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 Conversion Factors For Production Traits. Source: INTERBULL 1904
 Converted Canadian Proof = A + (B* Foreign Proof)
 Converted Proof Reliability = PCORR2*Foreign Reliability

breed	country2	amilk	bmilk	afat	bfat	aprot	bprot	pcorr2
BSW	AUS	-17.06	1.1206	0.005	1.2290	-0.504	1.3096	0.4900
BSW	CHE	-159.70	1.0690	-5.700	1.0850	-3.400	1.1000	0.7396
BSW	DEA	255.70	1.2930	14.600	1.4240	13.600	1.4460	0.7396
BSW	FRA	63.80	0.9380	4.300	0.9080	4.900	0.9680	0.7056
BSW	GBR	-248.06	2.2093	-7.371	2.6224	-7.154	2.6682	0.7056
BSW	ITA	-87.30	0.9630	0.700	1.0840	1.800	0.9320	0.7225
BSW	NLD	1042.99	0.8886	33.292	0.9163	32.431	0.9251	0.7396
BSW	NZL	348.39	1.3587	39.333	1.2981	19.351	1.5239	0.4900
BSW	SVN	-7399.80	64.3080	-286.900	2.4990	-259.900	2.2630	0.6724
BSW	USA	-99.20	0.9920	-4.400	1.0900	-5.700	1.1600	0.7921

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 Conversion Factors For SCS Traits. Source: INTERBULL 1904
 Converted Canadian Proof = A + (B* Foreign Proof)
 Converted Proof Reliability = SCORR2*Foreign Reliability

breed	country2	a	b	scorr2
BSW	CHE	47.100	0.5310	0.8464
BSW	DEA	54.000	0.4680	0.8464
BSW	FRA	100.400	5.5280	0.8281
BSW	GBR	100.369	-0.4289	0.8100
BSW	ITA	67.300	0.3290	0.7921
BSW	NLD	-48.813	1.4649	0.7921
BSW	NZL	95.613	-14.4505	0.7569
BSW	SVN	42.200	0.5570	0.7921
BSW	USA	177.600	-26.1230	0.7921

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 Conversion Factors For Type. Source = INTERBULL MACE 1904
 Converted Canadian Proof = A + (B* Foreign Proof)
 Converted Proof Reliability = TCORR2*Foreign Reliability

country2=CHE

	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				
BSW CONFORMATION		CHE FINAL SCORE			-81.349	0.8045	0.74
BSW DAIRY STRENGTH		CHE OVERALL FRAME			-50.756	0.4922	

BSW RUMP	CHE OVERALL RUMP	-30.753	0.3153
BSW FEET AND LEGS	CHE OVERALL FEET & LEG	-61.462	0.6142
BSW MAMMARY SYSTEM	CHE OVERALL UDDER SCORE	-58.647	0.5798
BSW STATURE	CHE STATURE	-54.665	0.5293
BSW THURL PLACEMENT	CHE THURL PLACEMENT	-57.255	0.5795
BSW CHEST WIDTH	CHE CHEST WIDTH	-77.390	0.7978
BSW BODY DEPTH	CHE BODY DEPTH	-55.407	0.5489
BSW LOIN STRENGTH	CHE TOP LINE	-50.471	0.5310
BSW PIN WIDTH	CHE RUMP WIDTH	-56.970	0.5903
BSW RUMP ANGLE	CHE RUMP ANGLE	-56.688	0.5756
BSW BONE QUALITY	CHE HOCK QUALITY	-59.223	0.5697
BSW FOOT ANGLE	CHE FOOT ANGLE	-40.683	0.4002
BSW HEEL DEPTH	CHE HEEL DEPTH	-60.300	0.6124
BSW REAR LEGS SIDE VIEW	CHE REAR LEG SET	-52.999	0.5334
BSW UDDER DEPTH	CHE UDDER DEPTH	-53.676	0.5367
BSW MEDIAN SUSPENSORY	CHE MEDIAN SUSPENSORY	-69.325	0.6706
BSW FORE ATTACHMENT	CHE FORE UDDER	-54.176	0.5350
BSW FRONT TEAT PLACEMENT	CHE FRONT TEAT PLACEMENT	-51.807	0.5196
BSW TEAT LENGTH	CHE TEAT LENGTH	-43.310	0.4047
BSW REAR ATTACHMENT HEIGHT	CHE REAR UDDER HEIGHT	-63.796	0.6228
BSW REAR ATTACHMENT WIDTH	CHE REAR UDDER WIDTH	-66.801	0.6577
BSW REAR TEAT PLACEMENT	CHE REAR TEAT PLACEMENT	-48.349	0.4836
BSW ANGULARITY	CHE ANGULARITY	58.606	-0.6432

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Conversion Factors For Type. Source = INTERBULL MACE 1904
Converted Canadian Proof = A + (B* Foreign Proof)
Converted Proof Reliability = TCORR2*Foreign Reliability

country2=DEA

	c	c	f			
	a	o	o		b	t
b	n	u	r	a	v	c
r	t	n	t	v	v	o
e	a	r	a	l	l	r
e	i	y	i	u	u	r
d	t	2	t	e	e	2
BSW CONFORMATION	DEA CONFORMATION	-66.517	0.6147	0.67		
BSW DAIRY STRENGTH	DEA OVERALL FRAME	-60.496	0.5574			
BSW RUMP	DEA OVERALL RUMP	-42.011	0.4043			
BSW FEET AND LEGS	DEA OVERALL FEET & LEG	-43.650	0.4208			
BSW MAMMARY SYSTEM	DEA OVERALL UDDER SCORE	-63.307	0.5861			
BSW STATURE	DEA STATURE	-61.726	0.5759			
BSW THURL PLACEMENT	DEA THURL PLACEMENT	-40.848	0.4291			
BSW CHEST WIDTH	DEA CHEST WIDTH	-65.733	0.6498			
BSW BODY DEPTH	DEA BODY DEPTH	-50.839	0.4920			
BSW LOIN STRENGTH	DEA TOP LINE	-55.402	0.5455			
BSW PIN WIDTH	DEA RUMP WIDTH	-51.668	0.5160			
BSW RUMP ANGLE	DEA RUMP ANGLE	-53.443	0.5481			
BSW BONE QUALITY	DEA HOCK QUALITY	-50.850	0.4917			
BSW FOOT ANGLE	DEA FOOT ANGLE	-50.091	0.4824			
BSW HEEL DEPTH	DEA HEEL DEPTH	-54.177	0.5304			
BSW REAR LEGS SIDE VIEW	DEA REAR LEG SET	-57.163	0.5617			
BSW UDDER DEPTH	DEA UDDER DEPTH	-53.492	0.5129			
BSW MEDIAN SUSPENSORY	DEA MEDIAN SUSPENSORY	-74.097	0.7041			

BSW FORE ATTACHMENT	DEA FORE UDDER	-56.463	0.5479
BSW FRONT TEAT PLACEMENT	DEA FRONT TEAT PLACEMENT	-66.949	0.6442
BSW TEAT LENGTH	DEA TEAT LENGTH	-53.403	0.5281
BSW REAR ATTACHMENT HEIGHT	DEA REAR UDDER HEIGHT	-55.041	0.5035
BSW REAR ATTACHMENT WIDTH	DEA REAR UDDER WIDTH	-61.622	0.5718
BSW REAR TEAT PLACEMENT	DEA REAR TEAT PLACEMENT	-59.724	0.5673

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Conversion Factors For Type. Source = INTERBULL MACE 1904
Converted Canadian Proof = A + (B* Foreign Proof)
Converted Proof Reliability = TCORR2*Foreign Reliability

country2=FRA

	c	c	f			
	a	o	o		b	t
b	n	u	r	a	v	c
r	t	n	t	v	v	o
e	r	t	r	a	a	r
e	a	r	a	l	l	r
d	i	y	i	u	u	r
	t	2	t	e	e	2
BSW CONFORMATION	FRA OVERALL SCORE	-2.830	6.7359	0.66		
BSW DAIRY STRENGTH	FRA OVERALL FRAME	-3.146	7.0147			
BSW RUMP	FRA OVERALL RUMP	-0.523	6.1225			
BSW FEET AND LEGS	FRA OVERALL FEET & LEG	-1.085	3.7570			
BSW MAMMARY SYSTEM	FRA OVERALL UDDER SCORE	-2.511	7.6607			
BSW STATURE	FRA STATURE	-2.858	7.1877			
BSW THURL PLACEMENT	FRA THURL PLACEMENT	2.171	6.1437			
BSW CHEST WIDTH	FRA CHEST DEPTH	-0.947	7.7819			
BSW BODY DEPTH	FRA BODY DEPTH	-1.349	5.6159			
BSW LOIN STRENGTH	FRA TOP LINE	-0.727	5.2536			
BSW PIN WIDTH	FRA RUMP WIDTH	-1.058	6.8513			
BSW RUMP ANGLE	FRA RUMP ANGLE	2.190	6.9513			
BSW BONE QUALITY	FRA HOCK QUALITY	-2.276	5.9134			
BSW FOOT ANGLE	FRA HEEL DEPTH	-0.201	5.3803			
BSW HEEL DEPTH	FRA HEEL DEPTH	0.245	6.2439			
BSW REAR LEGS SIDE VIEW	FRA REAR LEG SET	-1.497	6.7662			
BSW UDDER DEPTH	FRA UDDER DEPTH	-1.350	6.3609			
BSW MEDIAN SUSPENSORY	FRA MEDIAN SUSPENSORY	-0.288	8.2532			
BSW FORE ATTACHMENT	FRA FORE UDDER	-1.711	7.0401			
BSW FRONT TEAT PLACEMENT	FRA FRONT TEAT PLACEMENT	-2.142	7.6275			
BSW TEAT LENGTH	FRA TEAT LENGTH	0.175	6.3855			
BSW REAR ATTACHMENT HEIGHT	FRA REAR UDDER HEIGHT	-2.313	7.1324			
BSW REAR ATTACHMENT WIDTH	FRA REAR UDDER WIDTH	-1.901	7.8424			
BSW REAR TEAT PLACEMENT	FRA REAR TEAT PLACEMENT	-0.531	7.3549			
BSW ANGULARITY	FRA ANGULARITY	-4.245	8.2028			

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Conversion Factors For Type. Source = INTERBULL MACE 1904
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
BSW FEET AND LEGS		GBR OVERALL FEET & LEG		-0.987	3.9934	
BSW MAMMARY SYSTEM		GBR OVERALL UDDER SCORE		-2.907	5.1099	
BSW STATURE		GBR STATURE		-3.598	8.9740	
BSW CHEST WIDTH		GBR CHEST WIDTH		-1.466	6.1948	
BSW BODY DEPTH		GBR BODY DEPTH		-0.037	4.3305	
BSW PIN WIDTH		GBR RUMP WIDTH		-0.752	5.8648	
BSW RUMP ANGLE		GBR RUMP ANGLE		0.870	3.6928	
BSW FOOT ANGLE		GBR FOOT ANGLE		0.882	7.6130	
BSW REAR LEGS SIDE VIEW		GBR REAR LEG SET		-3.077	5.9496	
BSW UDDER DEPTH		GBR UDDER DEPTH		-1.472	3.3502	
BSW MEDIAN SUSPENSORY		GBR MEDIAN SUSPENSORY		-1.315	2.8426	
BSW FORE ATTACHMENT		GBR FORE UDDER		-2.781	4.7768	
BSW TEAT PLACEMENT		GBR FRONT TEAT PLACEMENT		-1.470	5.6104	
BSW TEAT LENGTH		GBR TEAT LENGTH		0.475	4.4778	
BSW REAR ATTACHMENT HEIGHT		GBR REAR UDDER HEIGHT		-1.360	4.6295	
BSW ANGULARITY		GBR ANGULARITY		-3.145	10.8797	

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Conversion Factors For Type. Source = INTERBULL MACE 1904
Converted Canadian Proof = A + (B* Foreign Proof)
Converted Proof Reliability = TCORR2*Foreign Reliability

country2=ITA

	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
BSW CONFORMATION		ITA FINAL SCORE		-81.982	0.7426	0.69
BSW DAIRY STRENGTH		ITA OVERALL FRAME		-36.894	0.3324	
BSW RUMP		ITA OVERALL RUMP		-38.769	0.3640	
BSW FEET AND LEGS		ITA OVERALL FEET & LEG		-33.994	0.2970	
BSW MAMMARY SYSTEM		ITA OVERALL UDDER SCORE		-76.331	0.6858	
BSW STATURE		ITA STATURE		-48.506	0.4383	
BSW THURL PLACEMENT		ITA THURL PLACEMENT		-21.315	0.2244	
BSW CHEST WIDTH		ITA STRENGTH		-31.310	0.3022	
BSW BODY DEPTH		ITA BODY DEPTH		-28.868	0.2807	
BSW LOIN STRENGTH		ITA TOP LINE		-26.709	0.2617	
BSW PIN WIDTH		ITA RUMP WIDTH		-33.579	0.3196	
BSW RUMP ANGLE		ITA RUMP ANGLE		-26.650	0.2795	
BSW BONE QUALITY		ITA HOCK QUALITY		-33.834	0.2970	
BSW FOOT ANGLE		ITA FOOT ANGLE		-29.014	0.2569	
BSW HEEL DEPTH		ITA HEEL DEPTH		-33.703	0.3061	
BSW REAR LEGS SIDE VIEW		ITA REAR LEG SET		-28.821	0.2837	

BSW UDDER DEPTH	ITA UDDER DEPTH	-33.358	0.2973
BSW MEDIAN SUSPENSORY	ITA MEDIAN SUSPENSORY	-45.016	0.4115
BSW FORE ATTACHMENT	ITA FORE UDDER	-33.587	0.3005
BSW TEAT PLACEMENT	ITA FRONT TEAT PLACEMENT	-31.126	0.2749
BSW TEAT LENGTH	ITA TEAT LENGTH	-31.432	0.3177
BSW REAR ATTACHMENT HEIGHT	ITA REAR UDDER HEIGHT	-52.592	0.4607
BSW REAR ATTACHMENT WIDTH	ITA REAR UDDER WIDTH	-54.099	0.4827
BSW REAR TEAT PLACEMENT	ITA REAR TEAT PLACEMENT	-34.341	0.3135

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Conversion Factors For Type. Source = INTERBULL MACE 1904
Converted Canadian Proof = A + (B* Foreign Proof)
Converted Proof Reliability = TCORR2*Foreign Reliability

country2=NLD

	c	c	f			
	a	o	o	a	b	t
b	n	u	r	v	v	c
r	t	n	t	a	a	o
e	r	t	r	l	l	r
e	a	r	a	u	u	r
d	i	y	i	e	e	2
	t	2	t			
BSW CONFORMATION	NLD CONFORMATION	-174.847	1.7096	0.59		
BSW FEET AND LEGS	NLD OVERALL FEET & LEG	-133.539	1.1881			
BSW MAMMARY SYSTEM	NLD OVERALL UDDER SCORE	-156.963	1.6531			
BSW STATURE	NLD STATURE	-141.593	1.4064			
BSW CHEST WIDTH	NLD CHEST WIDTH	-184.678	1.8287			
BSW BODY DEPTH	NLD BODY DEPTH	-127.735	1.3292			
BSW PIN WIDTH	NLD RUMP WIDTH	-155.292	1.7399			
BSW RUMP ANGLE	NLD RUMP ANGLE	-148.711	1.4675			
BSW FOOT ANGLE	NLD FOOT ANGLE	-136.192	1.1803			
BSW HEEL DEPTH	NLD HEEL DEPTH	-144.888	1.2611			
BSW REAR LEGS SIDE VIEW	NLD REAR LEG SET	-123.179	1.2940			
BSW UDDER DEPTH	NLD UDDER DEPTH	-150.022	1.5291			
BSW MEDIAN SUSPENSORY	NLD MEDIAN SUSPENSORY	-156.984	1.6505			
BSW FORE ATTACHMENT	NLD FORE UDDER	-133.002	1.3622			
BSW TEAT PLACEMENT	NLD FRONT TEAT PLACEMENT	-150.106	1.4745			
BSW TEAT LENGTH	NLD TEAT LENGTH	-123.222	1.1857			
BSW REAR ATTACHMENT HEIGHT	NLD REAR UDDER HEIGHT	-124.260	1.3583			
BSW REAR ATTACHMENT WIDTH	NLD REAR UDDER WIDTH	-118.801	1.3031			
BSW REAR TEAT PLACEMENT	NLD REAR TEAT PLACEMENT	-152.518	1.5679			
BSW ANGULARITY	NLD ANGULARITY	-158.471	1.6692			

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Conversion Factors For Type. Source = INTERBULL MACE 1904
Converted Canadian Proof = A + (B* Foreign Proof)
Converted Proof Reliability = TCORR2*Foreign Reliability

country2=SVN

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

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

BSW CONFORMATION	SVN CONFORMATION	-42.130	0.2885	0.62
BSW DAIRY STRENGTH	SVN OVERALL FRAME	-35.313	0.2569	
BSW RUMP	SVN OVERALL RUMP	-26.879	0.2282	
BSW FEET AND LEGS	SVN OVERALL FEET & LEG	-27.317	0.2193	
BSW MAMMARY SYSTEM	SVN OVERALL UDDER SCORE	-44.933	0.3199	
BSW STATURE	SVN STATURE	-49.823	0.3823	
BSW THURL PLACEMENT	SVN THURL PLACEMENT	-16.281	0.1689	
BSW CHEST WIDTH	SVN CHEST WIDTH	-33.692	0.3418	
BSW BODY DEPTH	SVN BODY DEPTH	-23.397	0.2081	
BSW LOIN STRENGTH	SVN TOP LINE	-27.848	0.2716	
BSW PIN WIDTH	SVN RUMP WIDTH	-29.255	0.2510	
BSW RUMP ANGLE	SVN RUMP ANGLE	-27.758	0.3001	
BSW BONE QUALITY	SVN HOCK QUALITY	-35.581	0.2904	
BSW FOOT ANGLE	SVN FOOT ANGLE	-28.613	0.2467	
BSW HEEL DEPTH	SVN HEEL DEPTH	-25.676	0.2265	
BSW REAR LEGS SIDE VIEW	SVN REAR LEG SET	-27.763	0.2819	
BSW UDDER DEPTH	SVN UDDER DEPTH	-34.603	0.2843	
BSW MEDIAN SUSPENSORY	SVN MEDIAN SUSPENSORY	-37.202	0.2949	
BSW FORE ATTACHMENT	SVN FORE UDDER	-33.725	0.2556	
BSW TEAT PLACEMENT	SVN FRONT TEAT PLACEMENT	-47.629	0.3847	
BSW TEAT LENGTH	SVN TEAT LENGTH	-29.353	0.3275	
BSW REAR ATTACHMENT HEIGHT	SVN REAR UDDER HEIGHT	-45.024	0.3437	
BSW REAR ATTACHMENT WIDTH	SVN REAR UDDER WIDTH	-50.940	0.3988	
BSW REAR TEAT PLACEMENT	SVN REAR TEAT PLACEMENT	-46.615	0.3820	

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Conversion Factors For Type. Source = INTERBULL MACE 1904
Converted Canadian Proof = A + (B* Foreign Proof)
Converted Proof Reliability = TCORR2*Foreign Reliability

country2=USA

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

BSW CONFORMATION	USA PTA TYPE (FINAL SCORE)	-0.855	10.9109	0.74
BSW DAIRY STRENGTH	USA OVERALL FRAME	-0.906	3.8518	
BSW RUMP	USA OVERALL RUMP	-0.708	8.9512	
BSW FEET AND LEGS	USA OVERALL FEET & LEG	-0.240	6.1733	
BSW MAMMARY SYSTEM	USA OVERALL UDDER SCORE	-0.901	7.6281	
BSW STATURE	USA STATURE	-0.979	4.0729	
BSW THURL PLACEMENT	USA THURL PLACEMENT	-1.750	6.5308	
BSW CHEST WIDTH	USA STRENGTH	-0.783	9.6644	
BSW BODY DEPTH	USA BODY DEPTH	0.090	6.2864	
BSW PIN WIDTH	USA RUMP WIDTH	-0.017	8.7924	
BSW RUMP ANGLE	USA RUMP ANGLE	-1.256	5.9746	

BSW FOOT ANGLE	USA FOOT ANGLE	0.014	9.8126
BSW HEEL DEPTH	USA HEEL DEPTH	0.089	10.3064
BSW REAR LEGS SIDE VIEW	USA REAR LEG SET	-0.406	9.9219
BSW UDDER DEPTH	USA UDDER DEPTH	-0.377	5.2875
BSW MEDIAN SUSPENSORY	USA UDDER CLEFT	0.401	6.3802
BSW FORE ATTACHMENT	USA FORE UDDER ATTACHMENT	0.168	5.3592
BSW FRONT TEAT PLACEMENT	USA FRONT TEAT PLACEMENT	-0.844	5.5705
BSW TEAT LENGTH	USA TEAT LENGTH	0.413	4.4344
BSW REAR ATTACHMENT HEIGHT	USA REAR UDDER HEIGHT	-1.453	5.5002
BSW REAR ATTACHMENT WIDTH	USA REAR UDDER WIDTH	-0.943	7.1415
BSW REAR TEAT PLACEMENT	USA REAR TEAT PLACEMENT	-0.474	5.4092
BSW ANGULARITY	USA ANGULARITY	-0.145	5.7711

CALCULATION OF FAT% AND PROTEIN% FOR APRIL 2019

BREED	BMILK	BFAT	BPRT
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AYS	7813	325	264
BSW	8633	366	305
CN	5913	254	210
GUE	6904	324	238
JER	6735	343	259
HOL	10397	407	336
MS	6689	264	222

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

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

EXAMPLE:

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

$$\begin{aligned}
 EBVFAT\% &= 200 * [(407 + 50 * 0.5) / (10397 + 1000 * 0.5) - (407 / 1E4)] \\
 &= 200 * [(407 + 25) / (10397 + 500) - (0.03915)] \\
 &= 200 * [0.03964 - 0.03915] \\
 &= 200 * 0.00050 \\
 &= 0.10
 \end{aligned}$$

$$\begin{aligned}
 EBVPROT\% &= 200 * [(336 + 40 * 0.5) / (10397 + 1000 * 0.5) - (336 / 1E4)] \\
 &= 200 * [(336 + 20) / (10397 + 500) - (0.03232)] \\
 &= 200 * [0.03267 - 0.03232] \\
 &= 200 * 0.00035 \\
 &= 0.07
 \end{aligned}$$