SIDE VIEW	NOR	REAR LEG SET	-39.342	0.4359	

AYS	REAR LEG REAR VIEW	NOR	REAR LEG REAR VIEW	-35.457	0.3249
AYS	UDDER DEPTH	NOR	UDDER DEPTH	-45.944	0.4066
AYS	MEDIAN SUSPENSORY	NOR	MEDIAN SUSPENSORY	-38.918	0.3244
AYS	FORE ATTACHMENT	NOR	FORE UDDER	-38.430	0.3350
AYS	FRONT TEAT PLACEMENT	NOR	FRONT TEAT PLACEMENT	-40.868	0.3871
AYS	TEAT LENGTH	NOR	TEAT LENGTH	-35.571	0.3495
AYS	REAR ATTACHMENT HEIGHT	NOR	REAR UDDER HEIGHT	-48.771	0.3786
AYS	REAR TEAT PLACEMENT	NOR	REAR TEAT PLACEMENT	-38.581	0.3612

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Conversion Factors For Type. Source = INTERBULL MACE 1908  
Converted Canadian Proof = A + (B\* Foreign Proof)  
Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=NZL

	c	c	f			
	a	o	o			
	n	u	r	a	b	t
b	t	n	t	v	v	c
r	r	t	r	a	a	o
e	a	r	a	l	l	r
e	i	y	i	u	u	r
d	t	2	t	e	e	2
AYS	CONFORMATION	NZL	OVERALL CONFORMATION	-8.320	11.9724	0.3
7						
AYS	MAMMARY SYSTEM	NZL	OVERALL UDDER SCORE	-9.843	12.7927	
AYS	STATURE	NZL	STATURE	-12.102	11.0830	
AYS	CHEST WIDTH	NZL	CHEST WIDTH	1.470	13.6797	
AYS	BODY DEPTH	NZL	BODY DEPTH	-1.859	12.3941	
AYS	PIN WIDTH	NZL	RUMP WIDTH	-5.025	16.7584	
AYS	RUMP ANGLE	NZL	RUMP ANGLE	-5.393	19.1149	
AYS	REAR LEGS SIDE VIEW	NZL	REAR LEG SET	4.661	37.2046	
AYS	MEDIAN SUSPENSORY	NZL	MEDIAN SUSPENSORY	-5.611	13.0282	
AYS	FORE ATTACHMENT	NZL	FORE UDDER	-7.752	13.5630	
AYS	FRONT TEAT PLACEMENT	NZL	FRONT TEAT PLACEMENT	-4.740	17.6922	
AYS	REAR ATTACHMENT HEIGHT	NZL	REAR UDDER HEIGHT	-8.452	13.9712	
AYS	REAR TEAT PLACEMENT	NZL	REAR TEAT PLACEMENT	-6.050	17.3392	



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 Conversion Factors For Type. Source = INTERBULL MACE 1908  
 Converted Canadian Proof = A + (B\* Foreign Proof)  
 Converted Proof Reliability = TCORR2\*Foreign Reliability

country2=USA

	c	c	f			
	a	o	o		a	b
b	n	u	r		v	v
r	t	r	t		a	a
e	r	r	a		l	l
e	i	y	i		u	u
d	t	2	t		e	e
						t
						c
						o
						r
						r
						2
AYS	CONFORMATION	USA	CONFORMATION	-4.039	5.4260	0.6
9						
AYS	FEET AND LEGS	USA	OVERALL FEET & LEG	-3.110	3.5607	
AYS	MAMMARY SYSTEM	USA	OVERALL UDDER SCORE	-2.059	5.0912	
AYS	STATURE	USA	STATURE	-1.196	2.8491	
AYS	CHEST WIDTH	USA	CHEST WIDTH	-0.441	5.4225	
AYS	BODY DEPTH	USA	BODY DEPTH	-0.915	4.4487	
AYS	PIN WIDTH	USA	RUMP WIDTH	-0.782	4.6765	
AYS	RUMP ANGLE	USA	RUMP ANGLE	-0.969	5.6377	
AYS	FOOT ANGLE	USA	FOOT ANGLE	-1.445	5.6955	
AYS	REAR LEGS SIDE VIEW	USA	REAR LEG SET	0.864	7.7826	
AYS	REAR LEG REAR VIEW	USA	REAR LEG REAR VIEW	-2.163	-6.2530	
AYS	UDDER DEPTH	USA	UDDER DEPTH	-0.668	4.8885	
AYS	MEDIAN SUSPENSORY	USA	MEDIAN SUSPENSORY	-3.446	4.7145	
AYS	FORE ATTACHMENT	USA	FORE UDDER	-1.820	4.4136	
AYS	TEAT PLACEMENT	USA	FRONT TEAT PLACEMENT	-0.502	4.1044	
AYS	TEAT LENGTH	USA	TEAT LENGTH	-0.066	3.9673	
AYS	REAR ATTACHMENT HEIGHT	USA	REAR UDDER HEIGHT	-2.242	4.2375	
AYS	REAR TEAT PLACEMENT	USA	REAR TEAT PLACEMENT	-0.448	4.8535	
AYS	ANGULARITY	USA	ANGULARITY	-2.176	5.7620	

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CALCULATION OF FAT% AND PROTEIN% FOR AUGUST 2019

BREED	BMILK	BFAT	BPRT
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AYS	7814	325	264
BSW	8650	366	305
CN	6147	264	217
GUE	6749	313	231
JER	6737	343	259
HOL	10399	407	336
MS	6588	262	220

$$EBVFAT\% = 200 * [ (BFAT + EBVFAT * 0.5) / (BMILK + EBVMILK * 0.5) - (BFAT / BMILK) ]$$

$$EBVPROT\% = 200 * [ (BPRT + EBVPRT * 0.5) / (BMILK + EBVMILK * 0.5) - (BPRT / BMILK) ]$$

EXAMPLE:

A HOLSTEIN bull has EBV MILK=+1000, EBVFAT=+50, EBVPROT=+40

$$\begin{aligned}
 EBVFAT\% &= 200 * [ (407 + 50 * 0.5) / (10399 + 1000 * 0.5) - (407 / 1E4) ] \\
 &= 200 * [ (407 + 25) / (10399 + 500) - (0.03914) ] \\
 &= 200 * [ 0.03964 - 0.03914 ] \\
 &= 200 * 0.00050 \\
 &= 0.10
 \end{aligned}$$

$$\begin{aligned}
 EBVPROT\% &= 200 * [ (336 + 40 * 0.5) / (10399 + 1000 * 0.5) - (336 / 1E4) ] \\
 &= 200 * [ (336 + 20) / (10399 + 500) - (0.03231) ] \\
 &= 200 * [ 0.03266 - 0.03231 ] \\
 &= 200 * 0.00035 \\
 &= 0.07
 \end{aligned}$$