STØTTET AF
Mælkeafgiftsfonden

Statistics for traditional production model, full and reduced data.

USN 4.4 2022

The traditional production test day model was executed full data as for the official run, and with reduced 4 years data. It is done in the same way as at the regularly Interbull test. Bulls were taken from the full run, if bulls were VG bulls. The bulls are also been born in 2013, 2014, 2015 or 2016. 100 daughters should have passed 100 days in 1st lactation. None of these bulls have a proof in the reduced data. Proofs for sire and dam were take from the reduced data. The sire should have min. 50 daughters, and the dam min. 6 test day records.

Proc reg; model proteinindex = sire_p dam_p was done by breed, and also by breed and nationalty of birth for HOL and JER. Correlations between bull, sire and dam were calculated:

Results for HOL:

Total

The SAS System 14:45 Wednesday, Marc

The REG Procedure
Model: MODEL1
Dependent Variable: proteinindex

Number of Observations Read	426
Number of Observations Used	203
Number of Observations with Missing Values	223

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	7841.52571	3920.76285	77.75	<.0001
Error	200	10086	50.43038		
Corrected Total	202	17928			

Root MSE	7.10143	R-Square	0.4374
Dependent Mean	101.12498	Adj R-Sq	0.4318
Coeff Var	7.02243		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	17.77416	6.81848	2.61	0.0098
sire_p	1	0.44553	0.04788	9.30	<.0001
dam_p	1	0.33336	0.05113	6.52	<.0001

The SAS System 14:45 Wednesday, Marc

The REG Procedure
Model: MODEL1
Dependent Variable: proteinindex

Number of Observations Read	426
Number of Observations Used	203
Number of Observations with Missing Values	223

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	7841.52571	3920.76285	77.75	<.0001
Error	200	10086	50.43038		
Corrected Total	202	17928			

---------- nati=DNK ----------

The REG Procedure
Model: MODEL1
Dependent Variable: proteinindex

Number of Observations Read	117
Number of Observations Used	117

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	3057.24380	1528.62190	31.25	<.0001
Error	114	5577.14606	48.92233		
Corrected Total	116	8634.38986			

Root MSE	6.99445	R-Square	0.3541
Dependent Mean	103.27060	Adj R-Sq	0.3427
Coeff Var	6.77293		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	20.65989	11.24716	1.84	0.0688
sire_p	1	0.44667	0.06364	7.02	<.0001
dam_p	1	0.30971	0.07711	4.02	0.0001

The SAS System 14:45 Wednesday, M

---------- nati=FIN ----------

The REG Procedure
Model: MODEL1
Dependent Variable: proteinindex

Number of Observations Read	61
Number of Observations Used	61

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	1893.06844	946.53422	19.44	<.0001
Error	58	2824.70062	48.70173		
Corrected Total	60	4717.76906			

Root MSE	6.97866	R-Square	0.4013
Dependent Mean	95.52393	Adj R-Sq	0.3806
Coeff Var	7.30567		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	30.27817	11.35282	2.67	0.0099
sire_p	1	0.42929	0.08503	5.05	<.0001
dam_p	1	0.21173	0.10029	2.11	0.0391

The SAS System 14:45 Wednesday, March 30, 20

---------- nati=SWE ----------

The REG Procedure
Model: MODEL1
Dependent Variable: proteinindex

Number of Observations Read	25
Number of Observations Used	25

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	396.86310	198.43155	3.12	0.0640
Error	22	1397.75510	63.53432		
Corrected Total	24	1794.61820			

Root MSE	7.97084	R-Square	0.2211
Dependent Mean	104.75000	Adj R-Sq	0.1503
Coeff Var	7.60940		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	31.84202	29.61000	1.08	0.2939
sire_p	1	0.31658	0.19750	1.60	0.1232
dam_p	1	0.34532	0.17418	1.98	0.0600

---------- nati=DNK ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	117	103.27060	8.62754	12083	82.17000	129.03000
sire_p	117	108.81085	10.22072	12731	86.43000	129.70000
dam_p	117	109.80504	8.43472	12847	89.17000	127.53000
ped_p	117	109.30795	6.44461	12789	92.29000	123.59500
dif_p	117	-6.03735	7.13133	-706.37000	-21.88500	13.32000
r2_protein	117	67.00000	10.86199	7839	54.00000	99.00000

Pearson Correlation Coefficients, N = 117
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.51252	0.27371	0.58552	0.68067	0.03583
		<.0001	0.0028	<.0001	<.0001	0.7014
sire_p	0.51252	1.00000	-0.05496	0.75700	-0.06406	0.14827
	<.0001		0.5562	<.0001	0.4926	0.1106
dam_p	0.27371	-0.05496	1.00000	0.61082	-0.22087	-0.07760
	0.0028	0.5562		<.0001	0.0167	0.4056
ped_p	0.58552	0.75700	0.61082	1.00000	-0.19533	0.06680
	<.0001	<.0001	<.0001		0.0348	0.4743
dif_p	0.68067	-0.06406	-0.22087	-0.19533	1.00000	-0.01702
	<.0001	0.4926	0.0167	0.0348		0.8555
r2_protein	0.03583	0.14827	-0.07760	0.06680	-0.01702	1.00000

---------- nati=FIN ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	61	95.52393	8.86733	5827	69.40000	115.91000
sire_p	61	102.68623	11.02983	6264	84.86000	131.55000
dam_p	61	99.95361	9.35138	6097	80.33000	126.99000
ped_p	61	101.31992	8.16130	6181	88.52000	124.42500
dif_p	61	-5.79598	7.49145	-353.55500	-21.56500	10.32500
r2_protein	61	66.32787	11.63718	4046	55.00000	99.00000

Pearson Correlation Coefficients, N = 61
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.59603	0.37167	0.61570	0.51291	0.16140
		<.0001	0.0032	<.0001	<.0001	0.2140
sire_p	0.59603	1.00000	0.27787	0.83494	-0.20409	0.23735
	<.0001		0.0301	<.0001	0.1146	0.0655
dam_p	0.37167	0.27787	1.00000	0.76068	-0.38877	-0.02816
	0.0032	0.0301		<.0001	0.0020	0.8295
ped_p	0.61570	0.83494	0.76068	1.00000	-0.36064	0.14426
	<.0001	<.0001	<.0001		0.0043	0.2673
dif_p	0.51291	-0.20409	-0.38877	-0.36064	1.00000	0.03388
	<.0001	0.1146	0.0020	0.0043		0.7955
r2_protein	0.16140	0.23735	-0.02816	0.14426	0.03388	1.00000
	0.2140	0.0655	0.8295	0.2673	0.7955	

---------- nati=SWE ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	25	104.75000	8.64730	2619	86.30000	126.53000
sire_p	25	109.39400	8.24538	2735	95.36000	131.55000
dam_p	25	110.84120	9.34909	2771	93.05000	129.30000
ped_p	25	110.11760	6.10291	2753	100.04500	129.52000
dif_p	25	-5.36760	7.90167	-134.19000	-19.05500	6.78500
r2_protein	25	60.40000	2.67706	1510	54.00000	66.00000

Pearson Correlation Coefficients, N = 25
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.28635	0.36080	0.46979	0.73152	0.27859
		0.1652	0.0764	0.0178	<.0001	0.1775
sire_p	0.28635	1.00000	-0.04157	0.64368	-0.18379	-0.21636
	0.1652		0.8436	0.0005	0.3792	0.2989
dam_p	0.36080	-0.04157	1.00000	0.73787	-0.17506	0.29680
	0.0764	0.8436		<.0001	0.4026	0.1497
ped_p	0.46979	0.64368	0.73787	1.00000	-0.25824	0.08117
	0.0178	0.0005	<.0001		0.2126	0.6997
dif_p	0.73152	-0.18379	-0.17506	-0.25824	1.00000	0.24218
	<.0001	0.3792	0.4026	0.2126		0.2435
r2_protein	0.27859	-0.21636	0.29680	0.08117	0.24218	1.00000
	0.1775	0.2989	0.1497	0.6997	0.2435	

Results for JER:

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	543.48607	271.74304	4.45	0.0179
Error	41	2504.70718	61.09042		
Corrected Total	43	3048.19325			

Root MSE	7.81604	R-Square	0.1783
Dependent Mean	103.95818	Adj R-Sq	0.1382
Coeff Var	7.51844		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	27.05497	26.58003	1.02	0.3147
sire_p	1	0.29865	0.11975	2.49	0.0168
dam_p	1	0.41266	0.18630	2.21	0.0324

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	44	103.95818	8.41951	4574	82.85000	120.37000
sire_p	44	108.35364	10.28964	4768	93.35000	126.80000
dam_p	44	107.94432	6.61386	4750	96.02000	121.49000
ped_p	44	108.14898	5.36452	4759	96.12000	117.19500
dif_p	44	-4.19080	7.89104	-184.39500	-24.68500	9.60500
r2_protein	44	62.34091	8.39419	2743	55.00000	99.00000

Pearson Correlation Coefficients, N = 44
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.28280	0.23162	0.41400	0.78553	0.12577
		0.0629	0.1303	0.0052	<.0001	0.4159
sire_p	0.28280	1.00000	-0.25353	0.80276	-0.24400	0.17601
	0.0629		0.0968	<.0001	0.1105	0.2531
dam_p	0.23162	-0.25353	1.00000	0.37330	-0.00664	0.20840
	0.1303	0.0968		0.0126	0.9659	0.1746
ped_p	0.41400	0.80276	0.37330	1.00000	-0.23810	0.29727
	0.0052	<.0001	0.0126		0.1196	0.0500
dif_p	0.78553	-0.24400	-0.00664	-0.23810	1.00000	-0.06790
	<.0001	0.1105	0.9659	0.1196		0.6614
r2_protein	0.12577	0.17601	0.20840	0.29727	-0.06790	1.00000
	0.4159	0.2531	0.1746	0.0500	0.6614	

Results for RDC

Total

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	1817.12398	908.56199	18.07	<.0001
Error	148	7441.92517	50.28328		
Corrected Total	150	9259.04915			

Root MSE	7.09107	R-Square	0.1963
Dependent Mean	103.68464	Adj R-Sq	0.1854
Coeff Var	6.83908		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	48.12980	10.15962	4.74	<.0001
sire_p	1	0.37684	0.06827	5.52	<.0001
dam_p	1	0.14031	0.06981	2.01	0.0462

---------- nati=DNK ----------

The REG Procedure
Model: MODEL1
Dependent Variable: proteinindex

Number of Observations Read	31
Number of Observations Used	31

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	819.58799	409.79399	5.76	0.0081
Error	28	1993.71049	71.20395		
Corrected Total	30	2813.29848			

Root MSE	8.43824	R-Square	0.2913
Dependent Mean	101.80194	Adj R-Sq	0.2407
Coeff Var	8.28888		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	21.13515	23.82482	0.89	0.3826
sire_p	1	0.45012	0.23543	1.91	0.0662
dam_p	1	0.30595	0.20731	1.48	0.1512

---------- nati=FIN ----------

The REG Procedure
Model: MODEL1
Dependent Variable: proteinindex

Number of Observations Read	63
Number of Observations Used	63

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	553.47306	276.73653	5.51	0.0064
Error	60	3013.97168	50.23286		
Corrected Total	62	3567.44474			

Root MSE	7.08751	R-Square	0.1551
Dependent Mean	104.93238	Adj R-Sq	0.1270
Coeff Var	6.75436		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	63.90319	15.01065	4.26	<.0001
sire_p	1	0.32773	0.10022	3.27	0.0018
dam_p	1	0.04844	0.09695	0.50	0.6192

---------- nati=SWE ----------

The REG Procedure
Model: MODEL1

Dependent Variable: proteinindex

Number of Observations Read 57
Number of Observations Used 57

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	453.33946	226.66973	5.54	0.0065
Error	54	2209.81242	40.92245		
Corrected Total	56	2663.15188			

Root MSE	6.39707	R-Square	0.1702
Dependent Mean	103.32947	Adj R-Sq	0.1395
Coeff Var	6.19094		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	48.65458	18.44941	2.64	0.0109
sire_p	1	0.33375	0.10606	3.15	0.0027
dam_p	1	0.17960	0.12533	1.43	0.1576

---------- nati=DNK ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	31	101.80194	9.68383	3156	81.57000	123.18000
sire_p	31	104.94484	7.54962	3253	86.80000	117.33000
dam_p	31	109.26323	8.57370	3387	93.62000	122.69000
ped_p	31	107.10403	6.98329	3320	91.59000	117.60000
dif_p	31	-5.30210	8.36611	-164.36500	-24.94500	17.15500
r2_protein	31	75.77419	16.22901	2349	55.00000	99.00000

Pearson Correlation Coefficients, N = 31
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.48601	0.44588	0.53642	0.70975	-0.14983
		0.0056	0.0119	0.0019	<.0001	0.4211
sire_p	0.48601	1.00000	0.49870	0.84669	-0.14419	0.05812
	0.0056		0.0043	<.0001	0.4390	0.7561
dam_p	0.44588	0.49870	1.00000	0.88345	-0.22131	0.11539
	0.0119	0.0043		<.0001	0.2315	0.5365
ped_p	0.53642	0.84669	0.88345	1.00000	-0.21380	0.10226
	0.0019	<.0001	<.0001		0.2481	0.5841
dif_p	0.70975	-0.14419	-0.22131	-0.21380	1.00000	-0.25879
	<.0001	0.4390	0.2315	0.2481		0.1598
r2_protein	-0.14983	0.05812	0.11539	0.10226	-0.25879	1.00000
	0.4211	0.7561	0.5365	0.5841	0.1598	

---------- nati=FIN ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	63	104.93238	7.58548	6611	81.22000	118.72000
sire_p	63	109.23397	8.98340	6882	93.14000	137.85000
dam_p	63	107.97048	9.28603	6802	74.88000	130.72000
ped_p	63	108.60222	6.52888	6842	90.22500	125.31000
dif_p	63	-3.66984	8.29870	-231.20000	-19.26500	17.57500
r2_protein	63	67.26984	9.51774	4238	54.00000	99.00000

Pearson Correlation Coefficients, N = 63
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.38940	0.06761	0.31598	0.66547	0.10913
		0.0016	0.5985	0.0116	<.0001	0.3946
sire_p	0.38940	1.00000	0.02142	0.70320	-0.19730	0.13650
	0.0016		0.8677	<.0001	0.1211	0.2861
dam_p	0.06761	0.02142	1.00000	0.72588	-0.50928	-0.05439
	0.5985	0.8677		<.0001	<.0001	0.6720
ped_p	0.31598	0.70320	0.72588	1.00000	-0.49792	0.05523
	0.0116	<.0001	<.0001		<.0001	0.6673
dif_p	0.66547	-0.19730	-0.50928	-0.49792	1.00000	0.05630
	<.0001	0.1211	<.0001	<.0001		0.6612
r2_protein	0.10913	0.13650	-0.05439	0.05523	0.05630	1.00000
	0.3946	0.2861	0.6720	0.6673	0.6612	

---------- nati=SWE ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	57	103.32947	6.89611	5890	87.32000	120.43000
sire_p	57	106.55281	8.11179	6074	91.19000	126.41000
dam_p	57	106.41772	6.86480	6066	92.51000	124.00000
ped_p	57	106.48526	5.00853	6070	97.79500	116.00500
dif_p	57	-3.15579	6.74143	-179.88000	-16.80500	12.91000
r2_protein	57	63.84211	5.25353	3639	55.00000	95.00000

Pearson Correlation Coefficients, N = 57
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.37239	0.13442	0.39368	0.73046	0.02863
		0.0043	0.3188	0.0024	<.0001	0.8326
sire_p	0.37239	1.00000	-0.11300	0.73236	-0.16317	-0.03378
	0.0043		0.4026	<.0001	0.2252	0.8030
dam_p	0.13442	-0.11300	1.00000	0.59380	-0.30366	0.20694
	0.3188	0.4026		<.0001	0.0217	0.1225
ped_p	0.39368	0.73236	0.59380	1.00000	-0.34024	0.11446
	0.0024	<.0001	<.0001		0.0096	0.3965
dif_p	0.73046	-0.16317	-0.30366	-0.34024	1.00000	-0.05576
	<.0001	0.2252	0.0217	0.0096		0.6804
r2_protein	0.02863	-0.03378	0.20694	0.11446	-0.05576	1.00000
	0.8326	0.8030	0.1225	0.3965	0.6804	

COWS HOL:

---------- nati=DNK ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	26920	98.81671	8.70820	2660146	61.07000	135.14000
sire_p	26920	107.41762	11.05778	2891682	62.26000	131.55000
dam_p	26920	100.29381	8.29986	2699909	50.88000	160.97000
ped_p	26920	103.85572	6.96041	2795796	76.14000	131.73000
dif_p	26920	-5.03901	5.85109	-135650	-34.78500	19.05000
r2_protein	26920	58.52634	2.94633	1575529	37.00000	69.00000

Pearson Correlation Coefficients, N = 26920
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.55886	0.50127	0.74279	0.60469	0.09543
		<.0001	<.0001	<.0001	<.0001	<.0001
sire_p	0.55886	1.00000	0.01431	0.80287	-0.12333	-0.02477
	<.0001		0.0188	<.0001	<.0001	<.0001
dam_p	0.50127	0.01431	1.00000	0.60759	0.02326	0.05789
	<.0001	0.0188		<.0001	0.0001	<.0001
ped_p	0.74279	0.80287	0.60759	1.00000	-0.08410	0.01485
	<.0001	<.0001	<.0001		<.0001	0.0149
dif_p	0.60469	-0.12333	0.02326	-0.08410	1.00000	0.12438
	<.0001	<.0001	0.0001	<.0001		<.0001
r2_protein	0.09543	-0.02477	0.05789	0.01485	0.12438	1.00000
	<.0001	<.0001	<.0001	0.0149	<.0001	

---------- nati=FIN ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	21132	92.20593	10.84864	1948496	60.01000	131.86000
sire_p	21132	100.34866	12.83862	2120568	47.41000	131.55000
dam_p	21132	95.06818	9.79051	2008981	34.24000	131.30000
ped_p	21132	97.70842	9.33821	2064774	58.72000	126.93000
dif_p	21132	-5.50249	5.51028	-116279	-27.15500	17.94500
r2_protein	21132	57.52674	3.34219	1215655	45.00000	67.00000

Pearson Correlation Coefficients, N = 21132
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.73451	0.68002	0.86140	0.50899	0.09637
		<.0001	<.0001	<.0001	<.0001	<.0001
sire_p	0.73451	1.00000	0.35054	0.87119	-0.03027	-0.00442
	<.0001		<.0001	<.0001	<.0001	0.5208
dam_p	0.68002	0.35054	1.00000	0.76519	0.04207	0.06039
	<.0001	<.0001		<.0001	<.0001	<.0001
ped_p	0.86140	0.87119	0.76519	1.00000	0.00124	0.02862
	<.0001	<.0001	<.0001		0.8568	<.0001

dif_p	0.50899 <.0001	-0.03027 <.0001	0.04207 <.0001	0.00124 0.8568	1.00000	0.14124 <.0001
r2_protein	0.09637 <.0001	-0.00442 0.5208	0.06039 <.0001	0.02862 <.0001	0.14124 <.0001	1.00000

Very high correlations between cows pedigree index and own proteinindex. It may indicate that own performance do not have the weight as excepted. It could also be a result of that fat and protein content is measured at every second test day, but it is also the case for milk:

---------- nati=FIN Milk----------

The CORR Procedure

6 Variables: milkindex sire_m dam_m ped_m dif_m r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
milkindex	21132	95.68640	11.28256	2022045	58.07000	138.09000
sire_m	21132	100.94448	12.99892	2133159	52.62000	145.86000
dam_m	21132	96.52766	10.26220	2039823	40.28000	136.08000
ped_m	21132	98.73607	9.63017	2086491	60.96000	128.25500
dif_m	21132	-3.04968	5.94866	-64446	-27.60000	24.20500
r2_protein	21132	57.52674	3.34219	1215655	45.00000	67.00000

Pearson Correlation Coefficients, N = 21132
Prob > |r| under H0: Rho=0

	milkindex	sire_m	dam_m	ped_m	dif_m	r2_protein
milkindex	1.00000	0.71703 <.0001	0.68653 <.0001	0.84972 <.0001	0.52106 <.0001	0.07503 <.0001
sire_m	0.71703 <.0001	1.00000	0.36236 <.0001	0.86798 <.0001	-0.04519 <.0001	-0.04153 <.0001
dam_m	0.68653 <.0001	0.36236 <.0001	1.00000	0.77738 <.0001	0.04363 <.0001	0.06104 <.0001
ped_m	0.84972 <.0001	0.86798 <.0001	0.77738 <.0001	1.00000	-0.00725 0.2920	0.00449 0.5136
dif_m	0.52106 <.0001	-0.04519 <.0001	0.04363 <.0001	-0.00725 0.2920	1.00000	0.13503 <.0001
r2_protein	0.07503 <.0001	-0.04153 <.0001	0.06104 <.0001	0.00449 0.5136	0.13503 <.0001	1.00000

sire and dam in reduced dataset 08:26 Thursday, March 24, 202

---------- nati=SWE ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	13374	97.18712	8.00487	1299781	66.39000	132.71000
sire_p	13374	106.46232	9.21355	1423827	63.82000	131.55000
dam_p	13374	97.89009	8.32949	1309182	62.90000	130.39000
ped_p	13374	102.17621	6.28193	1366505	66.04500	125.77500
dif_p	13374	-4.98908	5.32092	-66724	-28.32500	17.74000
r2_protein	13374	57.76918	2.91160	772605	49.00000	64.00000

Pearson Correlation Coefficients, N = 13374

Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.52857	0.54359	0.74801	0.62131	0.06288
		<.0001	<.0001	<.0001	<.0001	<.0001
sire_p	0.52857	1.00000	0.02333	0.74880	-0.08886	-0.08277
	<.0001		0.0070	<.0001	<.0001	<.0001
dam_p	0.54359	0.02333	1.00000	0.68008	0.01488	0.06572
	<.0001	0.0070		<.0001	0.0854	<.0001
ped_p	0.74801	0.74880	0.68008	1.00000	-0.05530	-0.01713
	<.0001	<.0001	<.0001		<.0001	0.0476
dif_p	0.62131	-0.08886	0.01488	-0.05530	1.00000	0.11482
	<.0001	<.0001	0.0854	<.0001		<.0001
r2_protein	0.06288	-0.08277	0.06572	-0.01713	0.11482	1.00000
	<.0001	<.0001	<.0001	0.0476	<.0001	

RDC results:

---------- nati=DNK ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	1381	102.51797	9.03236	141577	65.50000	129.93000
sire_p	1381	107.98921	11.53004	149133	62.54000	126.41000
dam_p	1381	103.99071	7.89387	143611	76.65000	128.55000
ped_p	1381	105.98996	7.45976	146372	73.07000	125.58000
dif_p	1381	-3.47199	5.95642	-4795	-21.88000	14.47500
r2_protein	1381	60.84214	3.53488	84023	40.00000	68.00000

Pearson Correlation Coefficients, N = 1381
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.61999	0.52153	0.75507	0.57076	0.06142
		<.0001	<.0001	<.0001	<.0001	0.0225
sire_p	0.61999	1.00000	0.15017	0.85227	-0.12723	-0.12360
	<.0001		<.0001	<.0001	<.0001	<.0001
dam_p	0.52153	0.15017	1.00000	0.64515	-0.01714	0.03831
	<.0001	<.0001		<.0001	0.5246	0.1547
ped_p	0.75507	0.85227	0.64515	1.00000	-0.10739	-0.07525
	<.0001	<.0001	<.0001		<.0001	0.0051
dif_p	0.57076	-0.12723	-0.01714	-0.10739	1.00000	0.18737
	<.0001	<.0001	0.5246	<.0001		<.0001
r2_protein	0.06142	-0.12360	0.03831	-0.07525	0.18737	1.00000
	0.0225	<.0001	0.1547	0.0051	<.0001	

---------- nati=FIN ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	18632	101.05356	11.49103	1882830	60.09000	137.89000
sire_p	18632	107.08759	13.69368	1995256	52.87000	137.85000
dam_p	18632	103.78608	10.15322	1933742	48.04000	137.52000
ped_p	18632	105.43684	9.94451	1964499	65.07000	133.40000

dif_p	18632	-4.38328	5.66137	-81669	-28.25000	20.40500
r2_protein	18632	59.99377	3.83158	1117804	48.00000	70.00000

Pearson Correlation Coefficients, N = 18632
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.76594	0.67165	0.87023	0.50113	0.04660
		<.0001	<.0001	<.0001	<.0001	<.0001
sire_p	0.76594	1.00000	0.37749	0.88121	0.00676	-0.03944
	<.0001		<.0001	<.0001	0.3565	<.0001
dam_p	0.67165	0.37749	1.00000	0.77040	0.01001	0.01657
	<.0001	<.0001		<.0001	0.1716	0.0237
ped_p	0.87023	0.88121	0.77040	1.00000	0.00976	-0.01869
	<.0001	<.0001	<.0001		0.1826	0.0107
dif_p	0.50113	0.00676	0.01001	0.00976	1.00000	0.12742
	<.0001	0.3565	0.1716	0.1826		<.0001
r2_protein	0.04660	-0.03944	0.01657	-0.01869	0.12742	1.00000
	<.0001	<.0001	0.0237	0.0107	<.0001	

---------- nati=FIN Milk----------

The CORR Procedure

6 Variables: milkindex sire_m dam_m ped_m dif_m r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
milkindex	18632	105.26385	10.99999	1961276	64.77000	145.93000
sire_m	18632	108.59587	12.83192	2023358	52.57000	142.27000
dam_m	18632	106.24254	9.85776	1979511	54.19000	142.65000
ped_m	18632	107.41921	9.39296	2001435	70.92500	135.87000
dif_m	18632	-2.15536	5.69598	-40159	-26.84500	25.69500
r2_protein	18632	59.99377	3.83158	1117804	48.00000	70.00000

Pearson Correlation Coefficients, N = 18632
Prob > |r| under H0: Rho=0

	milkindex	sire_m	dam_m	ped_m	dif_m	r2_protein
milkindex	1.00000	0.73881	0.66859	0.85549	0.52043	0.04404
		<.0001	<.0001	<.0001	<.0001	<.0001
sire_m	0.73881	1.00000	0.36001	0.87197	-0.01114	-0.04742
	<.0001		<.0001	<.0001	0.1284	<.0001
dam_m	0.66859	0.36001	1.00000	0.77065	0.02034	0.02396
	<.0001	<.0001		<.0001	0.0055	0.0011
ped_m	0.85549	0.87197	0.77065	1.00000	0.00306	-0.01981
	<.0001	<.0001	<.0001		0.6759	0.0068
dif_m	0.52043	-0.01114	0.02034	0.00306	1.00000	0.11772
	<.0001	0.1284	0.0055	0.6759		<.0001
r2_protein	0.04404	-0.04742	0.02396	-0.01981	0.11772	1.00000
	<.0001	<.0001	0.0011	0.0068	<.0001	

---------- nati=SWE ----------

The CORR Procedure

6 Variables: proteinindex sire_p dam_p ped_p dif_p r2_protein

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
proteinindex	8040	99.38225	8.75847	799033	61.09000	136.52000
sire_p	8040	107.01903	11.67740	860433	65.98000	126.41000
dam_p	8040	99.26560	7.70776	798095	63.09000	131.62000
ped_p	8040	103.14231	7.39112	829264	68.48000	125.88500
dif_p	8040	-3.76007	5.57973	-30231	-31.23000	18.70500
r2_protein	8040	60.27799	3.44295	484635	52.00000	67.00000

Pearson Correlation Coefficients, N = 8040
Prob > |r| under H0: Rho=0

	proteinindex	sire_p	dam_p	ped_p	dif_p	r2_protein
proteinindex	1.00000	0.64078	0.51356	0.77397	0.54446	0.08911
		<.0001	<.0001	<.0001	<.0001	<.0001
sire_p	0.64078	1.00000	0.12634	0.85584	-0.12785	-0.02572
	<.0001		<.0001	<.0001	<.0001	0.0211
dam_p	0.51356	0.12634	1.00000	0.62123	-0.01677	0.02209
	<.0001	<.0001		<.0001	0.1327	0.0477
ped_p	0.77397	0.85584	0.62123	1.00000	-0.10974	-0.00880
	<.0001	<.0001	<.0001		<.0001	0.4302
dif_p	0.54446	-0.12785	-0.01677	-0.10974	1.00000	0.15153
	<.0001	<.0001	0.1327	<.0001		<.0001
r2_protein	0.08911	-0.02572	0.02209	-0.00880	0.15153	1.00000
	<.0001	0.0211	0.0477	0.4302	<.0001	