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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
AYS	AUS	318.10	1.1710	20.500	1.2740	16.800	1.2300	0.4761
AYS	CAM	-551.84	1.0984	-29.388	0.8941	-18.923	1.3195	0.7921
AYS	DEU	447.50	0.9220	33.600	0.9060	23.200	0.9400	0.7921
AYS	DFS	-4396.90	53.4080	-158.600	2.0130	-114.700	1.5660	0.7921
AYS	EST	415.90	1.1090	16.900	1.1180	18.800	1.0390	0.6889
AYS	GBR	-431.20	1.9780	-19.700	2.1950	-12.100	2.2140	0.6889
AYS	IRL	659.17	2.9270	22.323	2.5311	25.869	2.4741	0.5625
AYS	LTU	-614.00	1.5730	-14.100	1.3660	-13.400	1.7420	0.6889
AYS	LVA	122.70	1.7900	11.500	1.7440	9.300	1.9510	0.6724
AYS	NLD	1287.42	0.6927	47.539	0.7358	45.823	0.5906	0.7744
AYS	NOR	-3526.40	41.7140	-145.200	1.6980	-100.400	1.3110	0.7744
AYS	NZL	-41.20	1.5760	25.900	1.4550	14.900	1.7340	0.4761
AYS	USA	-291.30	0.8770	-16.900	0.9130	-10.400	0.8930	0.7921
AYS	ZAF	-64.11	0.7966	-7.317	0.9535	-2.084	0.8857	0.6561

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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
AYS	AUS	97.400	-16.5080	0.7744
AYS	CAM	4.108	0.9318	0.8836
AYS	DEU	60.800	0.3790	0.8649
AYS	DFS	60.500	0.4050	0.8836
AYS	EST	57.300	0.4130	0.7921
AYS	GBR	98.900	-0.4590	0.8649
AYS	LTU	96.600	-13.5020	0.8100
AYS	LVA	96.200	-11.3570	0.8100
AYS	NLD	-35.556	1.3332	0.8281
AYS	NOR	62.100	0.3690	0.8464
AYS	NZL	94.300	-12.3850	0.7744
AYS	USA	166.300	-22.3910	0.8464
AYS	ZAF	99.723	-0.1985	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=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	-5.340	4.5606	0.3
AYS	FEET AND LEGS	AUS	OVERALL FEET & LEG	-38.368	0.3295	
AYS	MAMMARY SYSTEM	AUS	OVERALL UDDER SCORE	-5.571	5.8959	
AYS	STATURE	AUS	STATURE	-4.199	8.8060	
AYS	CHEST WIDTH	AUS	CHEST WIDTH	1.873	12.3769	
AYS	BODY DEPTH	AUS	BODY DEPTH	-1.233	11.6153	
AYS	PIN WIDTH	AUS	RUMP WIDTH	-2.238	12.8083	
AYS	RUMP ANGLE	AUS	RUMP ANGLE	-1.409	12.8004	
AYS	FOOT ANGLE	AUS	FOOT ANGLE	-1.402	13.8433	
AYS	REAR LEGS SIDE VIEW	AUS	REAR LEG SET	3.821	18.9315	
AYS	REAR LEG REAR VIEW	AUS	REAR LEG REAR VIEW	-3.080	14.5505	
AYS	UDDER DEPTH	AUS	UDDER DEPTH	-4.447	10.2273	
AYS	MEDIAN SUSPENSORY	AUS	MEDIAN SUSPENSORY	-3.698	11.2121	
AYS	FORE ATTACHMENT	AUS	FORE UDDER	-4.276	9.7937	
AYS	TEAT PLACEMENT	AUS	FRONT TEAT PLACEMENT	-1.030	9.1998	
AYS	TEAT LENGTH	AUS	TEAT LENGTH	1.333	9.9810	
AYS	REAR ATTACHMENT HEIGHT	AUS	REAR UDDER HEIGHT	-8.202	9.1351	
AYS	REAR TEAT PLACEMENT	AUS	REAR TEAT PLACEMENT	-3.039	15.2222	
AYS	ANGULARITY	AUS	ANGULARITY	-6.557	9.2434	

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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=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	-7.940	0.7808	0.7
4						
AYS	FET AND LEGS		CAM OVERALL FEET & LEG	-6.113	0.5985	
AYS	MAMMARY SYSTEM		CAM OVERALL UDDER SCORE	-9.145	0.7590	
AYS	STATURE		CAM STATURE	-4.619	1.0343	
AYS	CHEST WIDTH		CAM CHEST WIDTH	-0.341	0.8526	
AYS	BODY DEPTH		CAM BODY DEPTH	-3.437	1.0294	
AYS	PIN WIDTH		CAM RUMP WIDTH	-3.336	0.8276	
AYS	RUMP ANGLE		CAM RUMP ANGLE	0.837	0.9878	
AYS	FOOT ANGLE		CAM FOOT ANGLE	-1.194	0.6106	
AYS	REAR LEGS SIDE VIEW		CAM REAR LEG SET	2.819	0.8225	
AYS	REAR LEG REAR VIEW		CAM REAR LEG REAR VIEW	-4.380	0.7348	
AYS	UDDER DEPTH		CAM UDDER DEPTH	-5.354	1.1057	
AYS	MEDIAN SUSPENSORY		CAM MEDIAN SUSPENSORY	-4.176	0.7659	
AYS	FORE ATTACHMENT		CAM FORE UDDER	-6.378	0.6847	
AYS	TEAT PLACEMENT		CAM FRONT TEAT PLACEMENT	-3.935	0.7330	
AYS	TEAT LENGTH		CAM TEAT LENGTH	1.588	0.6543	
AYS	REAR ATTACHMENT HEIGHT		CAM REAR UDDER HEIGHT	-9.442	0.7847	
AYS	REAR TEAT PLACEMENT		CAM REAR TEAT PLACEMENT	-3.432	0.9392	
AYS	ANGULARITY		CAM ANGULARITY	-8.626	0.7363	

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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=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 e i g n	a b l u e	b v a l u e	t c o r r e c t e d
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AYS	FEET AND LEGS	DEU	OVERALL FEET & LEG	-30.103	0.2948
AYS	MAMMARY SYSTEM	DEU	OVERALL UDDER SCORE	-34.749	0.3276
AYS	STATURE	DEU	STATURE	-43.041	0.4469
AYS	CHEST WIDTH	DEU	CHEST WIDTH	-47.394	0.4872
AYS	BODY DEPTH	DEU	BODY DEPTH	-53.818	0.5466
AYS	PIN WIDTH	DEU	RUMP WIDTH	-55.633	0.5756
AYS	RUMP ANGLE	DEU	RUMP ANGLE	-67.659	0.6400
AYS	FOOT ANGLE	DEU	FOOT ANGLE	-32.903	0.3572
AYS	REAR LEGS SIDE VIEW	DEU	REAR LEG SET	-63.643	0.6168
AYS	REAR LEG REAR VIEW	DEU	REAR LEG REAR VIEW	-54.818	0.5643
AYS	UDDER DEPTH	DEU	UDDER DEPTH	-44.928	0.4416
AYS	MEDIAN SUSPENSORY	DEU	MEDIAN SUSPENSORY	-43.970	0.4289
AYS	FORE ATTACHMENT	DEU	FORE UDDER	-47.774	0.4494
AYS	FRONT TEAT PLACEMENT	DEU	FRONT TEAT PLACEMENT	-40.375	0.3930
AYS	TEAT LENGTH	DEU	TEAT LENGTH	-35.546	0.3437
AYS	REAR ATTACHMENT HEIGHT	DEU	REAR UDDER HEIGHT	-40.062	0.3554
AYS	REAR TEAT PLACEMENT	DEU	REAR TEAT PLACEMENT	-46.472	0.4378
AYS	ANGULARITY	DEU	ANGULARITY	-45.372	0.4399

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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=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	-44.128	0.3781	0.5
8						
AYS	FEET AND LEGS	DFS	OVERALL FEET & LEG	-39.346	0.3628	
AYS	MAMMARY SYSTEM	DFS	OVERALL UDDER SCORE	-47.589	0.4395	

AYS	STATURE	DFS	STATURE	-70.963	0.6877
AYS	CHEST WIDTH	DFS	CHEST WIDTH	-44.998	0.4631
AYS	BODY DEPTH	DFS	BODY DEPTH	-48.301	0.4468
AYS	PIN WIDTH	DFS	RUMP WIDTH	-54.327	0.5314
AYS	RUMP ANGLE	DFS	RUMP ANGLE	-56.176	0.5661
AYS	FOOT ANGLE	DFS	FOOT ANGLE	-50.517	0.5101
AYS	REAR LEGS SIDE VIEW	DFS	REAR LEG SET	-61.931	0.6621
AYS	REAR LEG REAR VIEW	DFS	REAR LEG REAR VIEW	-53.426	0.5184
AYS	UDDER DEPTH	DFS	UDDER DEPTH	-49.983	0.4944
AYS	MEDIAN SUSPENSORY	DFS	MEDIAN SUSPENSORY	-36.949	0.3357
AYS	FORE ATTACHMENT	DFS	FORE UDDER	-41.904	0.3997
AYS	FRONT TEAT PLACEMENT	DFS	FRONT TEAT PLACEMENT	-42.188	0.4208
AYS	TEAT LENGTH	DFS	TEAT LENGTH	-43.396	0.4230
AYS	REAR ATTACHMENT HEIGHT	DFS	REAR UDDER HEIGHT	-53.934	0.4768
AYS	REAR TEAT PLACEMENT	DFS	REAR TEAT PLACEMENT	-48.066	0.4621
AYS	ANGULARITY	DFS	ANGULARITY	-67.613	0.6084

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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
AYS	FEET AND LEGS	GBR	OVERALL FEET & LEG	-3.595	2.9086	
AYS	MAMMARY SYSTEM	GBR	OVERALL UDDER SCORE	-1.962	3.3343	
AYS	STATURE	GBR	STATURE	-2.210	5.0397	
AYS	CHEST WIDTH	GBR	CHEST WIDTH	2.242	4.0911	

AYS	BODY DEPTH	GBR	BODY DEPTH	0.897	3.9616
AYS	PIN WIDTH	GBR	RUMP WIDTH	-1.166	4.4206
AYS	RUMP ANGLE	GBR	RUMP ANGLE	-2.182	3.9164
AYS	FOOT ANGLE	GBR	FOOT ANGLE	-1.529	3.0231
AYS	REAR LEGS SIDE VIEW	GBR	REAR LEG SET	-0.546	3.6693
AYS	UDDER DEPTH	GBR	UDDER DEPTH	-0.499	2.9253
AYS	MEDIAN SUSPENSORY	GBR	MEDIAN SUSPENSORY	-1.553	2.7575
AYS	FORE ATTACHMENT	GBR	FORE UDDER	-0.259	3.0152
AYS	TEAT PLACEMENT	GBR	FRONT TEAT PLACEMENT	1.786	3.2887
AYS	TEAT LENGTH	GBR	TEAT LENGTH	-0.668	3.3019
AYS	REAR ATTACHMENT HEIGHT	GBR	REAR UDDER HEIGHT	-3.527	3.9088
AYS	ANGULARITY	GBR	ANGULARITY	-5.927	5.3802

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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
	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	-124.268	1.2958	0.5
9						
AYS	FEET AND LEGS	NLD	OVERALL FEET & LEG	-55.026	0.5312	
AYS	MAMMARY SYSTEM	NLD	OVERALL UDDER SCORE	-112.140	1.1715	
AYS	STATURE	NLD	STATURE	-111.533	1.2314	
AYS	CHEST WIDTH	NLD	CHEST WIDTH	-138.493	1.4754	
AYS	BODY DEPTH	NLD	BODY DEPTH	-115.070	1.2606	
AYS	PIN WIDTH	NLD	RUMP WIDTH	-91.139	0.9776	
AYS	RUMP ANGLE	NLD	RUMP ANGLE	-100.786	0.9982	
AYS	FOOT ANGLE	NLD	FOOT ANGLE	-97.781	1.0240	

AYS	REAR LEGS SIDE VIEW	NLD	REAR LEG SET	-118.162	1.1546
AYS	REAR LEG REAR VIEW	NLD	REAR LEG REAR VIEW	-103.661	1.0395
AYS	UDDER DEPTH	NLD	UDDER DEPTH	-113.896	1.1800
AYS	MEDIAN SUSPENSORY	NLD	MEDIAN SUSPENSORY	-101.517	1.0313
AYS	FORE ATTACHMENT	NLD	FORE UDDER	-117.512	1.2012
AYS	TEAT PLACEMENT	NLD	FRONT TEAT PLACEMENT	-118.847	1.2279
AYS	TEAT LENGTH	NLD	TEAT LENGTH	-80.822	0.8255
AYS	REAR ATTACHMENT HEIGHT	NLD	REAR UDDER HEIGHT	-86.855	0.9077
AYS	REAR TEAT PLACEMENT	NLD	REAR TEAT PLACEMENT	-117.563	1.2042
AYS	ANGULARITY	NLD	ANGULARITY	-100.388	1.0856

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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=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	-45.601	0.3867	0.7
1						
AYS	FEET AND LEGS	NOR	OVERALL FEET & LEG	-34.915	0.2776	
AYS	MAMMARY SYSTEM	NOR	OVERALL UDDER SCORE	-47.842	0.4043	
AYS	STATURE	NOR	STATURE	-52.418	0.4572	
AYS	CHEST WIDTH	NOR	CHEST WIDTH	-33.846	0.3931	
AYS	BODY DEPTH	NOR	BODY DEPTH	-38.487	0.3463	
AYS	PIN WIDTH	NOR	RUMP WIDTH	-39.476	0.4080	
AYS	RUMP ANGLE	NOR	RUMP ANGLE	-42.819	0.4435	
AYS	FOOT ANGLE	NOR	FOOT ANGLE	-34.092	0.3199	
AYS	REAR LEGS SIDE VIEW	NOR	REAR LEG SET	-39.749	0.4395	

AYS	REAR LEG REAR VIEW	NOR	REAR LEG REAR VIEW	-36.338	0.3325
AYS	UDDER DEPTH	NOR	UDDER DEPTH	-46.214	0.4087
AYS	MEDIAN SUSPENSORY	NOR	MEDIAN SUSPENSORY	-38.967	0.3248
AYS	FORE ATTACHMENT	NOR	FORE UDDER	-38.762	0.3358
AYS	FRONT TEAT PLACEMENT	NOR	FRONT TEAT PLACEMENT	-41.094	0.3899
AYS	TEAT LENGTH	NOR	TEAT LENGTH	-35.595	0.3508
AYS	REAR ATTACHMENT HEIGHT	NOR	REAR UDDER HEIGHT	-48.764	0.3791
AYS	REAR TEAT PLACEMENT	NOR	REAR TEAT PLACEMENT	-38.978	0.3663

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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=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	-8.318	12.0939	0.3
7						
AYS	MAMMARY SYSTEM	NZL	OVERALL UDDER SCORE	-9.907	12.8703	
AYS	STATURE	NZL	STATURE	-12.081	11.0749	
AYS	CHEST WIDTH	NZL	CHEST WIDTH	1.458	13.6368	
AYS	BODY DEPTH	NZL	BODY DEPTH	-1.903	12.4744	
AYS	PIN WIDTH	NZL	RUMP WIDTH	-5.068	16.8100	
AYS	RUMP ANGLE	NZL	RUMP ANGLE	-5.413	19.0564	
AYS	REAR LEGS SIDE VIEW	NZL	REAR LEG SET	4.689	37.5068	
AYS	MEDIAN SUSPENSORY	NZL	MEDIAN SUSPENSORY	-5.573	12.9789	
AYS	FORE ATTACHMENT	NZL	FORE UDDER	-7.867	13.6301	
AYS	FRONT TEAT PLACEMENT	NZL	FRONT TEAT PLACEMENT	-4.687	17.7392	
AYS	REAR ATTACHMENT HEIGHT	NZL	REAR UDDER HEIGHT	-8.386	13.9587	
AYS	REAR TEAT PLACEMENT	NZL	REAR TEAT PLACEMENT	-6.153	17.5657	

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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

	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
						2
AYS	CONFORMATION	USA	CONFORMATION	-4.120	5.4976	0.6
9						
AYS	FEET AND LEGS	USA	OVERALL FEET & LEG	-3.115	3.6329	
AYS	MAMMARY SYSTEM	USA	OVERALL UDDER SCORE	-2.138	5.0999	
AYS	STATURE	USA	STATURE	-1.280	2.8464	
AYS	CHEST WIDTH	USA	CHEST WIDTH	-0.356	5.3870	
AYS	BODY DEPTH	USA	BODY DEPTH	-0.985	4.4547	
AYS	PIN WIDTH	USA	RUMP WIDTH	-0.843	4.6726	
AYS	RUMP ANGLE	USA	RUMP ANGLE	-0.968	5.6269	
AYS	FOOT ANGLE	USA	FOOT ANGLE	-1.323	5.8096	
AYS	REAR LEGS SIDE VIEW	USA	REAR LEG SET	0.921	7.8296	
AYS	REAR LEG REAR VIEW	USA	REAR LEG REAR VIEW	-2.308	-6.3767	
AYS	UDDER DEPTH	USA	UDDER DEPTH	-0.634	4.9048	
AYS	MEDIAN SUSPENSORY	USA	MEDIAN SUSPENSORY	-3.563	4.6786	
AYS	FORE ATTACHMENT	USA	FORE UDDER	-1.859	4.4226	
AYS	TEAT PLACEMENT	USA	FRONT TEAT PLACEMENT	-0.569	4.1214	
AYS	TEAT LENGTH	USA	TEAT LENGTH	-0.158	3.9827	
AYS	REAR ATTACHMENT HEIGHT	USA	REAR UDDER HEIGHT	-2.228	4.2240	
AYS	REAR TEAT PLACEMENT	USA	REAR TEAT PLACEMENT	-0.580	4.9250	
AYS	ANGULARITY	USA	ANGULARITY	-2.378	5.7851	

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

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

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