Assocation of milk AUC and precalve cow body weight

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	precalveBW
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1213.3651946	.	0.813512
1	0	3	1213.3549269	0.01026764	0.065475
2	0	2	1213.354876	0.00005087	0.011791
3	0	2	1213.3548743	0.00000174	0.000139

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1213.35
AIC (smaller is better)	1217.35
AICC (smaller is better)	1217.46
BIC (smaller is better)	1216.13
CAIC (smaller is better)	1218.13
HQIC (smaller is better)	1214.66
Generalized Chi-Square	224721.9
Gener. Chi-Square / DF	2006.45

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	465.73	442.24
Residual	2006.45	271.70

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			549.11	32.2946	3	17.00	0.0004
calfsex	heifer		-1.2686	8.5767	109	-0.15	0.8827
calfsex	steer		0	.	.	.	.
cdate			0.1369	0.6590	109	0.21	0.8358
cowagen		4	-51.4727	11.5032	109	-4.47	<.0001
cowagen		5	-32.9423	10.3700	109	-3.18	0.0019
cowagen		6	0	.	.	.	.
milkAUC			-0.02241	0.02473	109	-0.91	0.3669

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	0.14	0.7104
cdate	1	109	0.00	0.9570
cowagen	2	109	10.39	<.0001
milkAUC	1	109	0.82	0.3669

Association of milk AUC and prebreed cow body weight

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	prebreedBW
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled

Optimization Information	
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1228.1885526	.	1.23279
1	0	3	1228.1230981	0.06545448	0.301764
2	0	4	1228.1139025	0.00919565	0.10321
3	0	2	1228.1130436	0.00085892	0.017398
4	0	2	1228.1130165	0.00002711	0.000831
5	0	2	1228.1130164	0.00000006	7.112E-6

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1228.11
AIC (smaller is better)	1232.11
AICC (smaller is better)	1232.22
BIC (smaller is better)	1230.89
CAIC (smaller is better)	1232.89
HQIC (smaller is better)	1229.42
Generalized Chi-Square	249837.9
Gener. Chi-Square / DF	2230.70

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	1505.83	1310.94
Residual	2230.70	302.21

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			553.06	37.8185	3	14.62	0.0007
calfsex	heifer		6.1901	9.0462	109	0.68	0.4953
calfsex	steer		0	.	.	.	.
cdate			0.1917	0.6980	109	0.27	0.7841
cowagen		4	-55.3247	12.2281	109	-4.52	<.0001
cowagen		5	-36.9172	10.9504	109	-3.37	0.0010
cowagen		6	0	.	.	.	.
milkAUC			-0.03672	0.02640	109	-1.39	0.1670

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	1.49	0.2253
cdate	1	109	0.05	0.8318
cowagen	2	109	10.79	<.0001
milkAUC	1	109	1.94	0.1670

Association of milk AUC and breed cow body weight

The GLIMMIX Procedure

Model Information

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	breedBW
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1242.5444419	.	2.420907
1	0	6	1242.5200457	0.02439627	0.121438
2	0	2	1242.5200055	0.00004011	0.03685
3	0	2	1242.5200016	0.00000398	0.000401

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1242.52
AIC (smaller is better)	1246.52
AICC (smaller is better)	1246.63
BIC (smaller is better)	1245.29
CAIC (smaller is better)	1247.29
HQIC (smaller is better)	1243.83
Generalized Chi-Square	297072.9
Gener. Chi-Square / DF	2652.44

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	251.78	284.61
Residual	2652.44	358.98

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			580.59	35.2718	3	16.46	0.0005
calfsex	heifer		14.4734	9.8560	109	1.47	0.1449
calfsex	steer		0	.	.	.	.
cdate			0.1256	0.7520	109	0.17	0.8677
cowagen		4	-60.8934	13.0570	109	-4.66	<.0001
cowagen		5	-38.6659	11.8949	109	-3.25	0.0015
cowagen		6	0	.	.	.	.
milkAUC			-0.04776	0.02788	109	-1.71	0.0896

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	4.21	0.0427
cdate	1	109	0.01	0.9046
cowagen	2	109	11.29	<.0001
milkAUC	1	109	2.93	0.0896

Association of milk AUC and wean cow body weight

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	weanBW
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1238.3263325	.	0.733875
1	0	4	1238.3235469	0.00278560	0.015481
2	0	2	1238.3235458	0.00000110	0.001408

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1238.32
AIC (smaller is better)	1242.32
AICC (smaller is better)	1242.43
BIC (smaller is better)	1241.10
CAIC (smaller is better)	1243.10
HQIC (smaller is better)	1239.63
Generalized Chi-Square	284585.0
Gener. Chi-Square / DF	2540.94

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	319.41	340.66
Residual	2540.94	344.05

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			561.55	35.0202	3	16.04	0.0005
calfsex	heifer		1.2512	9.6485	109	0.13	0.8971
calfsex	steer		0	.	.	.	.
cdate			-0.2749	0.7381	109	-0.37	0.7103
cowagen		4	-46.0609	12.8394	109	-3.59	0.0005
cowagen		5	-28.0625	11.6522	109	-2.41	0.0177
cowagen		6	0	.	.	.	.
milkAUC			-0.04158	0.02749	109	-1.51	0.1332

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	0.44	0.5099
cdate	1	109	0.16	0.6882
cowagen	2	109	6.65	0.0019
milkAUC	1	109	2.29	0.1332

Association of milk AUC and change in prebreed cow body weight

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	prebreedBWchange
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood

Model Information	
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1101.2082258	.	0.086623
1	0	2	1101.1877317	0.02049409	0.001538
2	0	2	1101.1877234	0.00000837	0.000314
3	0	2	1101.187723	0.00000037	1.508E-6

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1101.19
AIC (smaller is better)	1105.19
AICC (smaller is better)	1105.30
BIC (smaller is better)	1103.96
CAIC (smaller is better)	1105.96
HQIC (smaller is better)	1102.49
Generalized Chi-Square	76508.67
Gener. Chi-Square / DF	683.11

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	3152.64	2596.99
Residual	683.11	92.5325

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			4.0028	33.3882	3	0.12	0.9122
calfsex	heifer		6.9046	5.0068	109	1.38	0.1707
calfsex	steer		0	.	.	.	.
cdate			-0.1262	0.3872	109	-0.33	0.7452

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
cowagen		4	-3.4185	6.7962	109	-0.50	0.6160
cowagen		5	-4.2015	6.0646	109	-0.69	0.4899
cowagen		6	0	.	.	.	.
milkAUC			-0.01197	0.01470	109	-0.81	0.4174

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	2.48	0.1183
cdate	1	109	0.04	0.8458
cowagen	2	109	0.20	0.8168
milkAUC	1	109	0.66	0.4174

Association of milk AUC and change in breed cow body weight

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	breedBWchange
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	9
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1112.6612328	.	0.225576
1	0	2	1112.5910861	0.07014663	0.025715
2	0	2	1112.5907387	0.00034742	0.015743
3	0	2	1112.5905551	0.00018357	0.000589

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
4	0	2	1112.5905549	0.00000026	0.000013

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1112.59
AIC (smaller is better)	1116.59
AICC (smaller is better)	1116.70
BIC (smaller is better)	1115.36
CAIC (smaller is better)	1117.36
HQIC (smaller is better)	1113.90
Generalized Chi-Square	83053.10
Gener. Chi-Square / DF	748.23

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	1552.08	1290.29
Residual	748.23	101.82

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			43.6479	27.4911	3	1.59	0.2106
calfsex	heifer		14.8697	5.2402	108	2.84	0.0054
calfsex	steer		0	.	.	.	.
cdate			-2.7017	1.1770	108	-2.30	0.0236
cdate*cdate			0.08875	0.04055	108	2.19	0.0308
cowagen		4	-10.5993	7.1064	108	-1.49	0.1387
cowagen		5	-7.4900	6.3492	108	-1.18	0.2407
cowagen		6	0	.	.	.	.
milkAUC			-0.02069	0.01552	108	-1.33	0.1852

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	108	10.42	0.0017
cdate	1	108	0.20	0.6547
cdate*cdate	1	108	5.21	0.0244
cowagen	2	108	1.21	0.3018
milkAUC	1	108	1.78	0.1852

Association of milk AUC and change in wean cow body weight

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	weanBWchange
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood

Model Information	
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1087.8312984	.	0.091761
1	0	2	1087.8209472	0.01035127	0.068196
2	0	2	1087.8155205	0.00542670	0.013298
3	0	2	1087.8152602	0.00026022	0.001572
4	0	2	1087.8152567	0.00000357	0.000043

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1087.82
AIC (smaller is better)	1091.82
AICC (smaller is better)	1091.93
BIC (smaller is better)	1090.59
CAIC (smaller is better)	1092.59
HQIC (smaller is better)	1089.12
Generalized Chi-Square	68763.06
Gener. Chi-Square / DF	613.96

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	1756.78	1453.49
Residual	613.96	83.1624

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			20.2741	27.0620	3	0.75	0.5081
calfsex	heifer		1.8101	4.7466	109	0.38	0.7037
calfsex	steer		0	.	.	.	.

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
cdate			-0.7025	0.3670	109	-1.91	0.0582
cowagen		4	3.8213	6.4400	109	0.59	0.5542
cowagen		5	3.7910	5.7489	109	0.66	0.5110
cowagen		6	0	.	.	.	.
milkAUC			-0.02202	0.01393	109	-1.58	0.1168

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	0.57	0.4535
cdate	1	109	2.88	0.0925
cowagen	2	109	0.42	0.6584
milkAUC	1	109	2.50	0.1168

Association of milk AUC and precalve cow body condition

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	precalveBCS
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	155.95485279	.	2.998558
1	0	5	155.94245459	0.01239820	2.746153
2	0	2	155.9320192	0.01043539	0.616678

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
3	0	2	155.93128582	0.00073338	0.10162
4	0	2	155.93126643	0.00001939	0.004735
5	0	2	155.93126639	0.00000004	0.000034

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	155.93
AIC (smaller is better)	159.93
AICC (smaller is better)	160.04
BIC (smaller is better)	158.70
CAIC (smaller is better)	160.70
HQIC (smaller is better)	157.24
Generalized Chi-Square	18.28
Gener. Chi-Square / DF	0.16

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	0.01110	0.01394
Residual	0.1632	0.02209

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			5.0879	0.2724	3	18.68	0.0003
calfsex	heifer		-0.05765	0.07730	109	-0.75	0.4574
calfsex	steer		0	.	.	.	.
cdate			0.004829	0.005877	109	0.82	0.4130
cowagen		4	0.07872	0.1018	109	0.77	0.4410
cowagen		5	-0.06830	0.09321	109	-0.73	0.4653
cowagen		6	0	.	.	.	.
milkAUC			8.889E-6	0.000217	109	0.04	0.9674

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	1.06	0.3057
cdate	1	109	1.11	0.2939
cowagen	2	109	1.26	0.2877
milkAUC	1	109	0.00	0.9674

Association of milk AUC and prebreed cow body condition

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	prebreedBCS
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood

Model Information	
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	130.90078723	.	0.173796
1	0	3	130.8762917	0.02449553	0.020563
2	0	2	130.8760624	0.00022930	0.006438
3	0	2	130.87603871	0.00002368	0.000168
4	0	2	130.8760387	0.00000002	1.331E-6

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	130.88
AIC (smaller is better)	134.88
AICC (smaller is better)	134.99
BIC (smaller is better)	133.65
CAIC (smaller is better)	135.65
HQIC (smaller is better)	132.18
Generalized Chi-Square	13.55
Gener. Chi-Square / DF	0.12

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	0.2177	0.1815
Residual	0.1210	0.01639

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			5.6873	0.3348	3	16.99	0.0004
calfsex	heifer		0.03934	0.06663	109	0.59	0.5562
calfsex	steer		0	.	.	.	.

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
cdate			-0.00258	0.005149	109	-0.50	0.6175
cowagen		4	-0.1126	0.09034	109	-1.25	0.2154
cowagen		5	-0.1073	0.08070	109	-1.33	0.1863
cowagen		6	0	.	.	.	.
milkAUC			-0.00014	0.000195	109	-0.72	0.4750

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	0.83	0.3636
cdate	1	109	0.18	0.6717
cowagen	2	109	1.03	0.3620
milkAUC	1	109	0.51	0.4750

Association of milk AUC and breed cow body condition

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	breedBCS
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	9
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	115.0080239	.	0.819868
1	0	4	115.00675397	0.00126993	0.022169
2	0	2	115.00675311	0.00000086	0.001344

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
3	0	2	115.00675311	0.00000000	2.047E-6

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	115.01
AIC (smaller is better)	119.01
AICC (smaller is better)	119.12
BIC (smaller is better)	117.78
CAIC (smaller is better)	119.78
HQIC (smaller is better)	116.31
Generalized Chi-Square	11.27
Gener. Chi-Square / DF	0.10

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	0.006233	0.008391
Residual	0.1015	0.01380

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			5.9907	0.2185	3	27.42	0.0001
calfsex	heifer		0.08262	0.06095	108	1.36	0.1780
calfsex	steer		0	.	.	.	.
cdate			-0.03078	0.01364	108	-2.26	0.0261
cdate*cdate			0.000967	0.000468	108	2.07	0.0410
cowagen		4	-0.1868	0.08012	108	-2.33	0.0216
cowagen		5	-0.1513	0.07353	108	-2.06	0.0421
cowagen		6	0	.	.	.	.
milkAUC			-0.00010	0.000172	108	-0.60	0.5516

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	108	3.62	0.0597
cdate	1	108	0.72	0.3989
cdate*cdate	1	108	4.06	0.0465
cowagen	2	108	3.13	0.0475
milkAUC	1	108	0.36	0.5516

Association of milk AUC and wean cow body condition

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	weanBCS
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood

Model Information	
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	168.45766579	.	0.103817
1	0	4	168.45748389	0.00018190	0.009852
2	0	2	168.45748228	0.00000161	0.000222
3	0	2	168.45748228	0.00000000	4.601E-7

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	168.46
AIC (smaller is better)	172.46
AICC (smaller is better)	172.57
BIC (smaller is better)	171.23
CAIC (smaller is better)	173.23
HQIC (smaller is better)	169.76
Generalized Chi-Square	19.88
Gener. Chi-Square / DF	0.18

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	0.04786	0.04504
Residual	0.1775	0.02404

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			5.9680	0.3071	3	19.44	0.0003
calfsex	heifer		-0.03151	0.08067	109	-0.39	0.6969
calfsex	steer		0	.	.	.	.
cdate			-0.00435	0.006204	109	-0.70	0.4848

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
cowagen		4	-0.2169	0.1084	109	-2.00	0.0479
cowagen		5	-0.02892	0.09756	109	-0.30	0.7675
cowagen		6	0	.	.	.	.
milkAUC			-0.00055	0.000233	109	-2.37	0.0193

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	0.01	0.9353
cdate	1	109	0.40	0.5304
cowagen	2	109	3.18	0.0456
milkAUC	1	109	5.64	0.0193

Association of milk AUC and calf birth weight

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	calfbirth
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	661.75151407	.	0

Convergence criterion (ABSGCONV=0.00001) satisfied.

Estimated G matrix is not positive definite.

Fit Statistics	
-2 Res Log Likelihood	661.75
AIC (smaller is better)	663.75
AICC (smaller is better)	663.79
BIC (smaller is better)	663.14
CAIC (smaller is better)	664.14
HQIC (smaller is better)	662.40
Generalized Chi-Square	1717.68
Gener. Chi-Square / DF	15.34

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	0	.
Residual	15.3365	2.0494

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			36.7767	2.4173	3	15.21	0.0006
calfsex	heifer		-2.2906	0.7475	109	-3.06	0.0027
calfsex	steer		0	.	.	.	.
cdate			0.1476	0.05500	109	2.68	0.0084
cowagen		4	-1.5136	0.9412	109	-1.61	0.1107
cowagen		5	-0.7263	0.8955	109	-0.81	0.4191
cowagen		6	0	.	.	.	.
milkAUC			-0.00213	0.001952	109	-1.09	0.2769

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	13.60	0.0004
cdate	1	109	7.66	0.0066
cowagen	2	109	1.41	0.2483
milkAUC	1	109	1.19	0.2769

Association of milk AUC and calf weight at 30 days

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	calf30
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1

Dimensions	
Columns in X	9
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	845.09209232	.	0.013907
1	0	3	845.09172284	0.00036948	0.000299
2	0	2	845.09172266	0.00000018	9.24E-6

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	845.09
AIC (smaller is better)	849.09
AICC (smaller is better)	849.20
BIC (smaller is better)	847.86
CAIC (smaller is better)	849.86
HQIC (smaller is better)	846.40
Generalized Chi-Square	7364.47
Gener. Chi-Square / DF	66.35

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	223.62	184.78
Residual	66.3466	9.0285

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			63.3489	9.4109	3	6.73	0.0067
calfsex	heifer		-2.8964	1.5605	108	-1.86	0.0662
calfsex	steer		0	.	.	.	.
cdate			-0.02561	0.3505	108	-0.07	0.9419
cdate*cdate			-0.01875	0.01208	108	-1.55	0.1235
cowagen		4	-5.1836	2.1175	108	-2.45	0.0160
cowagen		5	-0.3367	1.8909	108	-0.18	0.8590
cowagen		6	0	.	.	.	.
milkAUC			0.01808	0.004626	108	3.91	0.0002

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	108	0.10	0.7568

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
cdate	1	108	31.61	<.0001
cdate*cdate	1	108	4.04	0.0469
cowagen	2	108	2.66	0.0747
milkAUC	1	108	15.27	0.0002

Association of milk AUC and calf weight at 60 days

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	calf60
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	876.68658165	.	0.095502
1	0	2	876.66118613	0.02539552	0.003207
2	0	2	876.66116804	0.00001809	0.000966
3	0	2	876.66116621	0.00000183	7.032E-6

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	876.66
AIC (smaller is better)	880.66
AICC (smaller is better)	880.77

Fit Statistics	
BIC (smaller is better)	879.43
CAIC (smaller is better)	881.43
HQIC (smaller is better)	877.97
Generalized Chi-Square	10394.35
Gener. Chi-Square / DF	92.81

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	310.12	256.11
Residual	92.8067	12.5710

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			84.9809	11.0393	3	7.70	0.0046
calfsex	heifer		-4.7671	1.8455	109	-2.58	0.0111
calfsex	steer		0	.	.	.	.
cdate			-0.6506	0.1427	109	-4.56	<.0001
cowagen		4	-5.9389	2.5043	109	-2.37	0.0195
cowagen		5	0.1950	2.2352	109	0.09	0.9306
cowagen		6	0	.	.	.	.
milkAUC			0.02377	0.005416	109	4.39	<.0001

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	1.18	0.2792
cdate	1	109	32.91	<.0001
cowagen	2	109	2.57	0.0809
milkAUC	1	109	19.26	<.0001

Association of milk AUC and calf weight at 90 days

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	calf90
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	930.52184787	.	0.220963
1	0	3	930.50110682	0.02074105	0.062323
2	0	2	930.49985359	0.00125323	0.019317
3	0	2	930.49973535	0.00011824	0.001183
4	0	2	930.49973489	0.00000046	0.000021

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	930.50
AIC (smaller is better)	934.50
AICC (smaller is better)	934.61
BIC (smaller is better)	933.27
CAIC (smaller is better)	935.27
HQIC (smaller is better)	931.81
Generalized Chi-Square	17217.61
Gener. Chi-Square / DF	153.73

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	206.20	173.12
Residual	153.73	20.8224

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			103.31	11.1655	3	9.25	0.0027
calfsex	heifer		-6.0903	2.3750	109	-2.56	0.0117
calfsex	steer		0	.	.	.	.
cdate			-0.5274	0.1835	109	-2.87	0.0049
cowagen		4	-6.3778	3.2180	109	-1.98	0.0500
cowagen		5	1.3110	2.8760	109	0.46	0.6494
cowagen		6	0	.	.	.	.
milkAUC			0.03434	0.006955	109	4.94	<.0001

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	2.41	0.1236
cdate	1	109	16.70	<.0001
cowagen	2	109	1.83	0.1652
milkAUC	1	109	24.39	<.0001

Association of milk AUC and calf weight at 120 days

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	calf120
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	963.10618613	.	0.355244
1	0	5	963.08466095	0.02152518	0.117893
2	0	2	963.08311973	0.00154122	0.030705
3	0	2	963.08299358	0.00012614	0.002014
4	0	2	963.08299305	0.00000053	0.000037

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	963.08
AIC (smaller is better)	967.08
AICC (smaller is better)	967.19
BIC (smaller is better)	965.86
CAIC (smaller is better)	967.86
HQIC (smaller is better)	964.39
Generalized Chi-Square	23312.60
Gener. Chi-Square / DF	208.15

Covariance Parameter Estimates

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error

Cov Parm	Estimate	Standard Error
seasonyr	174.34	148.72
Residual	208.15	28.1920

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			134.03	11.9236	3	11.24	0.0015
calfsex	heifer		-7.8130	2.7634	109	-2.83	0.0056
calfsex	steer		0	.	.	.	.
cdate			-0.3779	0.2133	109	-1.77	0.0793
cowagen		4	-8.7716	3.7388	109	-2.35	0.0208
cowagen		5	1.3188	3.3456	109	0.39	0.6942
cowagen		6	0	.	.	.	.
milkAUC			0.04043	0.008074	109	5.01	<.0001

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	4.30	0.0406
cdate	1	109	9.13	0.0031
cowagen	2	109	2.65	0.0755
milkAUC	1	109	25.08	<.0001

Association of milk AUC and calf weight at weaning

The GLIMMIX Procedure

Model Information	
Data Set	WORK.ONETIMEA
Response Variable	calfwean
Response Distribution	Gaussian
Link Function	Identity
Variance Function	Default
Variance Matrix	Not blocked
Estimation Technique	Restricted Maximum Likelihood
Degrees of Freedom Method	Containment

Number of Observations Read	118
Number of Observations Used	118

Dimensions	
G-side Cov. Parameters	1
R-side Cov. Parameters	1
Columns in X	8
Columns in Z	4
Subjects (Blocks in V)	1
Max Obs per Subject	118

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	1
Lower Boundaries	1
Upper Boundaries	0

Optimization Information	
Fixed Effects	Profiled
Residual Variance	Profiled
Starting From	Data

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	1007.5621329	.	2.082168
1	0	2	1007.1583941	0.40373873	0.065868
2	0	4	1007.1570377	0.00135638	0.001627
3	0	2	1007.1570369	0.00000089	0.000094

Convergence criterion (GCONV=1E-8) satisfied.

Fit Statistics	
-2 Res Log Likelihood	1007.16
AIC (smaller is better)	1011.16
AICC (smaller is better)	1011.27
BIC (smaller is better)	1009.93
CAIC (smaller is better)	1011.93
HQIC (smaller is better)	1008.46
Generalized Chi-Square	34125.77
Gener. Chi-Square / DF	304.69

Covariance Parameter Estimates		
Cov Parm	Estimate	Standard Error
seasonyr	413.75	349.87
Residual	304.69	41.2791

Solutions for Fixed Effects							
Effect	calfsex	cowagen	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			189.52	15.7600	3	12.03	0.0012
calfsex	heifer		-7.6975	3.3436	109	-2.30	0.0232
calfsex	steer		0	.	.	.	.
cdate			-0.2291	0.2583	109	-0.89	0.3771
cowagen		4	-11.8645	4.5306	109	-2.62	0.0101
cowagen		5	0.8773	4.0489	109	0.22	0.8289
cowagen		6	0	.	.	.	.
milkAUC			0.04956	0.009792	109	5.06	<.0001

Type I Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
calfsex	1	109	2.96	0.0882
cdate	1	109	4.62	0.0339
cowagen	2	109	3.20	0.0446
milkAUC	1	109	25.62	<.0001