

STØTTET AF

Mælkeafgiftsfonden

Single Step test runs for yield for JER

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Single Step test runs for yield for JER were made. Phenotypic input data were the same as for the traditional official test day model. For the reduced runs 4 years of latest records were deleted in the same way as done in the Interbull 3 test. Genomic information was included, but in 3 difference trials. All genomic information included, genomic information excluded for genomic tested animals born before 2005, and genomic information excluded for animals born before 2010.

These EBVs and GEBVs were analyzed:

proteinindex1 : official protein index 1st lactation without genomic info

rprot1 : SS test protein, full data and full genomic info, 1st lact

rprot1_05 : SS test protein, 2005 genomic cut

rprot1_10 : SS test protein, 2010 genomic cut

rrprot1 : SS test, reduced data

rrprot1_05 : SS test, reduced data, 2005 genomic cut

rrprot1_10 : SS test, reduced data, 2010 genomic cut

GEBVredprot : Two step method, protein all lactations.

SS test run were standardzised, so mean and STD are the same for all females in 2012 with production in the official run and in the test runs.

Table 1

	Genomic selected bulls by birth year.							
	2009		2016		2018		2020	
	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Prot index1	94.2	7.3	108.1	5.8				
rprot1	95.0	7.3	109.1	7.0	115.7	6.3	117.1	5.9
rprot1_05	95.7	7.4	108.2	7.1	114.3	6.5	115.7	6.0
rprot1_10	95.8	7.3	108.2	7.1	114.1	6.6	115.5	6.0
rrprot1	95.2	7.5	110.4	6.3	116.7	5.0	117.9	5.0
rrprot1_05	96.0	7.6	107.4	6.2	112.9	5.5	114.4	5.4

rrprot1_10	96.1	7.6	107.1	6.0	112.5	5.5	113.9	5.3
GEBVredprot	94.4	7.2	107.3	6.9	111.3	6.1	112.6	5.4

Correlation between proteinindex1 and SS runs with progeny data were 0.99

Table2

	All genomic tested bulls by birth year.							
	2009		2016		2018		2020	
	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Prot index1	93.8	7.4	106.9	6.4				
rprot1	95.7	8.1	103.9	7.6	109.3	7.5	111.9	7.7
rprot1_05	96.7	8.3	102.4	7.8	107.7	7.6	110.2	8.0
rprot1_10	97.0	6.9	102.4	7.8	107.6	7.5	110.0	8.0
rrprot1	95.7	8.0	105.8	7.1	111.5	6.7	113.8	6.9
rrprot1_05	96.9	8.2	102.9	7.1	107.9	6.8	110.1	7.1
rrprot1_10	97.0	7.0	102.8	7.1	107.6	6.7	109.7	7.1
GEBVredprot	95.1	7.6	100.3	7.3	104.6	7.1	106.7	7.2

Same tendency not so strong as for HOL and RDC

Table 3

	Genomic tested females by birth year.							
	2009		2016		2018		2020	
	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Prot index1			99.5	7.2	101.9	7.3	104.2	7.2
rprot1			101.2	7.9	104.7	8.0	107.5	7.8
rprot1_05			99.5	8.0	102.9	8.1	105.7	8.0
rprot1_10			99.4	8.0	102.8	8.1	105.6	8.0
rrprot1			102.9	7.2	107.2	6.9	110.1	6.9
rrprot1_05			100.0	7.3	103.8	7.0	106.1	7.0
rrprot1_10			99.8	7.2	103.6	6.9	105.8	7.0
GEBVredprot			97.6	7.6	100.8	7.7	102.7	7.4

Table 4

	Females with no genomic information by birth year.							
	2009		2016		2018		2020	
	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Prot index1	90.7	7.3	98.6	6.7	101.6	6.8		
rprot1	89.6	7.2	99.1	6.6	102.7	6.7	105.8	5.5
rprot1_05	90.0	7.2	99.0	6.7	102.3	6.8	105.3	5.6

rprot1_10	90.0	7.2	98.9	6.7	102.3	6.8	105.2	5.6
rrprot1	89.3	7.2	100.2	5.1	104.4	4.9	108.2	4.5
rrprot1_05	89.7	7.2	99.3	5.1	102.8	4.7	106.0	4.4
rrprot1_10	89.7	7.2	99.3	5.1	102.7	4.7	105.7	4.4
GEBVredprot								

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum

nav_id	1087331	776737988	407800892	999.0000000	1700200714
obs	1087331	13.9405177	11.1071097	0	145.0000000
rmilk1	1087331	85.5769414	14.6461131	25.5557202	148.9954038
rmilk2	1087331	84.5287938	14.9331139	23.7697352	148.3080007
rmilk3	1087331	83.8084731	15.3289351	23.9631001	148.5500748
rfat1	1087331	80.1162954	17.9543023	-3.8331127	146.5839838
rfat2	1087331	79.8790142	17.6244354	-1.7367752	146.5301484
rfat3	1087331	78.9291268	17.9395517	4.1510355	143.9147575
rprot1	1087331	78.3993206	18.6769550	3.2153509	142.6474212
rprot2	1087331	77.0460447	19.0653096	-0.8699191	138.3244961
rprot3	1087331	74.8457605	20.1755124	-2.5923720	139.7520588

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum

nav_id	1087331	776737988	407800892	999.0000000	1700200714
obs	1087331	13.9405177	11.1071097	0	145.0000000
rmilk1_05	1087331	85.6577662	14.4547960	26.3942974	149.4200814
rmilk2_05	1087331	84.6286735	14.7204658	24.8840508	148.7838252
rmilk3_05	1087331	83.8891264	15.1044634	25.0704472	149.0203403
rfat1_05	1087331	80.1126474	17.7182998	-3.4031095	146.7453444
rfat2_05	1087331	79.8752851	17.3715646	-1.2946919	146.2691943
rfat3_05	1087331	78.8131052	17.7842161	4.1363511	143.5357240
rprot1_05	1087331	78.3273521	18.5569637	3.2779072	142.8492138
rprot2_05	1087331	76.9798561	18.9199854	-0.3568448	138.2591124
rprot3_05	1087331	74.7085513	20.0456906	-2.1818989	138.4493929

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum

nav_id	1087331	776737988	407800892	999.0000000	1700200714
obs	1087331	13.9405177	11.1071097	0	145.0000000
rmilk1_10	1087331	85.6140570	14.4359807	26.8712200	149.4687881
rmilk2_10	1087331	84.5759043	14.7096729	25.4050355	148.9608254
rmilk3_10	1087331	83.8304906	15.0950773	25.6082460	149.2052499
rfat1_10	1087331	80.0624954	17.7153888	-3.1688803	146.3628205
rfat2_10	1087331	79.8399802	17.3666905	-0.9700970	146.5535782
rfat3_10	1087331	78.7632408	17.7898786	4.4557669	143.7703033
rprot1_10	1087331	78.2778225	18.5434445	3.8068843	142.9325664
rprot2_10	1087331	76.9329120	18.9067270	0.3375805	138.4867251
rprot3_10	1087331	74.6526584	20.0365034	-1.4569337	138.5063338

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum

nav_id	1087331	776737988	407800892	999.0000000	1700200714
robs	1087331	12.0556399	11.3145870	0	145.0000000
rrmilk1	1087331	85.3834548	14.8700630	23.4879450	144.8958846
rrmilk2	1087331	84.2406830	15.2451434	21.3484528	139.1473675
rrmilk3	1087331	83.5624678	15.5452663	21.8558461	142.5480699
rrfat1	1087331	80.1881279	18.6960812	-6.3574070	142.9595629
rrfat2	1087331	79.9640504	18.4080636	-3.8173455	144.8618885
rrfat3	1087331	78.7999475	18.5483587	1.5856649	142.3986446
rrprot1	1087331	78.2773518	19.0760995	0.7210734	135.8435896
rrprot2	1087331	76.8944550	19.4653251	-3.2618464	138.2308499
rrprot3	1087331	74.6693910	20.4668830	-5.0205431	136.9898098

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum

nav_id	1087331	776737988	407800892	999.0000000	1700200714
rrmilk1_05	1087331	85.2327518	14.5704000	24.4847209	145.9822460
rrmilk2_05	1087331	84.0887729	14.9013201	22.6749495	140.4279533
rrmilk3_05	1087331	83.3794211	15.1932801	23.2068795	143.8854620
rrfat1_05	1087331	79.7990412	18.2653185	-6.0051518	139.8740741
rrfat2_05	1087331	79.5709385	17.9164666	-3.3213462	141.5519262
rrfat3_05	1087331	78.2906368	18.2085937	1.6451394	139.0356471
rrprot1_05	1087331	77.8453627	18.8166536	0.7376939	134.7884972
rrprot2_05	1087331	76.4401474	19.1462227	-2.7248872	136.1205844
rrprot3_05	1087331	74.0954167	20.1753441	-4.5973865	135.1909455

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum

nav_id	1087331	776737988	407800892	999.0000000	1700200714
rrmilk1_10	1087331	85.1841351	14.5327867	24.9402522	145.9272512
rrmilk2_10	1087331	84.0289723	14.8695664	23.2079468	140.3986358
rrmilk3_10	1087331	83.3211475	15.1613133	23.7627351	143.8362884
rrfat1_10	1087331	79.7582335	18.2242179	-5.7174575	139.3892920
rrfat2_10	1087331	79.5351631	17.8757265	-2.9335392	140.7565379
rrfat3_10	1087331	78.2605013	18.1744659	2.0473778	137.6025678
rrprot1_10	1087331	77.8069371	18.7684557	1.2932860	132.7577972
rrprot2_10	1087331	76.3999198	19.0975824	-1.9902139	136.0401504
rrprot3_10	1087331	74.0714158	20.1191040	-3.7989027	134.8313401

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum

nav_id	2463	654033397	388670048	4806.00	1700193042
milkindex1	2463	88.3873853	13.8542438	38.8800000	138.3000000
milkindex2	2463	86.8630126	14.3434079	36.6700000	135.6900000
milkindex3	2463	86.0922777	14.5390638	37.4300000	139.1100000
proteinindex1	2463	80.4972067	16.7392230	18.3100000	137.1200000
proteinindex2	2463	78.3491474	17.4459266	16.2000000	130.9200000
proteinindex3	2463	75.8089890	18.3526818	14.9200000	133.8800000
fatindex1	2463	80.5374949	16.3434994	31.9000000	126.6000000
fatindex2	2463	79.3568413	16.6070021	21.2700000	127.3400000
fatindex3	2463	78.1503289	16.8621350	25.7000000	127.3500000

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
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Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	50	94.20920	7.34579	4710	82.69000	112.29000
rprot1	58	95.05155	7.33662	5513	83.05447	112.35587
rprot1_05	58	95.71852	7.42391	5552	83.27266	112.91425
rprot1_10	58	95.88434	7.35002	5561	83.45738	112.81342
rrprot1	58	95.22601	7.55575	5523	82.33012	114.06665
rrprot1_05	58	96.08827	7.67451	5573	82.54854	115.04125
rrprot1_10	58	96.18576	7.65033	5579	82.81305	114.97038
GEBVredprot	58	94.43848	7.27065	5477	80.67252	111.57242

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Prob > |r| under H0: Rho=0
Number of Observations

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[illegible]

	50	50	50	50	50	50	50	50
rprot1	0.98939	1.00000	0.99582	0.97517	0.99152	0.98918	0.97533	0.96006
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	50	58	58	58	58	58	58	58
rprot1_05	0.99020	0.99582	1.00000	0.98431	0.98304	0.99184	0.98257	0.95962
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	50	58	58	58	58	58	58	58
rprot1_10	0.99757	0.97517	0.98431	1.00000	0.96212	0.97849	0.99606	0.93608
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	50	58	58	58	58	58	58	58
rrprot1	0.98827	0.99152	0.98304	0.96212	1.00000	0.99221	0.97079	0.94470
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	50	58	58	58	58	58	58	58
rrprot1_05	0.98931	0.98918	0.99184	0.97849	0.99221	1.00000	0.98529	0.94572
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	50	58	58	58	58	58	58	58
rrprot1_10	0.99413	0.97533	0.98257	0.99606	0.97079	0.98529	1.00000	0.92995
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	50	58	58	58	58	58	58	58
GEBVredprot	0.95173	0.96006	0.95962	0.93608	0.94470	0.94572	0.92995	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	50	58	58	58	58	58	58	58

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	55	95.29509	7.20158	5241	79.57000	113.82000
rprot1	73	96.54107	7.41814	7047	80.00920	113.71445
rprot1_05	73	96.74977	7.59054	7063	79.71708	114.50429
rprot1_10	73	96.74255	7.70323	7062	79.58316	114.52747
rrprot1	73	96.59061	7.17626	7051	80.49531	113.43020
rrprot1_05	73	96.97650	7.40448	7079	79.93831	114.54155
rrprot1_10	73	96.96977	7.51688	7079	79.80142	114.57040
GEBVredprot	73	95.77049	7.64156	6991	79.88316	113.42928

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Prob > |r| under H0: Rho=0
  Number of Observations

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[illegible]

	55	55	55	55	55	55	55	55
rprot1	0.98662	1.00000	0.99316	0.99223	0.98121	0.97416	0.97413	0.95157
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	55	73	73	73	73	73	73	73
rprot1_05	0.99142	0.99316	1.00000	0.99897	0.97046	0.98004	0.97959	0.95131
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	55	73	73	73	73	73	73	73
rprot1_10	0.99167	0.99223	0.99897	1.00000	0.96721	0.97714	0.97898	0.94965
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	55	73	73	73	73	73	73	73
rrprot1	0.97256	0.98121	0.97046	0.96721	1.00000	0.98924	0.98762	0.94293
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	55	73	73	73	73	73	73	73
rrprot1_05	0.97905	0.97416	0.98004	0.97714	0.98924	1.00000	0.99852	0.94364
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	55	73	73	73	73	73	73	73
rrprot1_10	0.97888	0.97413	0.97959	0.97898	0.98762	0.99852	1.00000	0.94239
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	55	73	73	73	73	73	73	73
GEBVredprot	0.94365	0.95157	0.95131	0.94965	0.94293	0.94364	0.94239	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	55	73	73	73	73	73	73	73

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----- year=2011 -----
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8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

[illegible]

	47	47	47	47	47	47	47	47
rprot1	0.98435	1.00000	0.99118	0.98924	0.97710	0.96799	0.96503	0.92268
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	47	75	75	75	75	75	75	75
rprot1_05	0.98902	0.99118	1.00000	0.99806	0.96629	0.97638	0.97419	0.92086
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	47	75	75	75	75	75	75	75
rprot1_10	0.99076	0.98924	0.99806	1.00000	0.96474	0.97484	0.97691	0.92604
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	47	75	75	75	75	75	75	75
rrprot1	0.97401	0.97710	0.96629	0.96474	1.00000	0.98881	0.98516	0.89975
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	47	75	75	75	75	75	75	75
rrprot1_05	0.97636	0.96799	0.97638	0.97484	0.98881	1.00000	0.99728	0.89948
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	47	75	75	75	75	75	75	75
rrprot1_10	0.97900	0.96503	0.97419	0.97691	0.98516	0.99728	1.00000	0.90508
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	47	75	75	75	75	75	75	75
GEBVredprot	0.94365	0.92268	0.92086	0.92604	0.89975	0.89948	0.90508	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	47	75	75	75	75	75	75	75

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

[illegible]

	47	47	47	47	47	47	47	47
rprot1	0.98567	1.00000	0.99719	0.99570	0.96952	0.96705	0.96587	0.94291
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	47	58	58	58	58	58	58	58
rprot1_05	0.98848	0.99719	1.00000	0.99937	0.96634	0.96900	0.96844	0.94601
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	47	58	58	58	58	58	58	58
rprot1_10	0.98781	0.99570	0.99937	1.00000	0.96546	0.96866	0.96930	0.94692
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	47	58	58	58	58	58	58	58
rrprot1	0.96617	0.96952	0.96634	0.96546	1.00000	0.99716	0.99597	0.92213
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	47	58	58	58	58	58	58	58
rrprot1_05	0.96877	0.96705	0.96900	0.96866	0.99716	1.00000	0.99932	0.92930
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	47	58	58	58	58	58	58	58
rrprot1_10	0.96846	0.96587	0.96844	0.96930	0.99597	0.99932	1.00000	0.93133
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	47	58	58	58	58	58	58	58
GEBVredprot	0.92977	0.94291	0.94601	0.94692	0.92213	0.92930	0.93133	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	47	58	58	58	58	58	58	58

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8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	49	99.84265	6.85722	4892	84.70000	115.78000
rprot1	67	100.92993	6.61623	6762	86.10550	118.38885
rprot1_05	67	100.53478	6.82616	6736	86.28258	118.52339
rprot1_10	67	100.44491	6.85951	6730	86.13411	118.44278
rrprot1	67	101.99343	6.68205	6834	89.37121	114.26733
rrprot1_05	67	101.17704	7.04003	6779	89.67966	115.62914
rrprot1_10	67	101.01844	7.06099	6768	89.99507	115.38213
GEBVredprot	67	99.41337	7.18264	6661	88.79535	119.76199

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Prob > |r| under H0: Rho=0
Number of Observations

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[illegible]

	49	49	49	49	49	49	49	49
rprot1	0.98502	1.00000	0.99674	0.99515	0.91605	0.91277	0.90909	0.95471
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	49	67	67	67	67	67	67	67
rprot1_05	0.98458	0.99674	1.00000	0.99929	0.91539	0.92112	0.91873	0.95832
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	49	67	67	67	67	67	67	67
rprot1_10	0.98529	0.99515	0.99929	1.00000	0.91445	0.92030	0.91996	0.95760
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	49	67	67	67	67	67	67	67
rrprot1	0.87585	0.91605	0.91539	0.91445	1.00000	0.98764	0.98446	0.89736
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	49	67	67	67	67	67	67	67
rrprot1_05	0.87714	0.91277	0.92112	0.92030	0.98764	1.00000	0.99790	0.90757
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	49	67	67	67	67	67	67	67
rrprot1_10	0.87773	0.90909	0.91873	0.91996	0.98446	0.99790	1.00000	0.90544
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	49	67	67	67	67	67	67	67
GEBVredprot	0.93423	0.95471	0.95832	0.95760	0.89736	0.90757	0.90544	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	49	67	67	67	67	67	67	67

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	36	100.70333	7.36128	3625	86.85000	118.22000
rprot1	64	102.33713	7.37587	6550	88.14912	120.45550
rprot1_05	64	101.72697	7.64732	6511	87.33283	119.92568
rprot1_10	64	101.63724	7.65628	6505	87.13202	119.89855
rrprot1	64	103.71501	7.42561	6638	89.83565	122.70174
rrprot1_05	64	101.93561	7.17692	6524	87.66907	118.97424
rrprot1_10	64	101.69508	7.12791	6508	86.80698	117.92319
GEBVredprot	64	100.25727	7.19005	6416	85.43534	120.01527

Number of Observations

[illegible]

	36	36	36	36	36	36	36	36
rprot1	0.98665	1.00000	0.99392	0.99338	0.87420	0.89119	0.89101	0.94419
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	36	64	64	64	64	64	64	64
rprot1_05	0.99040	0.99392	1.00000	0.99933	0.86217	0.89324	0.89315	0.95114
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	36	64	64	64	64	64	64	64
rprot1_10	0.99041	0.99338	0.99933	1.00000	0.86237	0.89285	0.89453	0.95152
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	36	64	64	64	64	64	64	64
rrprot1	0.77344	0.87420	0.86217	0.86237	1.00000	0.97822	0.97476	0.80661
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	36	64	64	64	64	64	64	64
rrprot1_05	0.79091	0.89119	0.89324	0.89285	0.97822	1.00000	0.99723	0.83607
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	36	64	64	64	64	64	64	64
rrprot1_10	0.79438	0.89101	0.89315	0.89453	0.97476	0.99723	1.00000	0.83766
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	36	64	64	64	64	64	64	64
GEBVredprot	0.95848	0.94419	0.95114	0.95152	0.80661	0.83607	0.83766	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	36	64	64	64	64	64	64	64

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8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

[illegible]

	30	30	30	30	30	30	30	30
rprot1	0.99273	1.00000	0.99725	0.99515	0.89692	0.89847	0.89953	0.95052
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	30	53	53	53	53	53	53	53
rprot1_05	0.99429	0.99725	1.00000	0.99929	0.90222	0.90768	0.91044	0.95357
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	30	53	53	53	53	53	53	53
rprot1_10	0.99412	0.99515	0.99929	1.00000	0.90240	0.90781	0.91254	0.95421
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	30	53	53	53	53	53	53	53
rrprot1	0.84276	0.89692	0.90222	0.90240	1.00000	0.98126	0.97724	0.85640
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	30	53	53	53	53	53	53	53
rrprot1_05	0.84037	0.89847	0.90768	0.90781	0.98126	1.00000	0.99754	0.85724
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	30	53	53	53	53	53	53	53
rrprot1_10	0.85010	0.89953	0.91044	0.91254	0.97724	0.99754	1.00000	0.86228
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	30	53	53	53	53	53	53	53
GEBVredprot	0.97380	0.95052	0.95357	0.95421	0.85640	0.85724	0.86228	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	30	53	53	53	53	53	53	53

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----- year=2016 -----
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8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

[illegible]

	26	26	26	26	26	26	26	26
rprot1	0.98863	1.00000	0.99844	0.99788	0.86990	0.85911	0.85752	0.96969
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	26	32	32	32	32	32	32	32
rprot1_05	0.98840	0.99844	1.00000	0.99980	0.86850	0.86346	0.86293	0.96554
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	26	32	32	32	32	32	32	32
rprot1_10	0.98817	0.99788	0.99980	1.00000	0.86578	0.86129	0.86172	0.96398
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	26	32	32	32	32	32	32	32
rrprot1	0.77533	0.86990	0.86850	0.86578	1.00000	0.97577	0.96684	0.86918
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	26	32	32	32	32	32	32	32
rrprot1_05	0.79120	0.85911	0.86346	0.86129	0.97577	1.00000	0.99458	0.85593
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	26	32	32	32	32	32	32	32
rrprot1_10	0.78752	0.85752	0.86293	0.86172	0.96684	0.99458	1.00000	0.84870
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	26	32	32	32	32	32	32	32
GEBVredprot	0.94731	0.96969	0.96554	0.96398	0.86918	0.85593	0.84870	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	26	32	32	32	32	32	32	32

Bulls genotyped and selected

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2017 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	21	108.55810	8.01351	2280	88.87000	119.54000
rprot1	38	109.63979	8.17629	4166	91.53979	127.39803
rprot1_05	38	108.51409	8.48787	4124	89.42159	126.63200
rprot1_10	38	108.40703	8.55473	4119	89.22175	126.86041
rrprot1	38	113.58396	6.53285	4316	100.19661	125.32208
rrprot1_05	38	110.12510	6.91168	4185	95.47626	123.13063
rrprot1_10	38	109.78812	7.02628	4172	95.13012	123.35235
GEBVredprot	38	107.05080	8.45103	4068	86.27716	123.92805

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	1.00000	0.98322	0.98423	0.98435	0.58964	0.54356	0.53043	0.97153
		<.0001	<.0001	<.0001	0.0049	0.0109	0.0134	<.0001

	21	21	21	21	21	21	21	21
rprot1	0.98322	1.00000	0.99794	0.99813	0.77300	0.75114	0.75243	0.97525
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	21	38	38	38	38	38	38	38
rprot1_05	0.98423	0.99794	1.00000	0.99960	0.77565	0.76127	0.76138	0.97517
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	21	38	38	38	38	38	38	38
rprot1_10	0.98435	0.99813	0.99960	1.00000	0.77672	0.76119	0.76311	0.97491
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	21	38	38	38	38	38	38	38
rrprot1	0.58964	0.77300	0.77565	0.77672	1.00000	0.98646	0.98343	0.75076
	0.0049	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	21	38	38	38	38	38	38	38
rrprot1_05	0.54356	0.75114	0.76127	0.76119	0.98646	1.00000	0.99588	0.73220
	0.0109	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	21	38	38	38	38	38	38	38
rrprot1_10	0.53043	0.75243	0.76138	0.76311	0.98343	0.99588	1.00000	0.73254
	0.0134	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	21	38	38	38	38	38	38	38
GEBVredprot	0.97153	0.97525	0.97517	0.97491	0.75076	0.73220	0.73254	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	21	38	38	38	38	38	38	38

Bulls genotyped and selected

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2018 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	24	115.74007	6.32043	2778	104.02599	126.47696
rprot1_05	24	114.31409	6.57233	2744	103.05133	126.66134
rprot1_10	24	114.13809	6.66394	2739	102.40585	126.98955
rrprot1	24	116.71447	5.05265	2801	108.76863	125.21314
rrprot1_05	24	112.98903	5.58342	2712	103.78315	122.67207
rrprot1_10	24	112.50506	5.52201	2700	103.36504	122.02888
GEBVredprot	24	111.32654	6.14833	2672	100.07387	120.73702

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99151	0.99046	0.82777	0.80127	0.79836	0.95819
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	24	24	24	24	24	24	24
rprot1_05	.	0.99151	1.00000	0.99821	0.80945	0.81716	0.81354	0.96334
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	24	24	24	24	24	24	24
rprot1_10	.	0.99046	0.99821	1.00000	0.80808	0.81280	0.81592	0.95838
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	24	24	24	24	24	24	24
rrprot1	.	0.82777	0.80945	0.80808	1.00000	0.95786	0.95691	0.75579
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	24	24	24	24	24	24	24
rrprot1_05	.	0.80127	0.81716	0.81280	0.95786	1.00000	0.99191	0.76081
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	24	24	24	24	24	24	24
rrprot1_10	.	0.79836	0.81354	0.81592	0.95691	0.99191	1.00000	0.74842
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	24	24	24	24	24	24	24
GEBVredprot	.	0.95819	0.96334	0.95838	0.75579	0.76081	0.74842	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	24	24	24	24	24	24	24

Bulls genotyped and selected

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2019 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	51	116.24354	6.19982	5928	102.21264	129.10776
rprot1_05	51	114.75164	6.42645	5852	101.67251	129.72993
rprot1_10	51	114.78932	6.52867	5854	101.54882	130.25916
rrprot1	51	118.75464	5.81468	6056	102.74815	129.90912
rrprot1_05	51	114.99549	6.07427	5865	96.07003	128.09830
rrprot1_10	51	114.96104	6.13768	5863	96.21243	128.32859
GEBVredprot	51	111.57175	5.91921	5690	97.05287	126.00195

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99180	0.99098	0.81162	0.80453	0.80422	0.94479
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	51	51	51	51	51	51	51
rprot1_05	.	0.99180	1.00000	0.99886	0.78581	0.80414	0.80234	0.95401
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	51	51	51	51	51	51	51
rprot1_10	.	0.99098	0.99886	1.00000	0.78758	0.80499	0.80624	0.95502
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	51	51	51	51	51	51	51
rrprot1	.	0.81162	0.78581	0.78758	1.00000	0.97714	0.97674	0.75485
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	51	51	51	51	51	51	51
rrprot1_05	.	0.80453	0.80414	0.80499	0.97714	1.00000	0.99689	0.78147
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	51	51	51	51	51	51	51
rrprot1_10	.	0.80422	0.80234	0.80624	0.97674	0.99689	1.00000	0.77828
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	51	51	51	51	51	51	51
GEBVredprot	.	0.94479	0.95401	0.95502	0.75485	0.78147	0.77828	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	51	51	51	51	51	51	51

proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2020 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	32	117.10170	5.92943	3747	107.40515	128.38242
rprot1_05	32	115.78868	6.00754	3705	107.08803	126.72588
rprot1_10	32	115.59215	6.09827	3699	106.53835	126.79584
rrprot1	32	117.92496	5.09131	3774	108.61955	128.25205
rrprot1_05	32	114.42250	5.47244	3662	105.74083	125.83492
rrprot1_10	32	113.94433	5.39034	3646	106.17667	124.39936
GEBVredprot	32	112.63373	5.49006	3604	105.30835	126.18219

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99198	0.99197	0.89762	0.86925	0.88503	0.92609
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	32	32	32	32	32	32	32
rprot1_05	.	0.99198	1.00000	0.99827	0.88622	0.88494	0.89590	0.92106
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	32	32	32	32	32	32	32
rprot1_10	.	0.99197	0.99827	1.00000	0.87788	0.87364	0.88995	0.92366
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	32	32	32	32	32	32	32
rrprot1	.	0.89762	0.88622	0.87788	1.00000	0.96661	0.96832	0.78138
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	32	32	32	32	32	32	32
rrprot1_05	.	0.86925	0.88494	0.87364	0.96661	1.00000	0.99469	0.74838
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	32	32	32	32	32	32	32
rrprot1_10	.	0.88503	0.89590	0.88995	0.96832	0.99469	1.00000	0.76935
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	32	32	32	32	32	32	32
GEBVredprot	.	0.92609	0.92106	0.92366	0.78138	0.74838	0.76935	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	32	32	32	32	32	32	32

Bulls genotyped and selected

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2021 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	21	118.17833	5.91238	2482	108.17654	129.30348
rprot1_05	21	116.75342	5.96924	2452	106.73599	128.28658
rprot1_10	21	116.61581	5.94697	2449	106.84947	128.22226
rrprot1	21	118.52645	4.79434	2489	109.70897	127.08809
rrprot1_05	21	114.65661	4.63393	2408	106.88721	122.45455
rrprot1_10	21	114.34128	4.66061	2401	106.20020	122.40533
GEBVredprot	21	114.17588	5.35023	2398	106.96546	125.71125

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99623	0.99472	0.87233	0.86674	0.84137	0.92723
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	21	21	21	21	21	21	21
rprot1_05	.	0.99623	1.00000	0.99884	0.85596	0.86496	0.83652	0.94280
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	21	21	21	21	21	21	21
rprot1_10	.	0.99472	0.99884	1.00000	0.85691	0.86575	0.84049	0.94641
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	21	21	21	21	21	21	21
rrprot1	.	0.87233	0.85596	0.85691	1.00000	0.98090	0.98430	0.75145
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	21	21	21	21	21	21	21
rrprot1_05	.	0.86674	0.86496	0.86575	0.98090	1.00000	0.99439	0.76623
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	21	21	21	21	21	21	21
rrprot1_10	.	0.84137	0.83652	0.84049	0.98430	0.99439	1.00000	0.73839
	.	<.0001	<.0001	<.0001	<.0001	<.0001		0.0001
	0	21	21	21	21	21	21	21
GEBVredprot	.	0.92723	0.94280	0.94641	0.75145	0.76623	0.73839	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	0.0001	
	0	21	21	21	21	21	21	21

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----- year=2009 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	52	52	52	52	52	52	52	52
rprot1	0.98783	1.00000	0.99266	0.79987	0.97704	0.96843	0.79602	0.95014
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	52	185	185	185	185	185	185	185
rprot1_05	0.98912	0.99266	1.00000	0.81240	0.96823	0.97632	0.80678	0.94266
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	52	185	185	185	185	185	185	185
rprot1_10	0.99766	0.79987	0.81240	1.00000	0.81966	0.83845	0.99575	0.74242
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	52	185	185	185	185	185	185	185
rrprot1	0.98684	0.97704	0.96823	0.81966	1.00000	0.98942	0.82358	0.91616
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	52	185	185	185	185	185	185	185
rrprot1_05	0.98867	0.96843	0.97632	0.83845	0.98942	1.00000	0.84085	0.90912
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	52	185	185	185	185	185	185	185
rrprot1_10	0.99441	0.79602	0.80678	0.99575	0.82358	0.84085	1.00000	0.73801
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	52	185	185	185	185	185	185	185
GEBVredprot	0.94719	0.95014	0.94266	0.74242	0.91616	0.90912	0.73801	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	52	185	185	185	185	185	185	185

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----- year=2010 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	57	57	57	57	57	57	57	57
rprot1	0.98679	1.00000	0.98764	0.98503	0.97605	0.95697	0.95458	0.93710
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	57	250	250	250	250	250	250	250
rprot1_05	0.99195	0.98764	1.00000	0.99763	0.96309	0.97314	0.97091	0.94228
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	57	250	250	250	250	250	250	250
rprot1_10	0.99177	0.98503	0.99763	1.00000	0.95948	0.96991	0.97282	0.93650
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	57	250	250	250	250	250	250	250
rrprot1	0.97084	0.97605	0.96309	0.95948	1.00000	0.98158	0.97812	0.91278
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	57	250	250	250	250	250	250	250
rrprot1_05	0.97910	0.95697	0.97314	0.96991	0.98158	1.00000	0.99674	0.91531
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	57	250	250	250	250	250	250	250
rrprot1_10	0.97858	0.95458	0.97091	0.97282	0.97812	0.99674	1.00000	0.90978
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	57	250	250	250	250	250	250	250
GEBVredprot	0.94632	0.93710	0.94228	0.93650	0.91278	0.91531	0.90978	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	57	250	250	250	250	250	250	250

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----- year=2011 -----
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```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	48	48	48	48	48	48	48	48
rprot1	0.97729	1.00000	0.98858	0.98552	0.96907	0.95361	0.95143	0.92358
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	48	399	399	399	399	399	399	399
rprot1_05	0.98201	0.98858	1.00000	0.99677	0.95590	0.96673	0.96453	0.92583
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	48	399	399	399	399	399	399	399
rprot1_10	0.98418	0.98552	0.99677	1.00000	0.95155	0.96212	0.96672	0.92370
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	48	399	399	399	399	399	399	399
rrprot1	0.95772	0.96907	0.95590	0.95155	1.00000	0.98346	0.97936	0.88275
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	48	399	399	399	399	399	399	399
rrprot1_05	0.95894	0.95361	0.96673	0.96212	0.98346	1.00000	0.99590	0.88439
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	48	399	399	399	399	399	399	399
rrprot1_10	0.96240	0.95143	0.96453	0.96672	0.97936	0.99590	1.00000	0.88384
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	48	399	399	399	399	399	399	399
GEBVredprot	0.93120	0.92358	0.92583	0.92370	0.88275	0.88439	0.88384	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	48	399	399	399	399	399	399	399

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----- year=2012 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	49	49	49	49	49	49	49	49
rprot1	0.98392	1.00000	0.99063	0.98760	0.96383	0.95546	0.95096	0.93682
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	49	431	431	431	431	431	431	431
rprot1_05	0.98716	0.99063	1.00000	0.99743	0.94940	0.96280	0.95905	0.94184
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	49	431	431	431	431	431	431	431
rprot1_10	0.98627	0.98760	0.99743	1.00000	0.94597	0.95978	0.96157	0.93910
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	49	431	431	431	431	431	431	431
rrprot1	0.96026	0.96383	0.94940	0.94597	1.00000	0.98599	0.98178	0.88366
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	49	431	431	431	431	431	431	431
rrprot1_05	0.96411	0.95546	0.96280	0.95978	0.98599	1.00000	0.99648	0.89301
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	49	431	431	431	431	431	431	431
rrprot1_10	0.96320	0.95096	0.95905	0.96157	0.98178	0.99648	1.00000	0.88850
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	49	431	431	431	431	431	431	431
GEBVredprot	0.92685	0.93682	0.94184	0.93910	0.88366	0.89301	0.88850	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	49	431	431	431	431	431	431	431

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----- year=2013 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	50	50	50	50	50	50	50	50
rprot1	0.98475	1.00000	0.99150	0.98919	0.95759	0.94444	0.94026	0.94383
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	50	458	458	458	458	458	458	458
rprot1_05	0.98383	0.99150	1.00000	0.99814	0.94835	0.95670	0.95318	0.94663
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	50	458	458	458	458	458	458	458
rprot1_10	0.98444	0.98919	0.99814	1.00000	0.94616	0.95492	0.95594	0.94582
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	50	458	458	458	458	458	458	458
rrprot1	0.87393	0.95759	0.94835	0.94616	1.00000	0.98400	0.97976	0.90814
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	50	458	458	458	458	458	458	458
rrprot1_05	0.87420	0.94444	0.95670	0.95492	0.98400	1.00000	0.99666	0.90975
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	50	458	458	458	458	458	458	458
rrprot1_10	0.87429	0.94026	0.95318	0.95594	0.97976	0.99666	1.00000	0.90710
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	50	458	458	458	458	458	458	458
GEBVredprot	0.93218	0.94383	0.94663	0.94582	0.90814	0.90975	0.90710	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	50	458	458	458	458	458	458	458

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----- year=2014 -----
```

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8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	44	44	44	44	44	44	44	44
rprot1	0.98400	1.00000	0.99225	0.98979	0.94695	0.94031	0.93760	0.92437
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	44	496	496	496	496	496	496	496
rprot1_05	0.98706	0.99225	1.00000	0.99830	0.93290	0.94484	0.94283	0.92639
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	44	496	496	496	496	496	496	496
rprot1_10	0.98759	0.98979	0.99830	1.00000	0.92943	0.94187	0.94403	0.92334
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	44	496	496	496	496	496	496	496
rrprot1	0.76872	0.94695	0.93290	0.92943	1.00000	0.98448	0.98029	0.87907
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	44	496	496	496	496	496	496	496
rrprot1_05	0.77514	0.94031	0.94484	0.94187	0.98448	1.00000	0.99666	0.88317
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	44	496	496	496	496	496	496	496
rrprot1_10	0.78086	0.93760	0.94283	0.94403	0.98029	0.99666	1.00000	0.87851
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	44	496	496	496	496	496	496	496
GEBVredprot	0.95177	0.92437	0.92639	0.92334	0.87907	0.88317	0.87851	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	44	496	496	496	496	496	496	496

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----- year=2015 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	30	30	30	30	30	30	30	30
rprot1	0.99273	1.00000	0.99213	0.99035	0.94257	0.93406	0.93436	0.94431
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	30	551	551	551	551	551	551	551
rprot1_05	0.99429	0.99213	1.00000	0.99851	0.93178	0.94231	0.94272	0.94754
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	30	551	551	551	551	551	551	551
rprot1_10	0.99412	0.99035	0.99851	1.00000	0.92870	0.93901	0.94308	0.94813
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	30	551	551	551	551	551	551	551
rrprot1	0.84276	0.94257	0.93178	0.92870	1.00000	0.98393	0.98135	0.88851
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	30	551	551	551	551	551	551	551
rrprot1_05	0.84037	0.93406	0.94231	0.93901	0.98393	1.00000	0.99724	0.88986
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	30	551	551	551	551	551	551	551
rrprot1_10	0.85010	0.93436	0.94272	0.94308	0.98135	0.99724	1.00000	0.89228
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	30	551	551	551	551	551	551	551
GEBVredprot	0.97380	0.94431	0.94754	0.94813	0.88851	0.88986	0.89228	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	30	551	551	551	551	551	551	551

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----- year=2016 -----
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```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	30	30	30	30	30	30	30	30
rprot1	0.97981	1.00000	0.99326	0.99231	0.90825	0.89424	0.89660	0.95261
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	30	511	511	511	511	511	511	511
rprot1_05	0.98099	0.99326	1.00000	0.99881	0.89723	0.90179	0.90315	0.95471
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	30	511	511	511	511	511	511	511
rprot1_10	0.98100	0.99231	0.99881	1.00000	0.89492	0.89925	0.90406	0.95320
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	30	511	511	511	511	511	511	511
rrprot1	0.77283	0.90825	0.89723	0.89492	1.00000	0.97831	0.97605	0.87748
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	30	511	511	511	511	511	511	511
rrprot1_05	0.80457	0.89424	0.90179	0.89925	0.97831	1.00000	0.99660	0.87202
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	30	511	511	511	511	511	511	511
rrprot1_10	0.80468	0.89660	0.90315	0.90406	0.97605	0.99660	1.00000	0.87188
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	30	511	511	511	511	511	511	511
GEBVredprot	0.94473	0.95261	0.95471	0.95320	0.87748	0.87202	0.87188	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	30	511	511	511	511	511	511	511

All bulls genotyped

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010

rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2017 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	22	108.28455	7.92494	2382	88.87000	119.54000
rprot1	572	105.72482	7.58513	60475	85.54711	130.90383
rprot1_05	572	104.34387	7.75208	59685	84.00021	131.20849
rprot1_10	572	104.24308	7.73665	59627	83.80371	131.15141
rrprot1	572	108.18862	6.79527	61884	89.92166	125.32208
rrprot1_05	572	105.09149	6.95254	60112	85.65261	123.59506
rrprot1_10	572	104.88232	6.92838	59993	85.15412	123.35235
GEBVredprot	572	102.04022	7.29772	58367	82.23980	123.92805

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	1.00000	0.98360	0.98464	0.98476	0.60372	0.56027	0.54756	0.96919
		<.0001	<.0001	<.0001	0.0029	0.0067	0.0083	<.0001

	22	22	22	22	22	22	22	22
rprot1	0.98360	1.00000	0.99406	0.99273	0.90363	0.88278	0.88474	0.94959
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	22	572	572	572	572	572	572	572
rprot1_05	0.98464	0.99406	1.00000	0.99893	0.89668	0.89182	0.89378	0.94937
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	22	572	572	572	572	572	572	572
rprot1_10	0.98476	0.99273	0.99893	1.00000	0.89225	0.88749	0.89270	0.94902
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	22	572	572	572	572	572	572	572
rrprot1	0.60372	0.90363	0.89668	0.89225	1.00000	0.98284	0.97888	0.86728
	0.0029	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	22	572	572	572	572	572	572	572
rrprot1_05	0.56027	0.88278	0.89182	0.88749	0.98284	1.00000	0.99649	0.85551
	0.0067	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	22	572	572	572	572	572	572	572
rrprot1_10	0.54756	0.88474	0.89378	0.89270	0.97888	0.99649	1.00000	0.85870
	0.0083	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	22	572	572	572	572	572	572	572
GEBVredprot	0.96919	0.94959	0.94937	0.94902	0.86728	0.85551	0.85870	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	22	572	572	572	572	572	572	572

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99429	0.99267	0.89386	0.87594	0.87426	0.95413
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	379	379	379	379	379	379	379
rprot1_05	.	0.99429	1.00000	0.99866	0.88201	0.88078	0.87898	0.95455
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	379	379	379	379	379	379	379
rprot1_10	.	0.99267	0.99866	1.00000	0.87691	0.87612	0.87860	0.95281
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	379	379	379	379	379	379	379
rrprot1	.	0.89386	0.88201	0.87691	1.00000	0.97887	0.97414	0.86791
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	379	379	379	379	379	379	379
rrprot1_05	.	0.87594	0.88078	0.87612	0.97887	1.00000	0.99508	0.85903
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	379	379	379	379	379	379	379
rrprot1_10	.	0.87426	0.87898	0.87860	0.97414	0.99508	1.00000	0.85612
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	379	379	379	379	379	379	379
GEBVredprot	.	0.95413	0.95455	0.95281	0.86791	0.85903	0.85612	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	379	379	379	379	379	379	379

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99450	0.99318	0.81011	0.78389	0.78483	0.95162
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	495	495	495	495	495	495	495
rprot1_05	.	0.99450	1.00000	0.99872	0.80192	0.79265	0.79326	0.95205
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	495	495	495	495	495	495	495
rprot1_10	.	0.99318	0.99872	1.00000	0.79798	0.78802	0.79293	0.95178
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	495	495	495	495	495	495	495
rrprot1	.	0.81011	0.80192	0.79798	1.00000	0.98061	0.97729	0.80044
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	495	495	495	495	495	495	495
rrprot1_05	.	0.78389	0.79265	0.78802	0.98061	1.00000	0.99510	0.78552
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	495	495	495	495	495	495	495
rrprot1_10	.	0.78483	0.79326	0.79293	0.97729	0.99510	1.00000	0.78754
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	495	495	495	495	495	495	495
GEBVredprot	.	0.95162	0.95205	0.95178	0.80044	0.78552	0.78754	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	495	495	495	495	495	495	495

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99470	0.99386	0.89955	0.89159	0.89384	0.95395
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	510	510	510	510	510	510	510
rprot1_05	.	0.99470	1.00000	0.99874	0.88948	0.89661	0.89778	0.95120
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	510	510	510	510	510	510	510
rprot1_10	.	0.99386	0.99874	1.00000	0.88585	0.89195	0.89695	0.95070
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	510	510	510	510	510	510	510
rrprot1	.	0.89955	0.88948	0.88585	1.00000	0.98403	0.98234	0.86000
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	510	510	510	510	510	510	510
rrprot1_05	.	0.89159	0.89661	0.89195	0.98403	1.00000	0.99614	0.85223
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	510	510	510	510	510	510	510
rrprot1_10	.	0.89384	0.89778	0.89695	0.98234	0.99614	1.00000	0.85520
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	510	510	510	510	510	510	510
GEBVredprot	.	0.95395	0.95120	0.95070	0.86000	0.85223	0.85520	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	510	510	510	510	510	510	510

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99279	0.99143	0.86920	0.84073	0.83644	0.95057
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	388	388	388	388	388	388	388
rprot1_05	.	0.99279	1.00000	0.99807	0.86369	0.85581	0.85041	0.95408
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	388	388	388	388	388	388	388
rprot1_10	.	0.99143	0.99807	1.00000	0.86123	0.85188	0.85251	0.95276
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	388	388	388	388	388	388	388
rrprot1	.	0.86920	0.86369	0.86123	1.00000	0.97894	0.97583	0.83214
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	388	388	388	388	388	388	388
rrprot1_05	.	0.84073	0.85581	0.85188	0.97894	1.00000	0.99411	0.81539
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	388	388	388	388	388	388	388
rrprot1_10	.	0.83644	0.85041	0.85251	0.97583	0.99411	1.00000	0.80968
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	388	388	388	388	388	388	388
GEBVredprot	.	0.95057	0.95408	0.95276	0.83214	0.81539	0.80968	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	388	388	388	388	388	388	388

All bulls genotyped

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2022 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	2	114.05121	10.25377	228.10242	106.80070	121.30172
rprot1_05	2	113.57139	11.63325	227.14278	105.34544	121.79735
rprot1_10	2	113.31824	11.97904	226.63649	104.84778	121.78870
rrprot1	2	118.44440	7.36685	236.88880	113.23525	123.65355
rrprot1_05	2	116.29640	8.83365	232.59280	110.05006	122.54274
rrprot1_10	2	115.30566	9.36665	230.61133	108.68244	121.92889
GEBVredprot	2	110.90778	7.48232	221.81555	105.61698	116.19858

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

	0	0	0	0	0	0	0	0
rprot1	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
	.	.	.	.	.	.	.	.
	0	2	2	2	2	2	2	2
rprot1_05	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
	.	.	.	.	.	.	.	.
	0	2	2	2	2	2	2	2
rprot1_10	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
	.	.	.	.	.	.	.	.
	0	2	2	2	2	2	2	2
rrprot1	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
	.	.	.	.	.	.	.	.
	0	2	2	2	2	2	2	2
rrprot1_05	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
	.	.	.	.	.	.	.	.
	0	2	2	2	2	2	2	2
rrprot1_10	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
	.	.	.	.	.	.	.	.
	0	2	2	2	2	2	2	2
GEBVredprot	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
	.	.	.	.	.	.	.	.
	0	2	2	2	2	2	2	2

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]

	198	198	198	198	198	198	198	198
rprot1	0.89040	1.00000	0.98892	0.90296	0.98462	0.96936	0.89834	0.96252
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	198	215	215	215	215	215	215	215
rprot1_05	0.91311	0.98892	1.00000	0.92367	0.97310	0.98417	0.92010	0.96138
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	198	215	215	215	215	215	215	215
rprot1_10	0.98098	0.90296	0.92367	1.00000	0.90241	0.92408	0.99432	0.85992
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	198	215	215	215	215	215	215	215
rrprot1	0.89674	0.98462	0.97310	0.90241	1.00000	0.98361	0.90864	0.94435
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	198	215	215	215	215	215	215	215
rrprot1_05	0.92068	0.96936	0.98417	0.92408	0.98361	1.00000	0.93193	0.94201
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	198	215	215	215	215	215	215	215
rrprot1_10	0.98171	0.89834	0.92010	0.99432	0.90864	0.93193	1.00000	0.85722
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	198	215	215	215	215	215	215	215
GEBVredprot	0.85055	0.96252	0.96138	0.85992	0.94435	0.94201	0.85722	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	198	215	215	215	215	215	215	215

```
----- year=2010 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]


```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]


```
----- year=2012 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05    rprot1_10    rrprot1      rrprot1_05    rrprot1_10    GEBVredprot
```

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	3793	95.48774	7.28955	362185	67.59000	125.46000
rprot1	4943	96.61172	7.93615	477552	64.09779	127.23684
rprot1_05	4943	94.96692	8.07743	469421	60.46060	124.39656
rprot1_10	4943	94.96076	8.12420	469391	60.64056	125.36355
rrprot1	4943	96.84960	7.80305	478728	67.06677	127.38625
rrprot1_05	4943	94.97788	7.95681	469476	63.26573	124.35932
rrprot1_10	4943	94.99183	7.98406	469545	63.94921	125.48754
GEBVredprot	4943	93.32569	7.68477	461309	61.72042	120.08532

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]


```
----- year=2013 -----
```

```
8 Variables:  proteinindex1 rprot1      rprot1_05    rprot1_10    rrprot1      rrprot1_05    rrprot1_10    GEBVredprot
```

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	2872	95.42845	7.16661	274071	71.60000	125.80000
rprot1	3892	96.52021	7.90917	375657	69.26152	122.07312
rprot1_05	3892	94.90250	8.07540	369361	66.03454	122.29607
rprot1_10	3892	94.85553	8.09829	369178	66.43428	121.58912
rrprot1	3892	96.88965	7.68886	377095	71.67674	126.35417
rrprot1_05	3892	95.01781	7.86657	369809	69.44446	126.34639
rrprot1_10	3892	94.98592	7.87733	369685	69.74306	126.12281
GEBVredprot	3892	93.68641	7.60058	364628	64.69270	120.79242

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	3487	96.18940	6.96796	335412	72.12000	121.67000
rprot1	4877	97.86118	7.69215	477269	74.16619	126.86842
rprot1_05	4877	96.17074	7.80389	469025	72.43576	126.02180
rprot1_10	4877	96.04841	7.81678	468428	72.01668	126.06209
rrprot1	4877	98.37760	7.47097	479788	71.94049	125.92987
rrprot1_05	4877	96.38683	7.56492	470079	69.21519	124.37108
rrprot1_10	4877	96.28747	7.56675	469594	68.46077	124.18761
GEBVredprot	4877	94.76563	7.36211	462172	70.83193	118.98883

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]


```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

[illegible]


```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	3878	99.54793	7.25238	386047	69.96000	137.31000
rprot1	6894	101.20830	7.93368	697730	70.73522	138.52565
rprot1_05	6894	99.51572	8.06209	686061	67.42509	137.77400
rprot1_10	6894	99.42542	8.06764	685439	67.46741	137.99587
rrprot1	6894	102.94488	7.24351	709702	76.53899	129.19813
rrprot1_05	6894	100.01006	7.32740	689469	72.75429	127.13416
rrprot1_10	6894	99.85884	7.29731	688427	73.03703	126.52279
GEBVredprot	6894	97.67973	7.67804	673404	68.22286	132.32780

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	5168	100.86867	7.19760	521289	72.98000	129.78000
rprot1	8618	102.89511	7.87095	886750	73.16453	132.97048
rprot1_05	8618	101.16625	8.04074	871851	70.56409	131.02661
rprot1_10	8618	101.07619	8.04422	871075	72.31605	130.62310
rrprot1	8618	104.96868	6.94972	904620	79.11920	130.13273
rrprot1_05	8618	101.57322	7.07694	875358	75.62907	125.85844
rrprot1_10	8618	101.40517	7.07606	873910	76.92508	125.09933
GEBVredprot	8618	99.22947	7.78888	855160	71.09762	128.91750

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]


```
8 Variables:  proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	6195	101.93919	7.33743	631513	71.99000	132.53000
rprot1	10620	104.72336	8.02184	1112162	73.94744	136.95984
rprot1_05	10620	102.94900	8.18668	1093318	72.00745	136.61814
rprot1_10	10620	102.84440	8.18997	1092208	72.48042	136.39922
rrprot1	10620	107.29934	6.97074	1139519	78.63756	134.42734
rrprot1_05	10620	103.84301	7.03482	1102813	77.32807	133.04834
rrprot1_10	10620	103.61285	6.97742	1100368	78.22502	132.30488
GEBVredprot	10620	100.87652	7.70559	1071309	65.79580	134.71804

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]


```
8 Variables:  proteinindex1 rprot1      rprot1_05    rprot1_10    rrprot1      rrprot1_05    rrprot1_10    GEBVredprot
```

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	3000	104.27497	7.27614	312825	77.25000	131.48000
rprot1	12912	107.59727	7.88609	1389296	74.89729	135.98697
rprot1_05	12912	105.73768	8.07901	1365285	72.46510	135.37428
rprot1_10	12912	105.62192	8.07998	1363790	71.44729	135.27804
rrprot1	12912	110.10233	6.94593	1421641	82.76589	134.19799
rrprot1_05	12912	106.13598	7.03591	1370428	80.24401	130.03834
rrprot1_10	12912	105.89025	7.00069	1367255	80.16611	130.16968
GEBVredprot	12912	102.78948	7.45666	1327218	72.51792	129.83938

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]

proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2020 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	15223	108.53561	7.79058	1652238	79.57169	138.39901
rprot1_05	15223	106.72466	7.99977	1624669	77.07093	138.13191
rprot1_10	15223	106.59571	8.01151	1622706	76.71858	137.47343
rrprot1	15223	111.02129	6.82065	1690077	83.49981	135.84359
rrprot1_05	15223	107.25948	7.00795	1632811	81.43155	134.78850
rrprot1_10	15223	106.93328	6.96954	1627845	81.75427	132.75780
GEBVredprot	15223	103.71334	7.18368	1578828	76.68857	131.80130

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

Females genotyped

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2021 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	11175	109.97922	7.11211	1229018	81.27567	133.83397
rprot1_05	11175	108.30222	7.31457	1210277	79.32397	133.80771
rprot1_10	11175	108.26526	7.32590	1209864	78.89049	133.96315
rrprot1	11175	111.75605	6.43268	1248874	86.34377	133.75649
rrprot1_05	11175	108.16737	6.60026	1208770	82.80134	130.76733
rrprot1_10	11175	108.00620	6.56799	1206969	83.14833	130.76377
GEBVredprot	11175	105.51308	6.73158	1179109	76.79508	130.41462

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

[illegible]

proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2022 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	0	.	.	.	.	.
rprot1	40	111.53123	6.81691	4461	96.49628	130.81748
rprot1_05	40	109.98134	7.00764	4399	93.48176	129.58912
rprot1_10	40	109.99228	7.00100	4400	93.01380	129.46084
rrprot1	40	113.27969	6.28802	4531	97.20931	130.99280
rrprot1_05	40	109.86223	6.50817	4394	93.83016	128.25115
rrprot1_10	40	109.81724	6.31768	4393	93.33609	127.48745
GEBVredprot	40	107.29481	6.48526	4292	95.27497	127.27853

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

		0	0	0	0	0	0	0
rprot1	.	1.00000	0.99265	0.99218	0.87319	0.84883	0.85373	0.95551
	.		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	0	40	40	40	40	40	40	40
rprot1_05	.	0.99265	1.00000	0.99805	0.86657	0.86179	0.86488	0.94889
	.	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	0	40	40	40	40	40	40	40
rprot1_10	.	0.99218	0.99805	1.00000	0.85730	0.85017	0.85883	0.95187
	.	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	0	40	40	40	40	40	40	40
rrprot1	.	0.87319	0.86657	0.85730	1.00000	0.98164	0.97939	0.82013
	.	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	0	40	40	40	40	40	40	40
rrprot1_05	.	0.84883	0.86179	0.85017	0.98164	1.00000	0.99462	0.79895
	.	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	0	40	40	40	40	40	40	40
rrprot1_10	.	0.85373	0.86488	0.85883	0.97939	0.99462	1.00000	0.80797
	.	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	0	40	40	40	40	40	40	40
GEBVredprot	.	0.95551	0.94889	0.95187	0.82013	0.79895	0.80797	1.00000
	.	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	0	40	40	40	40	40	40	40

```
8 Variables:    proteinindex1 rprot1      rprot1_05      rprot1_10      rrprot1      rrprot1_05      rrprot1_10      GEBVredprot
```

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	23532	90.79827	7.33374	2136665	55.91000	126.87000
rprot1	26417	89.68507	7.20725	2369211	54.65111	120.99662
rprot1_05	26417	90.07150	7.25494	2379419	53.85402	120.83511
rprot1_10	26417	90.02797	7.25598	2378269	53.87241	120.56187
rrprot1	26417	89.37780	7.20863	2361093	54.42376	121.29696
rrprot1_05	26417	89.73548	7.28209	2370542	53.30099	120.16178
rrprot1_10	26417	89.70449	7.28404	2369724	53.29676	120.45248
GEBVredprot	0	.	.	.	.	.

Number of Observations

[illegible]

	23532	23532	23532	23532	23532	23532	23532	0
rprot1	0.99000	1.00000	0.99686	0.99653	0.99671	0.99342	0.99318	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	23532	26417	26417	26417	26417	26417	26417	0
rprot1_05	0.99327	0.99686	1.00000	0.99967	0.99268	0.99663	0.99633	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	23532	26417	26417	26417	26417	26417	26417	0
rprot1_10	0.99351	0.99653	0.99967	1.00000	0.99242	0.99637	0.99665	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	23532	26417	26417	26417	26417	26417	26417	0
rrprot1	0.98651	0.99671	0.99268	0.99242	1.00000	0.99574	0.99552	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	23532	26417	26417	26417	26417	26417	26417	0
rrprot1_05	0.99077	0.99342	0.99663	0.99637	0.99574	1.00000	0.99970	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	23532	26417	26417	26417	26417	26417	26417	0
rrprot1_10	0.99099	0.99318	0.99633	0.99665	0.99552	0.99970	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	23532	26417	26417	26417	26417	26417	26417	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	19851	92.02737	7.04744	1826835	57.18000	123.02000
rprot1	22629	91.12941	6.90616	2062168	54.14453	122.52789
rprot1_05	22629	91.52495	6.97248	2071118	54.04764	120.86444
rprot1_10	22629	91.50857	6.96127	2070747	53.97807	121.14300
rrprot1	22629	90.90750	6.89612	2057146	53.95932	122.22010
rrprot1_05	22629	91.30714	6.98870	2066189	53.70075	120.30875
rrprot1_10	22629	91.29777	6.97926	2065977	53.64381	120.75835
GEBVredprot	0	.	.	.	.	.

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]

	19851	19851	19851	19851	19851	19851	19851	0
rprot1	0.99033	1.00000	0.99745	0.99696	0.99407	0.99143	0.99118	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	19851	22629	22629	22629	22629	22629	22629	0
rprot1_05	0.99307	0.99745	1.00000	0.99961	0.99073	0.99412	0.99392	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	19851	22629	22629	22629	22629	22629	22629	0
rprot1_10	0.99343	0.99696	0.99961	1.00000	0.99022	0.99374	0.99420	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	19851	22629	22629	22629	22629	22629	22629	0
rrprot1	0.98457	0.99407	0.99073	0.99022	1.00000	0.99635	0.99593	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	19851	22629	22629	22629	22629	22629	22629	0
rrprot1_05	0.98816	0.99143	0.99412	0.99374	0.99635	1.00000	0.99967	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	19851	22629	22629	22629	22629	22629	22629	0
rrprot1_10	0.98850	0.99118	0.99392	0.99420	0.99593	0.99967	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	19851	22629	22629	22629	22629	22629	22629	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	19209	93.23706	6.99352	1790991	60.42000	126.18000
rprot1	22083	92.34625	6.85799	2039282	60.09691	123.44320
rprot1_05	22083	92.74362	6.93309	2048057	59.72719	124.13840
rprot1_10	22083	92.74398	6.92688	2048065	59.77179	124.07215
rrprot1	22083	92.20561	6.84337	2036176	59.61284	122.65587
rrprot1_05	22083	92.63687	6.94243	2045700	58.99765	123.49512
rrprot1_10	22083	92.63397	6.93767	2045636	59.07297	123.39352
GEBVredprot	0	.	.	.	.	.

```

Prob > |r| under H0: Rho=0
  Number of Observations

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[illegible]

	19209	19209	19209	19209	19209	19209	19209	0
rprot1	0.99002	1.00000	0.99765	0.99706	0.99066	0.98816	0.98775	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	19209	22083	22083	22083	22083	22083	22083	0
rprot1_05	0.99284	0.99765	1.00000	0.99953	0.98755	0.99071	0.99038	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	19209	22083	22083	22083	22083	22083	22083	0
rprot1_10	0.99335	0.99706	0.99953	1.00000	0.98697	0.99030	0.99079	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	19209	22083	22083	22083	22083	22083	22083	0
rrprot1	0.98043	0.99066	0.98755	0.98697	1.00000	0.99648	0.99592	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	19209	22083	22083	22083	22083	22083	22083	0
rrprot1_05	0.98414	0.98816	0.99071	0.99030	0.99648	1.00000	0.99957	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	19209	22083	22083	22083	22083	22083	22083	0
rrprot1_10	0.98457	0.98775	0.99038	0.99079	0.99592	0.99957	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	19209	22083	22083	22083	22083	22083	22083	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

	19011	19011	19011	19011	19011	19011	19011	0
rprot1	0.98845	1.00000	0.99730	0.99679	0.98664	0.98369	0.98328	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	19011	21938	21938	21938	21938	21938	21938	0
rprot1_05	0.99167	0.99730	1.00000	0.99967	0.98281	0.98645	0.98617	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	19011	21938	21938	21938	21938	21938	21938	0
rprot1_10	0.99190	0.99679	0.99967	1.00000	0.98231	0.98620	0.98650	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	19011	21938	21938	21938	21938	21938	21938	0
rrprot1	0.97378	0.98664	0.98281	0.98231	1.00000	0.99584	0.99536	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	19011	21938	21938	21938	21938	21938	21938	0
rrprot1_05	0.97827	0.98369	0.98645	0.98620	0.99584	1.00000	0.99969	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	19011	21938	21938	21938	21938	21938	21938	0
rrprot1_10	0.97842	0.98328	0.98617	0.98650	0.99536	0.99969	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	19011	21938	21938	21938	21938	21938	21938	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	17515	94.14961	6.88364	1649031	59.89000	129.60000
rprot1	19921	93.68771	6.74064	1866353	58.60594	127.49013
rprot1_05	19921	93.83989	6.81617	1869384	57.78511	128.27484
rprot1_10	19921	93.83100	6.81907	1869207	57.79946	128.33379
rrprot1	19921	93.68445	6.70734	1866288	56.55100	127.82202
rrprot1_05	19921	93.86081	6.79824	1869801	55.35273	128.83904
rrprot1_10	19921	93.85551	6.80096	1869696	55.11433	128.87562
GEBVredprot	0	.	.	.	.	.

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]

	17515	17515	17515	17515	17515	17515	17515	0
rprot1	0.98263	1.00000	0.99617	0.99567	0.97757	0.97333	0.97304	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	17515	19921	19921	19921	19921	19921	19921	0
rprot1_05	0.98754	0.99617	1.00000	0.99970	0.97187	0.97724	0.97709	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	17515	19921	19921	19921	19921	19921	19921	0
rprot1_10	0.98771	0.99567	0.99970	1.00000	0.97117	0.97684	0.97728	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	17515	19921	19921	19921	19921	19921	19921	0
rrprot1	0.95713	0.97757	0.97187	0.97117	1.00000	0.99377	0.99322	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	17515	19921	19921	19921	19921	19921	19921	0
rrprot1_05	0.96389	0.97333	0.97724	0.97684	0.99377	1.00000	0.99965	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	17515	19921	19921	19921	19921	19921	19921	0
rrprot1_10	0.96418	0.97304	0.97709	0.97728	0.99322	0.99965	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	17515	19921	19921	19921	19921	19921	19921	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	17635	95.15449	6.87080	1678049	66.09000	123.65000
rprot1	20223	94.91532	6.68496	1919473	67.52876	124.85934
rprot1_05	20223	95.00182	6.75863	1921222	67.26080	124.77793
rprot1_10	20223	95.00297	6.76336	1921245	67.32066	124.98200
rrprot1	20223	95.02346	6.56137	1921659	67.52547	123.75102
rrprot1_05	20223	95.14640	6.65302	1924146	67.43388	125.43516
rrprot1_10	20223	95.14054	6.65936	1924027	67.30788	126.02281
GEBVredprot	0	.	.	.	.	.

Number of Observations

[illegible]

	17635	17635	17635	17635	17635	17635	17635	0
rprot1	0.98206	1.00000	0.99610	0.99537	0.96478	0.95961	0.95878	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	17635	20223	20223	20223	20223	20223	20223	0
rprot1_05	0.98674	0.99610	1.00000	0.99959	0.95904	0.96404	0.96346	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	17635	20223	20223	20223	20223	20223	20223	0
rprot1_10	0.98690	0.99537	0.99959	1.00000	0.95835	0.96383	0.96411	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	17635	20223	20223	20223	20223	20223	20223	0
rrprot1	0.94286	0.96478	0.95904	0.95835	1.00000	0.99310	0.99222	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	17635	20223	20223	20223	20223	20223	20223	0
rrprot1_05	0.94880	0.95961	0.96404	0.96383	0.99310	1.00000	0.99949	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	17635	20223	20223	20223	20223	20223	20223	0
rrprot1_10	0.94879	0.95878	0.96346	0.96411	0.99222	0.99949	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	17635	20223	20223	20223	20223	20223	20223	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

[illegible]

	17456	17456	17456	17456	17456	17456	17456	0
rprot1	0.97986	1.00000	0.99661	0.99601	0.87789	0.87437	0.87392	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	17456	19350	19350	19350	19350	19350	19350	0
rprot1_05	0.98475	0.99661	1.00000	0.99980	0.87061	0.87700	0.87695	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	17456	19350	19350	19350	19350	19350	19350	0
rprot1_10	0.98486	0.99601	0.99980	1.00000	0.86952	0.87656	0.87700	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	17456	19350	19350	19350	19350	19350	19350	0
rrprot1	0.84334	0.87789	0.87061	0.86952	1.00000	0.99165	0.99049	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	17456	19350	19350	19350	19350	19350	19350	0
rrprot1_05	0.85135	0.87437	0.87700	0.87656	0.99165	1.00000	0.99961	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	17456	19350	19350	19350	19350	19350	19350	0
rrprot1_10	0.85169	0.87392	0.87695	0.87700	0.99049	0.99961	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	17456	19350	19350	19350	19350	19350	19350	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

[illegible]

	16094	16094	16094	16094	16094	16094	16094	0
rprot1	0.97986	1.00000	0.99675	0.99613	0.66852	0.66527	0.66571	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	16094	17812	17812	17812	17812	17812	17812	0
rprot1_05	0.98437	0.99675	1.00000	0.99969	0.65609	0.66655	0.66744	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	16094	17812	17812	17812	17812	17812	17812	0
rprot1_10	0.98456	0.99613	0.99969	1.00000	0.65491	0.66613	0.66819	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	16094	17812	17812	17812	17812	17812	17812	0
rrprot1	0.61449	0.66852	0.65609	0.65491	1.00000	0.97161	0.96864	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	16094	17812	17812	17812	17812	17812	17812	0
rrprot1_05	0.62622	0.66527	0.66655	0.66613	0.97161	1.00000	0.99821	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	16094	17812	17812	17812	17812	17812	17812	0
rrprot1_10	0.62824	0.66571	0.66744	0.66819	0.96864	0.99821	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	16094	17812	17812	17812	17812	17812	17812	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	14965	99.92486	6.93265	1495375	64.33000	134.03000
rprot1	16573	100.83362	6.80794	1671116	66.61345	136.70655
rprot1_05	16573	100.52502	6.89755	1666001	66.11081	136.80003
rprot1_10	16573	100.49997	6.90443	1665586	65.21331	136.73381
rrprot1	16573	102.29306	4.95789	1695303	70.14581	122.49532
rrprot1_05	16573	100.93641	4.84435	1672819	71.37862	118.44514
rrprot1_10	16573	100.83188	4.88075	1671087	70.45479	118.32905
GEBVredprot	0	.	.	.	.	.

```

Prob > |r| under H0: Rho=0
Number of Observations

```

[illegible]

	14965	14965	14965	14965	14965	14965	14965	0
rprot1	0.98265	1.00000	0.99771	0.99734	0.65245	0.64818	0.64936	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	14965	16573	16573	16573	16573	16573	16573	0
rprot1_05	0.98623	0.99771	1.00000	0.99983	0.64109	0.64667	0.64821	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	14965	16573	16573	16573	16573	16573	16573	0
rprot1_10	0.98626	0.99734	0.99983	1.00000	0.64056	0.64660	0.64886	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	14965	16573	16573	16573	16573	16573	16573	0
rrprot1	0.59565	0.65245	0.64109	0.64056	1.00000	0.97395	0.97041	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	14965	16573	16573	16573	16573	16573	16573	0
rrprot1_05	0.60362	0.64818	0.64667	0.64660	0.97395	1.00000	0.99826	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	14965	16573	16573	16573	16573	16573	16573	0
rrprot1_10	0.60573	0.64936	0.64821	0.64886	0.97041	0.99826	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	14965	16573	16573	16573	16573	16573	16573	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	15116	101.63511	6.89233	1536316	64.69000	131.50000
rprot1	17036	102.73950	6.75447	1750270	66.93582	133.75914
rprot1_05	17036	102.35462	6.83361	1743713	65.37740	132.87481
rprot1_10	17036	102.32347	6.83654	1743183	64.08627	132.97112
rrprot1	17036	104.41498	4.98745	1778814	77.19838	123.75102
rrprot1_05	17036	102.89985	4.77932	1753002	77.11056	121.21998
rrprot1_10	17036	102.74023	4.72527	1750283	74.95459	120.97011
GEBVredprot	0	.	.	.	.	.

```

Prob > |r| under H0: Rho=0
Number of Observations

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[illegible]

	15116	15116	15116	15116	15116	15116	15116	0
rprot1	0.98550	1.00000	0.99829	0.99801	0.62944	0.62725	0.62637	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	15116	17036	17036	17036	17036	17036	17036	0
rprot1_05	0.98802	0.99829	1.00000	0.99990	0.61857	0.62428	0.62383	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	15116	17036	17036	17036	17036	17036	17036	0
rprot1_10	0.98808	0.99801	0.99990	1.00000	0.61762	0.62368	0.62371	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	15116	17036	17036	17036	17036	17036	17036	0
rrprot1	0.57755	0.62944	0.61857	0.61762	1.00000	0.97612	0.97132	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	15116	17036	17036	17036	17036	17036	17036	0
rrprot1_05	0.58564	0.62725	0.62428	0.62368	0.97612	1.00000	0.99751	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	15116	17036	17036	17036	17036	17036	17036	0
rrprot1_10	0.58513	0.62637	0.62383	0.62371	0.97132	0.99751	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	15116	17036	17036	17036	17036	17036	17036	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

[illegible]

	5758	5758	5758	5758	5758	5758	5758	0
rprot1	0.98791	1.00000	0.99857	0.99833	0.63095	0.61936	0.61682	.
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	.
	5758	13874	13874	13874	13874	13874	13874	0
rprot1_05	0.98998	0.99857	1.00000	0.99989	0.62179	0.61714	0.61476	.
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	.
	5758	13874	13874	13874	13874	13874	13874	0
rprot1_10	0.99002	0.99833	0.99989	1.00000	0.62109	0.61675	0.61496	.
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	.
	5758	13874	13874	13874	13874	13874	13874	0
rrprot1	0.59476	0.63095	0.62179	0.62109	1.00000	0.97862	0.97390	.
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	.
	5758	13874	13874	13874	13874	13874	13874	0
rrprot1_05	0.59996	0.61936	0.61714	0.61675	0.97862	1.00000	0.99719	.
	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	.
	5758	13874	13874	13874	13874	13874	13874	0
rrprot1_10	0.59664	0.61682	0.61476	0.61496	0.97390	0.99719	1.00000	.
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		.
	5758	13874	13874	13874	13874	13874	13874	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

Females not genotyped

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
 rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2020 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex1	1	97.91000	.	97.91000	97.91000	97.91000
rprot1	414	105.89667	5.59614	43841	89.73796	119.11995
rprot1_05	414	105.33324	5.66952	43608	88.95807	118.69354
rprot1_10	414	105.28282	5.66620	43587	88.99282	118.62475
rrprot1	414	108.26753	4.58635	44823	94.80111	119.50229
rrprot1_05	414	106.07510	4.48786	43915	93.39512	116.78141
rrprot1_10	414	105.76594	4.49541	43787	93.35374	116.65266
GEBVredprot	0	.	.	.	.	.

Pearson Correlation Coefficients

Prob > |r| under H0: Rho=0

Number of Observations

	proteinindex1	rprot1	rprot1_05	rprot1_10	rrprot1	rrprot1_05	rrprot1_10	GEBVredprot
proteinindex1	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.

	1	1	1	1	1	1	1	0
rprot1	.	1.00000	0.99751	0.99737	0.66867	0.64173	0.63755	.
	.		<.0001	<.0001	<.0001	<.0001	<.0001	.
	1	414	414	414	414	414	414	0
rprot1_05	.	0.99751	1.00000	0.99989	0.65291	0.63575	0.63087	.
	.	<.0001		<.0001	<.0001	<.0001	<.0001	.
	1	414	414	414	414	414	414	0
rprot1_10	.	0.99737	0.99989	1.00000	0.65238	0.63522	0.63084	.
	.	<.0001	<.0001		<.0001	<.0001	<.0001	.
	1	414	414	414	414	414	414	0
rrprot1	.	0.66867	0.65291	0.65238	1.00000	0.97512	0.96833	.
	.	<.0001	<.0001	<.0001		<.0001	<.0001	.
	1	414	414	414	414	414	414	0
rrprot1_05	.	0.64173	0.63575	0.63522	0.97512	1.00000	0.99671	.
	.	<.0001	<.0001	<.0001	<.0001		<.0001	.
	1	414	414	414	414	414	414	0
rrprot1_10	.	0.63755	0.63087	0.63084	0.96833	0.99671	1.00000	.
	.	<.0001	<.0001	<.0001	<.0001	<.0001		.
	1	414	414	414	414	414	414	0
GEBVredprot	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.
	0	0	0	0	0	0	0	0

Females not genotyped

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2021 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot

Females not genotyped

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proteinindex1 = traditinal, rprot1 = full SS , rprot1_05 = full SS 2005, rprot1_10 = full SS 2010
rrprot1 = reduced SS, rrprot1_05 = reduced SS 2005, rrprot1_10 = reduced SS 2010, gebvredprot = two step

----- year=2022 -----

The CORR Procedure

8 Variables: proteinindex1 rprot1 rprot1_05 rprot1_10 rrprot1 rrprot1_05 rrprot1_10 GEBVredprot