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 Conversion Factors For Production Traits. Source: INTERBULL 1912
 Converted Canadian Proof = A + (B* Foreign Proof)
 Converted Proof Reliability = PCORR2*Foreign Reliability

breed	country2	amilk	bmilk	afat	bfat	aprot	bprot	pcorr2
AYS	AUS	343.50	1.2320	22.700	1.3420	18.300	1.3290	0.4761
AYS	CAM	-504.10	1.1206	-28.106	0.9101	-17.296	1.3369	0.7921
AYS	DEU	469.30	0.9230	35.300	0.9250	24.100	0.9410	0.8100
AYS	DFS	-4439.80	54.2870	-162.200	2.0810	-114.900	1.5940	0.7921
AYS	EST	452.70	1.1100	18.900	1.1340	20.100	1.0450	0.6889
AYS	GBR	-383.50	1.9130	-17.300	2.1020	-10.500	2.1120	0.6889
AYS	IRL	689.35	2.8033	23.328	2.6211	26.856	2.4771	0.5625
AYS	LTU	-592.80	1.5830	-13.000	1.3930	-12.700	1.7640	0.6889
AYS	LVA	141.90	1.7950	12.900	1.7730	10.100	1.9440	0.6724
AYS	NLD	1369.56	0.7235	51.257	0.7714	48.137	0.6060	0.7744
AYS	NOR	-3613.20	43.7470	-149.400	1.7720	-100.400	1.3410	0.7744
AYS	NZL	-2.70	1.5960	28.300	1.4970	16.500	1.7420	0.4761
AYS	USA	-282.70	0.8700	-16.600	0.9200	-10.200	0.8840	0.7921
AYS	ZAF	-26.99	0.8102	-5.712	0.9665	-0.587	0.8947	0.6561

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 Conversion Factors For SCS Traits. Source: INTERBULL 1912
 Converted Canadian Proof = A + (B* Foreign Proof)
 Converted Proof Reliability = SCORR2*Foreign Reliability

breed	country2	a	b	scorr2
AYS	AUS	97.300	-16.5870	0.7744
AYS	CAM	4.071	0.9291	0.8836
AYS	DEU	60.800	0.3780	0.8649
AYS	DFS	60.200	0.4080	0.8836
AYS	EST	57.500	0.4110	0.7921
AYS	GBR	98.900	-0.4640	0.8649
AYS	LTU	96.600	-13.5840	0.8100
AYS	LVA	96.200	-11.4090	0.8100
AYS	NLD	-34.281	1.3210	0.8281
AYS	NOR	63.800	0.3600	0.8464
AYS	NZL	94.300	-12.4270	0.7744
AYS	USA	166.500	-22.4610	0.8464
AYS	ZAF	99.569	-0.1984	0.7921

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 Conversion Factors For Type. Source = INTERBULL MACE 1912
 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	-5.424	4.5830	0.3
6						
AYS	FEET AND LEGS	AUS	OVERALL FEET & LEG	-37.547	0.3232	
AYS	MAMMARY SYSTEM	AUS	OVERALL UDDER SCORE	-5.239	5.7711	
AYS	STATURE	AUS	STATURE	-4.420	8.9814	
AYS	CHEST WIDTH	AUS	CHEST WIDTH	1.941	12.5529	
AYS	BODY DEPTH	AUS	BODY DEPTH	-1.206	11.5478	
AYS	PIN WIDTH	AUS	RUMP WIDTH	-2.373	12.9174	
AYS	RUMP ANGLE	AUS	RUMP ANGLE	-1.358	13.0480	
AYS	FOOT ANGLE	AUS	FOOT ANGLE	-1.538	14.0676	
AYS	REAR LEGS SIDE VIEW	AUS	REAR LEG SET	3.644	18.7771	
AYS	REAR LEG REAR VIEW	AUS	REAR LEG REAR VIEW	-2.851	13.8537	
AYS	UDDER DEPTH	AUS	UDDER DEPTH	-4.387	10.0720	
AYS	MEDIAN SUSPENSORY	AUS	MEDIAN SUSPENSORY	-3.565	11.3818	
AYS	FORE ATTACHMENT	AUS	FORE UDDER	-4.157	9.7376	
AYS	TEAT PLACEMENT	AUS	FRONT TEAT PLACEMENT	-0.969	9.0323	
AYS	TEAT LENGTH	AUS	TEAT LENGTH	1.514	10.3689	
AYS	REAR ATTACHMENT HEIGHT	AUS	REAR UDDER HEIGHT	-8.117	9.0187	
AYS	REAR TEAT PLACEMENT	AUS	REAR TEAT PLACEMENT	-2.298	14.7282	
AYS	ANGULARITY	AUS	ANGULARITY	-6.512	9.1745	

Conversion Factors For Type. Source = INTERBULL MACE 1912
 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	-8.391	0.7427	0.7
4						
AYS	FEET AND LEGS	CAM	OVERALL FEET & LEG	-6.221	0.5895	
AYS	MAMMARY SYSTEM	CAM	OVERALL UDDER SCORE	-9.143	0.7432	
AYS	STATURE	CAM	STATURE	-4.405	1.0421	
AYS	CHEST WIDTH	CAM	CHEST WIDTH	-1.533	0.8394	
AYS	BODY DEPTH	CAM	BODY DEPTH	-3.327	1.0466	
AYS	PIN WIDTH	CAM	RUMP WIDTH	-4.006	0.7988	
AYS	RUMP ANGLE	CAM	RUMP ANGLE	0.442	1.0272	
AYS	FOOT ANGLE	CAM	FOOT ANGLE	-2.144	0.6091	
AYS	REAR LEGS SIDE VIEW	CAM	REAR LEG SET	2.713	0.8263	
AYS	REAR LEG REAR VIEW	CAM	REAR LEG REAR VIEW	-4.647	0.7049	
AYS	UDDER DEPTH	CAM	UDDER DEPTH	-4.488	1.0767	
AYS	MEDIAN SUSPENSORY	CAM	MEDIAN SUSPENSORY	-4.271	0.7948	
AYS	FORE ATTACHMENT	CAM	FORE UDDER	-7.084	0.6976	
AYS	TEAT PLACEMENT	CAM	FRONT TEAT PLACEMENT	-2.818	0.7361	
AYS	TEAT LENGTH	CAM	TEAT LENGTH	1.262	0.6517	
AYS	REAR ATTACHMENT HEIGHT	CAM	REAR UDDER HEIGHT	-8.614	0.7902	
AYS	REAR TEAT PLACEMENT	CAM	REAR TEAT PLACEMENT	-2.376	0.9306	
AYS	ANGULARITY	CAM	ANGULARITY	-8.653	0.7267	

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Conversion Factors For Type. Source = INTERBULL MACE 1912
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 y 2	c o u n t r y 2	f o r e i g n c o u n t r y 2	a v e r a g e	b v a r i a n c e	t c o r r e c t i o n
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AYS	FEET AND LEGS	DEU	OVERALL FEET & LEG	-30.310	0.2991
AYS	MAMMARY SYSTEM	DEU	OVERALL UDDER SCORE	-33.985	0.3202
AYS	STATURE	DEU	STATURE	-43.388	0.4496
AYS	CHEST WIDTH	DEU	CHEST WIDTH	-48.681	0.4987
AYS	BODY DEPTH	DEU	BODY DEPTH	-54.063	0.5467
AYS	PIN WIDTH	DEU	RUMP WIDTH	-56.055	0.5788
AYS	RUMP ANGLE	DEU	RUMP ANGLE	-68.172	0.6450
AYS	FOOT ANGLE	DEU	FOOT ANGLE	-33.360	0.3626
AYS	REAR LEGS SIDE VIEW	DEU	REAR LEG SET	-63.264	0.6145
AYS	REAR LEG REAR VIEW	DEU	REAR LEG REAR VIEW	-54.514	0.5615
AYS	UDDER DEPTH	DEU	UDDER DEPTH	-44.599	0.4397
AYS	MEDIAN SUSPENSORY	DEU	MEDIAN SUSPENSORY	-44.232	0.4311
AYS	FORE ATTACHMENT	DEU	FORE UDDER	-47.401	0.4483
AYS	FRONT TEAT PLACEMENT	DEU	FRONT TEAT PLACEMENT	-40.210	0.3946
AYS	TEAT LENGTH	DEU	TEAT LENGTH	-35.814	0.3436
AYS	REAR ATTACHMENT HEIGHT	DEU	REAR UDDER HEIGHT	-39.783	0.3526
AYS	REAR TEAT PLACEMENT	DEU	REAR TEAT PLACEMENT	-45.406	0.4292
AYS	ANGULARITY	DEU	ANGULARITY	-45.416	0.4412

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Conversion Factors For Type. Source = INTERBULL MACE 1912
 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	-43.721	0.3720	0.5
8						
AYS	FEET AND LEGS	DFS	OVERALL FEET & LEG	-38.573	0.3588	
AYS	MAMMARY SYSTEM	DFS	OVERALL UDDER SCORE	-46.429	0.4330	

AYS	STATURE	DFS	STATURE	-70.591	0.6888
AYS	CHEST WIDTH	DFS	CHEST WIDTH	-45.216	0.4627
AYS	BODY DEPTH	DFS	BODY DEPTH	-48.053	0.4435
AYS	PIN WIDTH	DFS	RUMP WIDTH	-53.994	0.5312
AYS	RUMP ANGLE	DFS	RUMP ANGLE	-56.347	0.5668
AYS	FOOT ANGLE	DFS	FOOT ANGLE	-49.858	0.5032
AYS	REAR LEGS SIDE VIEW	DFS	REAR LEG SET	-61.376	0.6557
AYS	REAR LEG REAR VIEW	DFS	REAR LEG REAR VIEW	-52.407	0.5078
AYS	UDDER DEPTH	DFS	UDDER DEPTH	-49.125	0.4932
AYS	MEDIAN SUSPENSORY	DFS	MEDIAN SUSPENSORY	-37.273	0.3375
AYS	FORE ATTACHMENT	DFS	FORE UDDER	-41.302	0.3960
AYS	FRONT TEAT PLACEMENT	DFS	FRONT TEAT PLACEMENT	-41.882	0.4200
AYS	TEAT LENGTH	DFS	TEAT LENGTH	-43.337	0.4240
AYS	REAR ATTACHMENT HEIGHT	DFS	REAR UDDER HEIGHT	-53.464	0.4728
AYS	REAR TEAT PLACEMENT	DFS	REAR TEAT PLACEMENT	-46.958	0.4527
AYS	ANGULARITY	DFS	ANGULARITY	-66.476	0.5985

Conversion Factors For Type. Source = INTERBULL MACE 1912
 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	-3.408	2.9627	
AYS	MAMMARY SYSTEM	GBR	OVERALL UDDER SCORE	-1.768	3.3491	
AYS	STATURE	GBR	STATURE	-2.212	5.0808	
AYS	CHEST WIDTH	GBR	CHEST WIDTH	2.317	4.1196	

AYS	BODY DEPTH	GBR	BODY DEPTH	0.855	3.9449
AYS	PIN WIDTH	GBR	RUMP WIDTH	-1.114	4.5094
AYS	RUMP ANGLE	GBR	RUMP ANGLE	-2.254	3.9244
AYS	FOOT ANGLE	GBR	FOOT ANGLE	-1.425	2.9523
AYS	REAR LEGS SIDE VIEW	GBR	REAR LEG SET	-0.706	3.7425
AYS	UDDER DEPTH	GBR	UDDER DEPTH	-0.422	2.9429
AYS	MEDIAN SUSPENSORY	GBR	MEDIAN SUSPENSORY	-1.414	2.7664
AYS	FORE ATTACHMENT	GBR	FORE UDDER	-0.109	3.0681
AYS	TEAT PLACEMENT	GBR	FRONT TEAT PLACEMENT	1.878	3.2831
AYS	TEAT LENGTH	GBR	TEAT LENGTH	-0.689	3.3286
AYS	REAR ATTACHMENT HEIGHT	GBR	REAR UDDER HEIGHT	-3.402	3.9095
AYS	ANGULARITY	GBR	ANGULARITY	-5.776	5.4883

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Conversion Factors For Type. Source = INTERBULL MACE 1912
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	-119.826	1.2437	0.5
9						
AYS	FEET AND LEGS	NLD	OVERALL FEET & LEG	-55.437	0.5377	
AYS	MAMMARY SYSTEM	NLD	OVERALL UDDER SCORE	-110.879	1.1587	
AYS	STATURE	NLD	STATURE	-111.163	1.2265	
AYS	CHEST WIDTH	NLD	CHEST WIDTH	-131.274	1.3991	
AYS	BODY DEPTH	NLD	BODY DEPTH	-111.013	1.2171	
AYS	PIN WIDTH	NLD	RUMP WIDTH	-90.697	0.9731	
AYS	RUMP ANGLE	NLD	RUMP ANGLE	-100.560	0.9968	
AYS	FOOT ANGLE	NLD	FOOT ANGLE	-96.971	1.0152	

AYS	REAR LEGS SIDE VIEW	NLD	REAR LEG SET	-114.694	1.1222
AYS	REAR LEG REAR VIEW	NLD	REAR LEG REAR VIEW	-101.629	1.0186
AYS	UDDER DEPTH	NLD	UDDER DEPTH	-112.290	1.1651
AYS	MEDIAN SUSPENSORY	NLD	MEDIAN SUSPENSORY	-98.961	1.0055
AYS	FORE ATTACHMENT	NLD	FORE UDDER	-115.232	1.1777
AYS	TEAT PLACEMENT	NLD	FRONT TEAT PLACEMENT	-119.919	1.2401
AYS	TEAT LENGTH	NLD	TEAT LENGTH	-82.747	0.8440
AYS	REAR ATTACHMENT HEIGHT	NLD	REAR UDDER HEIGHT	-89.858	0.9403
AYS	REAR TEAT PLACEMENT	NLD	REAR TEAT PLACEMENT	-112.270	1.1527
AYS	ANGULARITY	NLD	ANGULARITY	-99.029	1.0718

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Conversion Factors For Type. Source = INTERBULL MACE 1912
Converted Canadian Proof = A + (B* Foreign Proof)
Converted Proof Reliability = TCORR2*Foreign Reliability

country2=NOR

	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	NOR	OVERALL CONFORMATION	-44.460	0.3666	0.7
AYS	FEET AND LEGS	NOR	OVERALL FEET & LEG	-32.920	0.2632	
AYS	MAMMARY SYSTEM	NOR	OVERALL UDDER SCORE	-49.731	0.4085	
AYS	STATURE	NOR	STATURE	-50.451	0.4339	
AYS	CHEST WIDTH	NOR	CHEST WIDTH	-33.672	0.3841	
AYS	BODY DEPTH	NOR	BODY DEPTH	-38.178	0.3448	
AYS	PIN WIDTH	NOR	RUMP WIDTH	-36.937	0.3817	
AYS	RUMP ANGLE	NOR	RUMP ANGLE	-44.202	0.4571	
AYS	FOOT ANGLE	NOR	FOOT ANGLE	-32.621	0.3152	
AYS	REAR LEGS SIDE VIEW	NOR	REAR LEG SET	-36.488	0.4092	

AYS	REAR LEG REAR VIEW	NOR	REAR LEG REAR VIEW	-36.100	0.3262
AYS	UDDER DEPTH	NOR	UDDER DEPTH	-48.159	0.4216
AYS	MEDIAN SUSPENSORY	NOR	MEDIAN SUSPENSORY	-39.271	0.3267
AYS	FORE ATTACHMENT	NOR	FORE UDDER	-42.902	0.3684
AYS	FRONT TEAT PLACEMENT	NOR	FRONT TEAT PLACEMENT	-43.498	0.3989
AYS	TEAT LENGTH	NOR	TEAT LENGTH	-36.743	0.3587
AYS	REAR ATTACHMENT HEIGHT	NOR	REAR UDDER HEIGHT	-48.008	0.3658
AYS	REAR TEAT PLACEMENT	NOR	REAR TEAT PLACEMENT	-39.423	0.3761

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 Conversion Factors For Type. Source = INTERBULL MACE 1912
 Converted Canadian Proof = A + (B* Foreign Proof)
 Converted Proof Reliability = TCORR2*Foreign Reliability

country2=NZL

	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	NZL	OVERALL CONFORMATION	-8.484	12.0662	0.3
7						
AYS	MAMMARY SYSTEM	NZL	OVERALL UDDER SCORE	-9.698	12.7764	
AYS	STATURE	NZL	STATURE	-12.181	11.1073	
AYS	CHEST WIDTH	NZL	CHEST WIDTH	1.415	13.6177	
AYS	BODY DEPTH	NZL	BODY DEPTH	-1.937	12.4642	
AYS	PIN WIDTH	NZL	RUMP WIDTH	-5.097	16.8387	
AYS	RUMP ANGLE	NZL	RUMP ANGLE	-5.408	19.0935	
AYS	REAR LEGS SIDE VIEW	NZL	REAR LEG SET	4.593	37.2292	
AYS	MEDIAN SUSPENSORY	NZL	MEDIAN SUSPENSORY	-5.540	13.1101	
AYS	FORE ATTACHMENT	NZL	FORE UDDER	-7.722	13.6440	
AYS	FRONT TEAT PLACEMENT	NZL	FRONT TEAT PLACEMENT	-4.652	17.7302	
AYS	REAR ATTACHMENT HEIGHT	NZL	REAR UDDER HEIGHT	-8.439	13.8122	
AYS	REAR TEAT PLACEMENT	NZL	REAR TEAT PLACEMENT	-5.795	17.2552	

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 Conversion Factors For Type. Source = INTERBULL MACE 1912
 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	t	r		l	l
e	a	y	a		u	u
d	i	2	i		e	e
	t		t			2
AYS	CONFORMATION	USA	CONFORMATION	-4.256	5.4057	0.6
7						
AYS	FEET AND LEGS	USA	OVERALL FEET & LEG	-3.022	3.5777	
AYS	MAMMARY SYSTEM	USA	OVERALL UDDER SCORE	-2.078	5.0682	
AYS	STATURE	USA	STATURE	-1.195	2.8470	
AYS	CHEST WIDTH	USA	CHEST WIDTH	-0.448	5.4031	
AYS	BODY DEPTH	USA	BODY DEPTH	-0.856	4.5013	
AYS	PIN WIDTH	USA	RUMP WIDTH	-0.863	4.6719	
AYS	RUMP ANGLE	USA	RUMP ANGLE	-0.967	5.6379	
AYS	FOOT ANGLE	USA	FOOT ANGLE	-1.462	5.7583	
AYS	REAR LEGS SIDE VIEW	USA	REAR LEG SET	0.764	7.8451	
AYS	REAR LEG REAR VIEW	USA	REAR LEG REAR VIEW	-2.186	-6.3399	
AYS	UDDER DEPTH	USA	UDDER DEPTH	-0.651	4.9485	
AYS	MEDIAN SUSPENSORY	USA	MEDIAN SUSPENSORY	-3.468	4.7304	
AYS	FORE ATTACHMENT	USA	FORE UDDER	-1.811	4.4394	
AYS	TEAT PLACEMENT	USA	FRONT TEAT PLACEMENT	-0.445	4.1524	
AYS	TEAT LENGTH	USA	TEAT LENGTH	-0.065	3.9520	
AYS	REAR ATTACHMENT HEIGHT	USA	REAR UDDER HEIGHT	-2.342	4.1776	
AYS	REAR TEAT PLACEMENT	USA	REAR TEAT PLACEMENT	-0.341	4.9069	
AYS	ANGULARITY	USA	ANGULARITY	-2.311	5.7386	

CALCULATION OF FAT% AND PROTEIN% FOR DECEMBER 2019

BREED	BMILK	BFAT	BPRT
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AYS	7815	325	264
BSW	8623	365	304
CN	6050	262	214
GUE	6678	309	230
JER	6768	345	260
HOL	10402	408	336
MS	6633	264	221

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

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

EXAMPLE:

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

$$\begin{aligned} \text{EBVFAT\%} &= 200 * [(408 + 50 * 0.5) / (10402 + 1000 * 0.5) - (408 / 10402)] \\ &= 200 * [(408 + 25) / (10402 + 500) - (0.03922)] \\ &= 200 * [0.03972 - 0.03922] \\ &= 200 * 0.00049 \\ &= 0.10 \end{aligned}$$

$$\begin{aligned} \text{EBVPROT\%} &= 200 * [(336 + 40 * 0.5) / (10402 + 1000 * 0.5) - (336 / 10402)] \\ &= 200 * [(336 + 20) / (10402 + 500) - (0.03230)] \\ &= 200 * [0.03265 - 0.03230] \\ &= 200 * 0.00035 \\ &= 0.07 \end{aligned}$$