

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Model Information	
Data Set	WORK.ONE
Dependent Variable	log_fitness
Covariance Structures	Variance Components, Unstructured using Correlations
Subject Effects	Sire(Population), Sire(Population)
Group Effect	Population*Treatment
Estimation Method	REML
Residual Variance Method	None
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Satterthwaite

Class Level Information		
Class	Levels	Values
Population	3	Dales Mather pixley
Treatment	3	Nina Nino Normal
Sire	45	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 38 39 40 41 42 43 44 45 47
Dam	3	A B C

Dimensions	
Covariance Parameters	55
Columns in X	16
Columns in Z per Subject	12
Subjects	119
Max Obs per Subject	27

Number of Observations	
Number of Observations Read	2959
Number of Observations Used	2959
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	10641.02638592	
1	4	10341.15452806	.
2	3	10201.80411764	.
3	1	10201.80409323	6323722251.5
4	1	10201.80407536	2107949473.9
5	1	10201.80404439	702658591.87
6	1	10201.80398964	234224044.77

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Iteration	Evaluations	-2 Res Log Like	Criterion
7	1	10201.80383802	78076733.969
8	1	10201.80063143	26017480.924
9	1	10201.65886163	8526909.4467
10	1	10198.54517266	2515091.1504
11	3	10165.88956505	.
12	1	10165.88770079	1778544119.5
13	1	10165.88445885	592649276.75
14	1	10165.87318882	197220360.35
15	1	10165.82835012	65222314.925
16	1	10165.67985972	21124235.491
17	1	10165.30085309	6653166.0724
18	3	10155.56247331	.
19	1	10155.49174877	8983354.2346
20	1	10155.37439355	2997758.4551
21	1	10155.12912338	988842.74386
22	1	10154.57267013	314328.69315
23	3	10148.66738544	.
24	2	10142.00231597	4065.5895309
25	2	10136.13034763	3078.6722202
26	3	10132.56776251	2289.6525712
27	3	10129.01564507	1197.8113122
28	3	10128.77932616	856.27135226
29	3	10128.66595952	3578.1855354
30	3	10128.65757596	3484.3772033
31	2	10128.61932836	1285.6834977
32	1	10128.58391921	442.41116405
33	1	10128.52741002	146.09333168
34	1	10128.43594346	47.14602596
35	1	10128.29653956	14.55213337
36	1	10128.11041924	4.02001309
37	1	10127.92336706	.
38	2	10127.48799052	.
39	4	10127.17127688	0.79607957
40	2	10126.34132162	0.10877698
41	2	10126.06393177	0.00840164
42	2	10125.91828512	0.00011393

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Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
43	1	10125.91720632	0.00000002
44	1	10125.91720619	0.00000000

Convergence criteria met but final Hessian is not positive definite.

Covariance Parameter Estimates						
Cov Parm	Subject	Group	Estimate	Standard Error	Z Value	Pr Z
Dam	Sire(Population)		0.01954	0.01946	1.00	0.1577
Var(1)	Sire(Population)		0.3858	0.1838	2.10	0.0179
Var(2)	Sire(Population)		0.1346	0.06365	2.11	0.0172
Var(3)	Sire(Population)		0.01531	0.01576	0.97	0.1656
Var(4)	Sire(Population)		0.3648	0.1582	2.31	0.0105
Var(5)	Sire(Population)		0.06727	0.05831	1.15	0.1243
Var(6)	Sire(Population)		0.01425	0.02076	0.69	0.2462
Var(7)	Sire(Population)		0.6047	0.2384	2.54	0.0056
Var(8)	Sire(Population)		0.2026	0.1073	1.89	0.0295
Var(9)	Sire(Population)		0.06582	0.05438	1.21	0.1131
Corr(2,1)	Sire(Population)		0.6700	0.2875	2.33	0.0198
Corr(3,1)	Sire(Population)		1.0000	0	.	.
Corr(3,2)	Sire(Population)		0.7979	0.5581	1.43	0.1528
Corr(4,1)	Sire(Population)		0	.	.	.
Corr(4,2)	Sire(Population)		0	.	.	.
Corr(4,3)	Sire(Population)		0	.	.	.
Corr(5,1)	Sire(Population)		0	.	.	.
Corr(5,2)	Sire(Population)		0	.	.	.
Corr(5,3)	Sire(Population)		0	.	.	.
Corr(5,4)	Sire(Population)		-0.1323	0.4485	-0.30	0.7680
Corr(6,1)	Sire(Population)		0	.	.	.
Corr(6,2)	Sire(Population)		0	.	.	.
Corr(6,3)	Sire(Population)		0	.	.	.
Corr(6,4)	Sire(Population)		0.6233	0.8578	0.73	0.4675
Corr(6,5)	Sire(Population)		1.0000	0	.	.
Corr(7,1)	Sire(Population)		0	.	.	.
Corr(7,2)	Sire(Population)		0	.	.	.
Corr(7,3)	Sire(Population)		0	.	.	.
Corr(7,4)	Sire(Population)		0	.	.	.

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Corr(7,5)	Sire(Population)		0	.	.	.
Corr(7,6)	Sire(Population)		0	.	.	.
Corr(8,1)	Sire(Population)		0	.	.	.
Corr(8,2)	Sire(Population)		0	.	.	.
Corr(8,3)	Sire(Population)		0	.	.	.
Corr(8,4)	Sire(Population)		0	.	.	.
Corr(8,5)	Sire(Population)		0	.	.	.
Corr(8,6)	Sire(Population)		0	.	.	.
Corr(8,7)	Sire(Population)		0.7472	0.2536	2.95	0.0032
Corr(9,1)	Sire(Population)		0	.	.	.
Corr(9,2)	Sire(Population)		0	.	.	.
Corr(9,3)	Sire(Population)		0	.	.	.
Corr(9,4)	Sire(Population)		0	.	.	.
Corr(9,5)	Sire(Population)		0	.	.	.
Corr(9,6)	Sire(Population)		0	.	.	.
Corr(9,7)	Sire(Population)		0.9326	0.4107	2.27	0.0232
Corr(9,8)	Sire(Population)		1.0000	0	.	.
Residual		Population*Treatment Dales Nina	3.9192	0.3045	12.87	<.0001
Residual		Population*Treatment Dales Nino	1.1977	0.09596	12.48	<.0001
Residual		Population*Treatment Dales Normal	0.6978	0.05370	12.99	<.0001
Residual		Population*Treatment Mather Nina	2.7299	0.2210	12.35	<.0001
Residual		Population*Treatment Mather Nino	1.6131	0.1306	12.35	<.0001
Residual		Population*Treatment Mather Normal	1.1326	0.08828	12.83	<.0001
Residual		Population*Treatment pixley Nina	2.5945	0.2378	10.91	<.0001
Residual		Population*Treatment pixley Nino	1.6339	0.1585	10.31	<.0001
Residual		Population*Treatment pixley Normal	1.6082	0.1427	11.27	<.0001

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Asymptotic Covariance Matrix of Estimates					
Row	CovP51	CovP52	CovP53	CovP54	CovP55
1	-0.00012	-0.00021	-0.00091	-0.00042	-0.00025
2	0.000036	0.000063	0.000266	0.000124	0.000073
3	0.000029	0.000049	0.000210	0.000098	0.000057
4	0.000019	0.000033	0.000139	0.000065	0.000038
5	0.000073	0.000171	0.000255	0.000119	0.000070
6	-0.00154	0.000061	0.000348	0.000163	0.000095
7	-0.00001	-0.00014	0.000149	0.000069	0.000041
8	-1.86E-6	-3.2E-6	-0.00821	-0.00010	0.000099
9	0.000012	0.000020	-5.87E-6	-0.00234	-0.00015
10	0.000018	0.000032	0.000055	0.000018	-0.00061
11	0.000095	0.000163	0.000692	0.000323	0.000189
12					
13	0.000283	0.000488	0.002073	0.000968	0.000567
14					
15					
16					
17					
18					
19					
20	-0.00267	-0.00002	0.001914	0.000894	0.000523
21					
22					
23					
24	0.001432	0.007886	0.000593	0.000277	0.000162
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					

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Asymptotic Covariance Matrix of Estimates

Row	Cov Parm	CovP1	CovP2	CovP3	CovP4	CovP5	CovP6	CovP7	CovP8	CovP9	CovP10	CovP11
38	Corr(8,7)	-0.00006	0.000018	0.000014	9.567E-6	0.000018	0.000024	0.000010	0.000026	-0.00025	0.002027	0.000048
39	Corr(9,1)											
40	Corr(9,2)											
41	Corr(9,3)											
42	Corr(9,4)											
43	Corr(9,5)											
44	Corr(9,6)											
45	Corr(9,7)	2.382E-7	-6.98E-8	-5.5E-8	-3.64E-8	-6.68E-8	-9.13E-8	-3.9E-8	0.005007	-0.00036	-0.00607	-1.82E-7
46	Corr(9,8)											
47	Residual	-0.00010	-0.00969	0.000012	0.000239	0.000029	0.000039	0.000017	-1.52E-6	9.732E-6	0.000015	0.008740
48	Residual	-0.00021	0.000064	-0.00108	0.000032	0.000059	0.000080	0.000034	-3.14E-6	0.000020	0.000031	0.003065
49	Residual	-0.00017	0.000240	0.000045	-0.00006	0.000049	0.000067	0.000028	-2.6E-6	0.000017	0.000026	-0.00017
50	Residual	-0.00035	0.000103	0.000081	0.000054	-0.00541	0.000132	0.000058	-5.25E-6	0.000034	0.000052	0.000267
51	Residual	-0.00012	0.000036	0.000029	0.000019	0.000073	-0.00154	-0.00001	-1.86E-6	0.000012	0.000018	0.000095
52	Residual	-0.00021	0.000063	0.000049	0.000033	0.000171	0.000061	-0.00014	-3.2E-6	0.000020	0.000032	0.000163
53	Residual	-0.00091	0.000266	0.000210	0.000139	0.000255	0.000348	0.000149	-0.00821	-5.87E-6	0.000055	0.000692
54	Residual	-0.00042	0.000124	0.000098	0.000065	0.000119	0.000163	0.000069	-0.00010	-0.00234	0.000018	0.000323
55	Residual	-0.00025	0.000073	0.000057	0.000038	0.000070	0.000095	0.000041	0.000099	-0.00015	-0.00061	0.000189

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Row	CovP12	CovP13	CovP14	CovP15	CovP16	CovP17	CovP18	CovP19	CovP20	CovP21	CovP22	CovP23	CovP24
38		0.000143							0.000132				0.000041
39													
40													
41													
42													
43													
44													
45		-5.44E-7							-5.02E-7				-1.56E-7
46													
47		-0.00588							0.000215				0.000067
48		0.003664							0.000442				0.000137
49		0.003387							0.000366				0.000113
50		0.000800							-0.00033				0.005368
51		0.000283							-0.00267				0.001432
52		0.000488							-0.00002				0.007886
53		0.002073							0.001914				0.000593
54		0.000968							0.000894				0.000277
55		0.000567							0.000523				0.000162

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Row	CovP38	CovP39	CovP40	CovP41	CovP42	CovP43	CovP44	CovP45	CovP46	CovP47	CovP48	CovP49	CovP50
38	0.06431							-0.01886		0.000017	0.000035	0.000029	0.000058
39													
40													
41													
42													
43													
44													
45	-0.01886							0.1687		-6.4E-8	-1.32E-7	-1.09E-7	-2.2E-7
46													
47	0.000017							-6.4E-8		0.09274	0.000037	-0.00022	0.000094
48	0.000035							-1.32E-7		0.000037	0.009208	0.000102	0.000194
49	0.000029							-1.09E-7		-0.00022	0.000102	0.002884	0.000161
50	0.000058							-2.2E-7		0.000094	0.000194	0.000161	0.04883
51	0.000020							-7.8E-8		0.000033	0.000069	0.000057	0.000139
52	0.000035							-1.34E-7		0.000057	0.000118	0.000098	0.000225
53	0.004146							0.003503		0.000244	0.000503	0.000416	0.000840
54	0.004017							-0.00117		0.000114	0.000235	0.000194	0.000393
55	-0.00116							0.006917		0.000067	0.000137	0.000114	0.000230

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Row	CovP51	CovP52	CovP53	CovP54	CovP55
38	0.000020	0.000035	0.004146	0.004017	-0.00116
39					
40					
41					
42					
43					
44					
45	-7.8E-8	-1.34E-7	0.003503	-0.00117	0.006917
46					
47	0.000033	0.000057	0.000244	0.000114	0.000067
48	0.000069	0.000118	0.000503	0.000235	0.000137
49	0.000057	0.000098	0.000416	0.000194	0.000114
50	0.000139	0.000225	0.000840	0.000393	0.000230
51	0.01705	0.000049	0.000297	0.000139	0.000081
52	0.000049	0.007793	0.000512	0.000239	0.000140
53	0.000297	0.000512	0.05654	0.001145	0.000720
54	0.000139	0.000239	0.001145	0.02512	0.000287
55	0.000081	0.000140	0.000720	0.000287	0.02035

Fit Statistics	
-2 Res Log Likelihood	10125.9
AIC (Smaller is Better)	10229.9
AICC (Smaller is Better)	10231.8
BIC (Smaller is Better)	10374.4

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Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > t
Dam	Dales		A	1	0.02626	0.1315	2950	0.20	0.8417
Dam	Dales		B	1	-0.00951	0.1315	2950	-0.07	0.9424
Dam	Dales		C	1	0.01634	0.1315	2950	0.12	0.9011
Population*Treatment	Dales	Nina		1	0	.	.	.	.
Population*Treatment	Dales	Nino		1	0.4194	0.5925	1	0.71	0.6079
Population*Treatment	Dales	Normal		1	0	.	.	.	.
Population*Treatment	Dales	Nina		1	0	.	.	.	.
Population*Treatment	Dales	Nino		1	0	.	.	.	.
Population*Treatment	Dales	Normal		1	0	.	.	.	.
Population*Treatment	Dales	Nina		1	0	.	.	.	.
Population*Treatment	Dales	Nino		1	0	.	.	.	.
Population*Treatment	Dales	Normal		1	0	.	.	.	.
Dam	Dales		A	2	-0.02416	0.1315	2950	-0.18	0.8542
Dam	Dales		B	2	-0.00377	0.1315	2950	-0.03	0.9771
Dam	Dales		C	2	0.03063	0.1315	2950	0.23	0.8159
Population*Treatment	Dales	Nina		2	0	.	.	.	.
Population*Treatment	Dales	Nino		2	0.7071	0.5925	1	1.19	0.4440
Population*Treatment	Dales	Normal		2	0	.	.	.	.
Population*Treatment	Dales	Nina		2	0	.	.	.	.
Population*Treatment	Dales	Nino		2	0	.	.	.	.
Population*Treatment	Dales	Normal		2	0	.	.	.	.
Population*Treatment	Dales	Nina		2	0	.	.	.	.
Population*Treatment	Dales	Nino		2	0	.	.	.	.
Population*Treatment	Dales	Normal		2	0	.	.	.	.
Dam	Dales		A	3	0.03895	0.1315	2950	0.30	0.7671
Dam	Dales		B	3	0.03804	0.1315	2950	0.29	0.7724
Dam	Dales		C	3	-0.00331	0.1315	2950	-0.03	0.9799
Population*Treatment	Dales	Nina		3	0	.	.	.	.
Population*Treatment	Dales	Nino		3	0.8324	0.5925	1	1.40	0.3938
Population*Treatment	Dales	Normal		3	0	.	.	.	.
Population*Treatment	Dales	Nina		3	0	.	.	.	.
Population*Treatment	Dales	Nino		3	0	.	.	.	.
Population*Treatment	Dales	Normal		3	0	.	.	.	.
Population*Treatment	Dales	Nina		3	0	.	.	.	.
Population*Treatment	Dales	Nino		3	0
Population*Treatment	Dales	Normal		3	0

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Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > t
Dam	Dales		A	4	-0.1296	0.1315	2950	-0.99	0.3243
Dam	Dales		B	4	0.07130	0.1315	2950	0.54	0.5877
Dam	Dales		C	4	-0.04266	0.1315	2950	-0.32	0.7456
Population*Treatment	Dales	Nina		4	0	.	.	.	.
Population*Treatment	Dales	Nino		4	-0.5762	0.5925	1	-0.97	0.5089
Population*Treatment	Dales	Normal		4	0	.	.	.	.
Population*Treatment	Dales	Nina		4	0	.	.	.	.
Population*Treatment	Dales	Nino		4	0	.	.	.	.
Population*Treatment	Dales	Normal		4	0	.	.	.	.
Population*Treatment	Dales	Nina		4	0	.	.	.	.
Population*Treatment	Dales	Nino		4	0	.	.	.	.
Population*Treatment	Dales	Normal		4	0	.	.	.	.
Dam	Dales		A	5	0.06957	0.1315	2950	0.53	0.5968
Dam	Dales		B	5	-0.05048	0.1315	2950	-0.38	0.7011
Dam	Dales		C	5	0.04153	0.1315	2950	0.32	0.7521
Population*Treatment	Dales	Nina		5	0	.	.	.	.
Population*Treatment	Dales	Nino		5	0.06708	0.5925	1	0.11	0.9282
Population*Treatment	Dales	Normal		5	0	.	.	.	.
Population*Treatment	Dales	Nina		5	0	.	.	.	.
Population*Treatment	Dales	Nino		5	0	.	.	.	.
Population*Treatment	Dales	Normal		5	0	.	.	.	.
Population*Treatment	Dales	Nina		5	0	.	.	.	.
Population*Treatment	Dales	Nino		5	0	.	.	.	.
Population*Treatment	Dales	Normal		5	0	.	.	.	.
Dam	Dales		A	6	-0.00552	0.1320	2950	-0.04	0.9666
Dam	Dales		B	6	-0.02886	0.1318	2950	-0.22	0.8266
Dam	Dales		C	6	0.03222	0.1320	2950	0.24	0.8072
Population*Treatment	Dales	Nina		6	0	.	.	.	.
Population*Treatment	Dales	Nino		6	0.7093	0.6240	1	1.14	0.4593
Population*Treatment	Dales	Normal		6	0	.	.	.	.
Population*Treatment	Dales	Nina		6	0	.	.	.	.
Population*Treatment	Dales	Nino		6	0	.	.	.	.
Population*Treatment	Dales	Normal		6	0	.	.	.	.
Population*Treatment	Dales	Nina		6	0	.	.	.	.
Population*Treatment	Dales	Nino		6	0
Population*Treatment	Dales	Normal		6	0

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Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > t
Dam	Dales		A	7	0.07251	0.1315	2950	0.55	0.5814
Dam	Dales		B	7	0.002490	0.1315	2950	0.02	0.9849
Dam	Dales		C	7	0.08561	0.1315	2950	0.65	0.5151
Population*Treatment	Dales	Nina		7	0	.	.	.	.
Population*Treatment	Dales	Nino		7	0.02122	0.5925	1	0.04	0.9772
Population*Treatment	Dales	Normal		7	0	.	.	.	.
Population*Treatment	Dales	Nina		7	0	.	.	.	.
Population*Treatment	Dales	Nino		7	0	.	.	.	.
Population*Treatment	Dales	Normal		7	0	.	.	.	.
Population*Treatment	Dales	Nina		7	0	.	.	.	.
Population*Treatment	Dales	Nino		7	0	.	.	.	.
Population*Treatment	Dales	Normal		7	0	.	.	.	.
Dam	Dales		A	8	0.03389	0.1315	2950	0.26	0.7966
Dam	Dales		B	8	-0.01278	0.1315	2950	-0.10	0.9226
Dam	Dales		C	8	0.002877	0.1315	2950	0.02	0.9825
Population*Treatment	Dales	Nina		8	0	.	.	.	.
Population*Treatment	Dales	Nino		8	0.7826	0.5925	1	1.32	0.4126
Population*Treatment	Dales	Normal		8	0	.	.	.	.
Population*Treatment	Dales	Nina		8	0	.	.	.	.
Population*Treatment	Dales	Nino		8	0	.	.	.	.
Population*Treatment	Dales	Normal		8	0	.	.	.	.
Population*Treatment	Dales	Nina		8	0	.	.	.	.
Population*Treatment	Dales	Nino		8	0	.	.	.	.
Population*Treatment	Dales	Normal		8	0	.	.	.	.
Dam	Dales		A	9	0.05444	0.1315	2950	0.41	0.6789
Dam	Dales		B	9	0.06230	0.1315	2950	0.47	0.6357
Dam	Dales		C	9	0.07272	0.1315	2950	0.55	0.5803
Population*Treatment	Dales	Nina		9	0	.	.	.	.
Population*Treatment	Dales	Nino		9	0.8029	0.5925	1	1.36	0.4047
Population*Treatment	Dales	Normal		9	0	.	.	.	.
Population*Treatment	Dales	Nina		9	0	.	.	.	.
Population*Treatment	Dales	Nino		9	0	.	.	.	.
Population*Treatment	Dales	Normal		9	0	.	.	.	.
Population*Treatment	Dales	Nina		9	0	.	.	.	.
Population*Treatment	Dales	Nino		9	0	.	.	.	.
Population*Treatment	Dales	Normal		9	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	10	-0.04579	0.1321	2950	-0.35	0.7288
Dam	Dales		B	10	-0.03092	0.1315	2950	-0.24	0.8141
Dam	Dales		C	10	0.04455	0.1318	2950	0.34	0.7353
Population*Treatment	Dales	Nina		10	0	.	.	.	.
Population*Treatment	Dales	Nino		10	0.08313	0.5926	1	0.14	0.9113
Population*Treatment	Dales	Normal		10	0	.	.	.	.
Population*Treatment	Dales	Nina		10	0	.	.	.	.
Population*Treatment	Dales	Nino		10	0	.	.	.	.
Population*Treatment	Dales	Normal		10	0	.	.	.	.
Population*Treatment	Dales	Nina		10	0	.	.	.	.
Population*Treatment	Dales	Nino		10	0	.	.	.	.
Population*Treatment	Dales	Normal		10	0	.	.	.	.
Dam	Dales		A	11	0.02004	0.1331	2950	0.15	0.8804
Dam	Dales		B	11	0.01055	0.1318	2950	0.08	0.9362
Dam	Dales		C	11	0.02519	0.1315	2950	0.19	0.8481
Population*Treatment	Dales	Nina		11	0	.	.	.	.
Population*Treatment	Dales	Nino		11	1.0223	0.5926	1	1.73	0.3344
Population*Treatment	Dales	Normal		11	0	.	.	.	.
Population*Treatment	Dales	Nina		11	0	.	.	.	.
Population*Treatment	Dales	Nino		11	0	.	.	.	.
Population*Treatment	Dales	Normal		11	0	.	.	.	.
Population*Treatment	Dales	Nina		11	0	.	.	.	.
Population*Treatment	Dales	Nino		11	0	.	.	.	.
Population*Treatment	Dales	Normal		11	0	.	.	.	.
Dam	Dales		A	12	0.02459	0.1321	2950	0.19	0.8523
Dam	Dales		B	12	-0.09716	0.1315	2950	-0.74	0.4600
Dam	Dales		C	12	0.02080	0.1315	2950	0.16	0.8743
Population*Treatment	Dales	Nina		12	0	.	.	.	.
Population*Treatment	Dales	Nino		12	0.6899	0.5925	1	1.16	0.4517
Population*Treatment	Dales	Normal		12	0	.	.	.	.
Population*Treatment	Dales	Nina		12	0	.	.	.	.
Population*Treatment	Dales	Nino		12	0	.	.	.	.
Population*Treatment	Dales	Normal		12	0	.	.	.	.
Population*Treatment	Dales	Nina		12	0	.	.	.	.
Population*Treatment	Dales	Nino		12	0	.	.	.	.
Population*Treatment	Dales	Normal		12	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	13	0.04897	0.1334	2950	0.37	0.7136
Dam	Dales		B	13	-0.02631	0.1315	2950	-0.20	0.8414
Dam	Dales		C	13	0.02243	0.1315	2950	0.17	0.8646
Population*Treatment	Dales	Nina		13	0	.	.	.	.
Population*Treatment	Dales	Nino		13	0.5380	0.5926	1	0.91	0.5307
Population*Treatment	Dales	Normal		13	0	.	.	.	.
Population*Treatment	Dales	Nina		13	0	.	.	.	.
Population*Treatment	Dales	Nino		13	0	.	.	.	.
Population*Treatment	Dales	Normal		13	0	.	.	.	.
Population*Treatment	Dales	Nina		13	0	.	.	.	.
Population*Treatment	Dales	Nino		13	0	.	.	.	.
Population*Treatment	Dales	Normal		13	0	.	.	.	.
Dam	Dales		A	14	-0.00369	0.1315	2950	-0.03	0.9776
Dam	Dales		B	14	0.04054	0.1315	2950	0.31	0.7579
Dam	Dales		C	14	0.06202	0.1315	2950	0.47	0.6372
Population*Treatment	Dales	Nina		14	0	.	.	.	.
Population*Treatment	Dales	Nino		14	0.6025	0.5925	1	1.02	0.4947
Population*Treatment	Dales	Normal		14	0	.	.	.	.
Population*Treatment	Dales	Nina		14	0	.	.	.	.
Population*Treatment	Dales	Nino		14	0	.	.	.	.
Population*Treatment	Dales	Normal		14	0	.	.	.	.
Population*Treatment	Dales	Nina		14	0	.	.	.	.
Population*Treatment	Dales	Nino		14	0	.	.	.	.
Population*Treatment	Dales	Normal		14	0	.	.	.	.
Dam	Dales		A	15	0.009867	0.1315	2950	0.08	0.9402
Dam	Dales		B	15	-0.00306	0.1318	2950	-0.02	0.9815
Dam	Dales		C	15	-0.08827	0.1331	2950	-0.66	0.5074
Population*Treatment	Dales	Nina		15	0	.	.	.	.
Population*Treatment	Dales	Nino		15	0.3867	0.5926	1	0.65	0.6319
Population*Treatment	Dales	Normal		15	0	.	.	.	.
Population*Treatment	Dales	Nina		15	0	.	.	.	.
Population*Treatment	Dales	Nino		15	0	.	.	.	.
Population*Treatment	Dales	Normal		15	0	.	.	.	.
Population*Treatment	Dales	Nina		15	0	.	.	.	.
Population*Treatment	Dales	Nino		15	0	.	.	.	.
Population*Treatment	Dales	Normal		15	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	16	-0.04362	0.1320	2950	-0.33	0.7410
Dam	Dales		B	16	0.06878	0.1316	2950	0.52	0.6013
Dam	Dales		C	16	0.04607	0.1316	2950	0.35	0.7264
Population*Treatment	Dales	Nina		16	0	.	.	.	.
Population*Treatment	Dales	Nino		16	-0.4273	0.6066	1	-0.70	0.6093
Population*Treatment	Dales	Normal		16	0	.	.	.	.
Population*Treatment	Dales	Nina		16	0	.	.	.	.
Population*Treatment	Dales	Nino		16	0	.	.	.	.
Population*Treatment	Dales	Normal		16	0	.	.	.	.
Population*Treatment	Dales	Nina		16	0	.	.	.	.
Population*Treatment	Dales	Nino		16	0	.	.	.	.
Population*Treatment	Dales	Normal		16	0	.	.	.	.
Dam	Dales		A	17	0.004778	0.1337	2950	0.04	0.9715
Dam	Dales		B	17	-0.1043	0.1320	2950	-0.79	0.4297
Dam	Dales		C	17	0.02960	0.1334	2950	0.22	0.8244
Population*Treatment	Dales	Nina		17	0	.	.	.	.
Population*Treatment	Dales	Nino		17	-0.2810	0.6241	1	-0.45	0.7306
Population*Treatment	Dales	Normal		17	0	.	.	.	.
Population*Treatment	Dales	Nina		17	0	.	.	.	.
Population*Treatment	Dales	Nino		17	0	.	.	.	.
Population*Treatment	Dales	Normal		17	0	.	.	.	.
Population*Treatment	Dales	Nina		17	0	.	.	.	.
Population*Treatment	Dales	Nino		17	0	.	.	.	.
Population*Treatment	Dales	Normal		17	0	.	.	.	.
Dam	Dales		A	18	0.006153	0.1331	2950	0.05	0.9631
Dam	Dales		B	18	0.005091	0.1315	2950	0.04	0.9691
Dam	Dales		C	18	-0.04536	0.1315	2950	-0.34	0.7302
Population*Treatment	Dales	Nina		18	0	.	.	.	.
Population*Treatment	Dales	Nino		18	0.3760	0.5926	1	0.63	0.6400
Population*Treatment	Dales	Normal		18	0	.	.	.	.
Population*Treatment	Dales	Nina		18	0	.	.	.	.
Population*Treatment	Dales	Nino		18	0	.	.	.	.
Population*Treatment	Dales	Normal		18	0	.	.	.	.
Population*Treatment	Dales	Nina		18	0	.	.	.	.
Population*Treatment	Dales	Nino		18	0	.	.	.	.
Population*Treatment	Dales	Normal		18	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	19	-0.05045	0.1315	2950	-0.38	0.7013
Dam	Dales		B	19	-0.01015	0.1315	2950	-0.08	0.9385
Dam	Dales		C	19	-0.1276	0.1315	2950	-0.97	0.3320
Population*Treatment	Dales	Nina		19	0	.	.	.	.
Population*Treatment	Dales	Nino		19	0.3754	0.5925	1	0.63	0.6405
Population*Treatment	Dales	Normal		19	0	.	.	.	.
Population*Treatment	Dales	Nina		19	0	.	.	.	.
Population*Treatment	Dales	Nino		19	0	.	.	.	.
Population*Treatment	Dales	Normal		19	0	.	.	.	.
Population*Treatment	Dales	Nina		19	0	.	.	.	.
Population*Treatment	Dales	Nino		19	0	.	.	.	.
Population*Treatment	Dales	Normal		19	0	.	.	.	.
Dam	Dales		A	20	0.03813	0.1316	2950	0.29	0.7720
Dam	Dales		B	20	0.02185	0.1320	2950	0.17	0.8685
Dam	Dales		C	20	-0.00178	0.1316	2950	-0.01	0.9892
Population*Treatment	Dales	Nina		20	0	.	.	.	.
Population*Treatment	Dales	Nino		20	-0.02274	0.6066	1	-0.04	0.9761
Population*Treatment	Dales	Normal		20	0	.	.	.	.
Population*Treatment	Dales	Nina		20	0	.	.	.	.
Population*Treatment	Dales	Nino		20	0	.	.	.	.
Population*Treatment	Dales	Normal		20	0	.	.	.	.
Population*Treatment	Dales	Nina		20	0	.	.	.	.
Population*Treatment	Dales	Nino		20	0	.	.	.	.
Population*Treatment	Dales	Normal		20	0	.	.	.	.
Dam	Dales		A	22	-0.1187	0.1320	2950	-0.90	0.3687
Dam	Dales		B	22	-0.01245	0.1326	2950	-0.09	0.9252
Dam	Dales		C	22	-0.03255	0.1321	2950	-0.25	0.8054
Population*Treatment	Dales	Nina		22	0	.	.	.	.
Population*Treatment	Dales	Nino		22	-0.2648	0.6470	1	-0.41	0.7527
Population*Treatment	Dales	Normal		22	0	.	.	.	.
Population*Treatment	Dales	Nina		22	0	.	.	.	.
Population*Treatment	Dales	Nino		22	0	.	.	.	.
Population*Treatment	Dales	Normal		22	0	.	.	.	.
Population*Treatment	Dales	Nina		22	0	.	.	.	.
Population*Treatment	Dales	Nino		22	0	.	.	.	.
Population*Treatment	Dales	Normal		22	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	23	-0.04585	0.1316	2950	-0.35	0.7276
Dam	Dales		B	23	-0.03510	0.1316	2950	-0.27	0.7898
Dam	Dales		C	23	-0.04555	0.1339	2950	-0.34	0.7338
Population*Treatment	Dales	Nina		23	0	.	.	.	.
Population*Treatment	Dales	Nino		23	0.4086	0.6066	1	0.67	0.6226
Population*Treatment	Dales	Normal		23	0	.	.	.	.
Population*Treatment	Dales	Nina		23	0	.	.	.	.
Population*Treatment	Dales	Nino		23	0	.	.	.	.
Population*Treatment	Dales	Normal		23	0	.	.	.	.
Population*Treatment	Dales	Nina		23	0	.	.	.	.
Population*Treatment	Dales	Nino		23	0	.	.	.	.
Population*Treatment	Dales	Normal		23	0	.	.	.	.
Dam	Dales		A	24	0.04556	0.1315	2950	0.35	0.7290
Dam	Dales		B	24	-0.03785	0.1315	2950	-0.29	0.7735
Dam	Dales		C	24	0.02394	0.1315	2950	0.18	0.8555
Population*Treatment	Dales	Nina		24	0	.	.	.	.
Population*Treatment	Dales	Nino		24	-0.3611	0.5925	1	-0.61	0.6516
Population*Treatment	Dales	Normal		24	0	.	.	.	.
Population*Treatment	Dales	Nina		24	0	.	.	.	.
Population*Treatment	Dales	Nino		24	0	.	.	.	.
Population*Treatment	Dales	Normal		24	0	.	.	.	.
Population*Treatment	Dales	Nina		24	0	.	.	.	.
Population*Treatment	Dales	Nino		24	0	.	.	.	.
Population*Treatment	Dales	Normal		24	0	.	.	.	.
Dam	Dales		A	25	0.009643	0.1315	2950	0.07	0.9415
Dam	Dales		B	25	0.007522	0.1315	2950	0.06	0.9544
Dam	Dales		C	25	0.06345	0.1315	2950	0.48	0.6295
Population*Treatment	Dales	Nina		25	0	.	.	.	.
Population*Treatment	Dales	Nino		25	0.2049	0.5925	1	0.35	0.7880
Population*Treatment	Dales	Normal		25	0	.	.	.	.
Population*Treatment	Dales	Nina		25	0	.	.	.	.
Population*Treatment	Dales	Nino		25	0	.	.	.	.
Population*Treatment	Dales	Normal		25	0	.	.	.	.
Population*Treatment	Dales	Nina		25	0	.	.	.	.
Population*Treatment	Dales	Nino		25	0	.	.	.	.
Population*Treatment	Dales	Normal		25	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	26	-0.04272	0.1321	2950	-0.32	0.7463
Dam	Dales		B	26	-0.03246	0.1329	2950	-0.24	0.8070
Dam	Dales		C	26	-0.00076	0.1318	2950	-0.01	0.9954
Population*Treatment	Dales	Nina		26	0	.	.	.	.
Population*Treatment	Dales	Nino		26	0.3161	0.6246	1	0.51	0.7017
Population*Treatment	Dales	Normal		26	0	.	.	.	.
Population*Treatment	Dales	Nina		26	0	.	.	.	.
Population*Treatment	Dales	Nino		26	0	.	.	.	.
Population*Treatment	Dales	Normal		26	0	.	.	.	.
Population*Treatment	Dales	Nina		26	0	.	.	.	.
Population*Treatment	Dales	Nino		26	0	.	.	.	.
Population*Treatment	Dales	Normal		26	0	.	.	.	.
Dam	Dales		A	27	0.001408	0.1315	2950	0.01	0.9915
Dam	Dales		B	27	0.02996	0.1315	2950	0.23	0.8198
Dam	Dales		C	27	0.04440	0.1315	2950	0.34	0.7356
Population*Treatment	Dales	Nina		27	0	.	.	.	.
Population*Treatment	Dales	Nino		27	0.2397	0.5925	1	0.40	0.7552
Population*Treatment	Dales	Normal		27	0	.	.	.	.
Population*Treatment	Dales	Nina		27	0	.	.	.	.
Population*Treatment	Dales	Nino		27	0	.	.	.	.
Population*Treatment	Dales	Normal		27	0	.	.	.	.
Population*Treatment	Dales	Nina		27	0	.	.	.	.
Population*Treatment	Dales	Nino		27	0	.	.	.	.
Population*Treatment	Dales	Normal		27	0	.	.	.	.
Dam	Dales		A	28	0.000712	0.1315	2950	0.01	0.9957
Dam	Dales		B	28	0.07898	0.1315	2950	0.60	0.5481
Dam	Dales		C	28	-0.01474	0.1331	2950	-0.11	0.9118
Population*Treatment	Dales	Nina		28	0	.	.	.	.
Population*Treatment	Dales	Nino		28	0.3511	0.5926	1	0.59	0.6595
Population*Treatment	Dales	Normal		28	0	.	.	.	.
Population*Treatment	Dales	Nina		28	0	.	.	.	.
Population*Treatment	Dales	Nino		28	0	.	.	.	.
Population*Treatment	Dales	Normal		28	0	.	.	.	.
Population*Treatment	Dales	Nina		28	0	.	.	.	.
Population*Treatment	Dales	Nino		28	0	.	.	.	.
Population*Treatment	Dales	Normal		28	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	29	-0.00398	0.1316	2950	-0.03	0.9759
Dam	Dales		B	29	0.07450	0.1316	2950	0.57	0.5714
Dam	Dales		C	29	0.008141	0.1320	2950	0.06	0.9508
Population*Treatment	Dales	Nina		29	0	.	.	.	.
Population*Treatment	Dales	Nino		29	0.6457	0.6065	1	1.06	0.4801
Population*Treatment	Dales	Normal		29	0	.	.	.	.
Population*Treatment	Dales	Nina		29	0	.	.	.	.
Population*Treatment	Dales	Nino		29	0	.	.	.	.
Population*Treatment	Dales	Normal		29	0	.	.	.	.
Population*Treatment	Dales	Nina		29	0	.	.	.	.
Population*Treatment	Dales	Nino		29	0	.	.	.	.
Population*Treatment	Dales	Normal		29	0	.	.	.	.
Dam	Dales		A	30	-0.04068	0.1316	2950	-0.31	0.7572
Dam	Dales		B	30	0.1161	0.1320	2950	0.88	0.3789
Dam	Dales		C	30	0.01840	0.1316	2950	0.14	0.8888
Population*Treatment	Dales	Nina		30	0	.	.	.	.
Population*Treatment	Dales	Nino		30	0.4634	0.6065	1	0.76	0.5847
Population*Treatment	Dales	Normal		30	0	.	.	.	.
Population*Treatment	Dales	Nina		30	0	.	.	.	.
Population*Treatment	Dales	Nino		30	0	.	.	.	.
Population*Treatment	Dales	Normal		30	0	.	.	.	.
Population*Treatment	Dales	Nina		30	0	.	.	.	.
Population*Treatment	Dales	Nino		30	0	.	.	.	.
Population*Treatment	Dales	Normal		30	0	.	.	.	.
Dam	Dales		A	31	-0.06173	0.1315	2950	-0.47	0.6388
Dam	Dales		B	31	-0.02896	0.1315	2950	-0.22	0.8257
Dam	Dales		C	31	-0.01157	0.1318	2950	-0.09	0.9301
Population*Treatment	Dales	Nina		31	0	.	.	.	.
Population*Treatment	Dales	Nino		31	-0.4475	0.5925	1	-0.76	0.5882
Population*Treatment	Dales	Normal		31	0	.	.	.	.
Population*Treatment	Dales	Nina		31	0	.	.	.	.
Population*Treatment	Dales	Nino		31	0	.	.	.	.
Population*Treatment	Dales	Normal		31	0	.	.	.	.
Population*Treatment	Dales	Nina		31	0	.	.	.	.
Population*Treatment	Dales	Nino		31	0	.	.	.	.
Population*Treatment	Dales	Normal		31	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	32	0.01816	0.1331	2950	0.14	0.8915
Dam	Dales		B	32	-0.02090	0.1315	2950	-0.16	0.8737
Dam	Dales		C	32	0.02502	0.1315	2950	0.19	0.8491
Population*Treatment	Dales	Nina		32	0	.	.	.	.
Population*Treatment	Dales	Nino		32	0.8639	0.5926	1	1.46	0.3828
Population*Treatment	Dales	Normal		32	0	.	.	.	.
Population*Treatment	Dales	Nina		32	0	.	.	.	.
Population*Treatment	Dales	Nino		32	0	.	.	.	.
Population*Treatment	Dales	Normal		32	0	.	.	.	.
Population*Treatment	Dales	Nina		32	0	.	.	.	.
Population*Treatment	Dales	Nino		32	0	.	.	.	.
Population*Treatment	Dales	Normal		32	0	.	.	.	.
Dam	Dales		A	33	-0.01171	0.1315	2950	-0.09	0.9291
Dam	Dales		B	33	0.01985	0.1315	2950	0.15	0.8800
Dam	Dales		C	33	-0.01277	0.1315	2950	-0.10	0.9227
Population*Treatment	Dales	Nina		33	0	.	.	.	.
Population*Treatment	Dales	Nino		33	-0.1293	0.5925	1	-0.22	0.8632
Population*Treatment	Dales	Normal		33	0	.	.	.	.
Population*Treatment	Dales	Nina		33	0	.	.	.	.
Population*Treatment	Dales	Nino		33	0	.	.	.	.
Population*Treatment	Dales	Normal		33	0	.	.	.	.
Population*Treatment	Dales	Nina		33	0	.	.	.	.
Population*Treatment	Dales	Nino		33	0	.	.	.	.
Population*Treatment	Dales	Normal		33	0	.	.	.	.
Dam	Dales		A	34	0.04398	0.1315	2950	0.33	0.7381
Dam	Dales		B	34	-0.03375	0.1331	2950	-0.25	0.7999
Dam	Dales		C	34	-0.05575	0.1315	2950	-0.42	0.6716
Population*Treatment	Dales	Nina		34	0	.	.	.	.
Population*Treatment	Dales	Nino		34	-0.5538	0.5926	1	-0.93	0.5215
Population*Treatment	Dales	Normal		34	0	.	.	.	.
Population*Treatment	Dales	Nina		34	0	.	.	.	.
Population*Treatment	Dales	Nino		34	0	.	.	.	.
Population*Treatment	Dales	Normal		34	0	.	.	.	.
Population*Treatment	Dales	Nina		34	0	.	.	.	.
Population*Treatment	Dales	Nino		34	0	.	.	.	.
Population*Treatment	Dales	Normal		34	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	35	0.05242	0.1312	2950	0.40	0.6896
Dam	Dales		B	35	0.03534	0.1318	2950	0.27	0.7886
Dam	Dales		C	35	0.001696	0.1315	2950	0.01	0.9897
Population*Treatment	Dales	Nina		35	0	.	.	.	.
Population*Treatment	Dales	Nino		35	0.5608	0.5925	1	0.95	0.5175
Population*Treatment	Dales	Normal		35	0	.	.	.	.
Population*Treatment	Dales	Nina		35	0	.	.	.	.
Population*Treatment	Dales	Nino		35	0	.	.	.	.
Population*Treatment	Dales	Normal		35	0	.	.	.	.
Population*Treatment	Dales	Nina		35	0	.	.	.	.
Population*Treatment	Dales	Nino		35	0	.	.	.	.
Population*Treatment	Dales	Normal		35	0	.	.	.	.
Dam	Dales		A	36	-0.02705	0.1331	2950	-0.20	0.8390
Dam	Dales		B	36	-0.04516	0.1315	2950	-0.34	0.7313
Dam	Dales		C	36	0.07250	0.1315	2950	0.55	0.5815
Population*Treatment	Dales	Nina		36	0	.	.	.	.
Population*Treatment	Dales	Nino		36	-0.7368	0.5926	1	-1.24	0.4312
Population*Treatment	Dales	Normal		36	0	.	.	.	.
Population*Treatment	Dales	Nina		36	0	.	.	.	.
Population*Treatment	Dales	Nino		36	0	.	.	.	.
Population*Treatment	Dales	Normal		36	0	.	.	.	.
Population*Treatment	Dales	Nina		36	0	.	.	.	.
Population*Treatment	Dales	Nino		36	0	.	.	.	.
Population*Treatment	Dales	Normal		36	0	.	.	.	.
Dam	Dales		A	38	-0.04329	0.1315	2950	-0.33	0.7420
Dam	Dales		B	38	0.005661	0.1331	2950	0.04	0.9661
Dam	Dales		C	38	0.02241	0.1315	2950	0.17	0.8647
Population*Treatment	Dales	Nina		38	0	.	.	.	.
Population*Treatment	Dales	Nino		38	0.2623	0.5926	1	0.44	0.7347
Population*Treatment	Dales	Normal		38	0	.	.	.	.
Population*Treatment	Dales	Nina		38	0	.	.	.	.
Population*Treatment	Dales	Nino		38	0	.	.	.	.
Population*Treatment	Dales	Normal		38	0	.	.	.	.
Population*Treatment	Dales	Nina		38	0	.	.	.	.
Population*Treatment	Dales	Nino		38	0	.	.	.	.
Population*Treatment	Dales	Normal		38	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	39	-0.03871	0.1329	2950	-0.29	0.7708
Dam	Dales		B	39	-0.02017	0.1318	2950	-0.15	0.8783
Dam	Dales		C	39	0.08795	0.1318	2950	0.67	0.5045
Population*Treatment	Dales	Nina		39	0	.	.	.	.
Population*Treatment	Dales	Nino		39	-1.0627	0.6246	1	-1.70	0.3383
Population*Treatment	Dales	Normal		39	0	.	.	.	.
Population*Treatment	Dales	Nina		39	0	.	.	.	.
Population*Treatment	Dales	Nino		39	0	.	.	.	.
Population*Treatment	Dales	Normal		39	0	.	.	.	.
Population*Treatment	Dales	Nina		39	0	.	.	.	.
Population*Treatment	Dales	Nino		39	0	.	.	.	.
Population*Treatment	Dales	Normal		39	0	.	.	.	.
Dam	Dales		A	40	0.04937	0.1320	2950	0.37	0.7085
Dam	Dales		B	40	0.003297	0.1318	2950	0.03	0.9800
Dam	Dales		C	40	-0.04487	0.1320	2950	-0.34	0.7340
Population*Treatment	Dales	Nina		40	0	.	.	.	.
Population*Treatment	Dales	Nino		40	1.1544	0.6240	1	1.85	0.3155
Population*Treatment	Dales	Normal		40	0	.	.	.	.
Population*Treatment	Dales	Nina		40	0	.	.	.	.
Population*Treatment	Dales	Nino		40	0	.	.	.	.
Population*Treatment	Dales	Normal		40	0	.	.	.	.
Population*Treatment	Dales	Nina		40	0	.	.	.	.
Population*Treatment	Dales	Nino		40	0	.	.	.	.
Population*Treatment	Dales	Normal		40	0	.	.	.	.
Dam	Dales		A	41	-0.09745	0.1320	2950	-0.74	0.4605
Dam	Dales		B	41	-0.05687	0.1318	2950	-0.43	0.6661
Dam	Dales		C	41	-0.06662	0.1320	2950	-0.50	0.6139
Population*Treatment	Dales	Nina		41	0	.	.	.	.
Population*Treatment	Dales	Nino		41	-0.4193	0.6240	1	-0.67	0.6233
Population*Treatment	Dales	Normal		41	0	.	.	.	.
Population*Treatment	Dales	Nina		41	0	.	.	.	.
Population*Treatment	Dales	Nino		41	0	.	.	.	.
Population*Treatment	Dales	Normal		41	0	.	.	.	.
Population*Treatment	Dales	Nina		41	0	.	.	.	.
Population*Treatment	Dales	Nino		41	0	.	.	.	.
Population*Treatment	Dales	Normal		41	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	42	-0.07828	0.1315	2950	-0.60	0.5517
Dam	Dales		B	42	-0.00280	0.1315	2950	-0.02	0.9830
Dam	Dales		C	42	-0.02756	0.1315	2950	-0.21	0.8340
Population*Treatment	Dales	Nina		42	0	.	.	.	.
Population*Treatment	Dales	Nino		42	0.2878	0.5925	1	0.49	0.7121
Population*Treatment	Dales	Normal		42	0	.	.	.	.
Population*Treatment	Dales	Nina		42	0	.	.	.	.
Population*Treatment	Dales	Nino		42	0	.	.	.	.
Population*Treatment	Dales	Normal		42	0	.	.	.	.
Population*Treatment	Dales	Nina		42	0	.	.	.	.
Population*Treatment	Dales	Nino		42	0	.	.	.	.
Population*Treatment	Dales	Normal		42	0	.	.	.	.
Dam	Dales		A	43	0.05872	0.1331	2950	0.44	0.6592
Dam	Dales		B	43	-0.05072	0.1315	2950	-0.39	0.6998
Dam	Dales		C	43	0.02735	0.1315	2950	0.21	0.8352
Population*Treatment	Dales	Nina		43	0	.	.	.	.
Population*Treatment	Dales	Nino		43	-0.4662	0.5926	1	-0.79	0.5756
Population*Treatment	Dales	Normal		43	0	.	.	.	.
Population*Treatment	Dales	Nina		43	0	.	.	.	.
Population*Treatment	Dales	Nino		43	0	.	.	.	.
Population*Treatment	Dales	Normal		43	0	.	.	.	.
Population*Treatment	Dales	Nina		43	0	.	.	.	.
Population*Treatment	Dales	Nino		43	0	.	.	.	.
Population*Treatment	Dales	Normal		43	0	.	.	.	.
Dam	Dales		A	44	0.006051	0.1320	2950	0.05	0.9634
Dam	Dales		B	44	0.03539	0.1316	2950	0.27	0.7880
Dam	Dales		C	44	-0.04606	0.1316	2950	-0.35	0.7264
Population*Treatment	Dales	Nina		44	0	.	.	.	.
Population*Treatment	Dales	Nino		44	-0.6667	0.6066	1	-1.10	0.4700
Population*Treatment	Dales	Normal		44	0	.	.	.	.
Population*Treatment	Dales	Nina		44	0	.	.	.	.
Population*Treatment	Dales	Nino		44	0	.	.	.	.
Population*Treatment	Dales	Normal		44	0	.	.	.	.
Population*Treatment	Dales	Nina		44	0	.	.	.	.
Population*Treatment	Dales	Nino		44	0	.	.	.	.
Population*Treatment	Dales	Normal		44	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Dales		A	45	0.01965	0.1315	445	0.15	0.8813
Dam	Dales		B	45	-0.06076	0.1315	445	-0.46	0.6443
Dam	Dales		C	45	-0.01330	0.1331	381	-0.10	0.9205
Population*Treatment	Dales	Nina		45	0	.	.	.	.
Population*Treatment	Dales	Nino		45	-0.01611	0.2717	1	-0.06	0.9623
Population*Treatment	Dales	Normal		45	1.21E-14	.	.	.	.
Population*Treatment	Dales	Nina		45	0	.	.	.	.
Population*Treatment	Dales	Nino		45	0	.	.	.	.
Population*Treatment	Dales	Normal		45	0	.	.	.	.
Population*Treatment	Dales	Nina		45	0	.	.	.	.
Population*Treatment	Dales	Nino		45	0	.	.	.	.
Population*Treatment	Dales	Normal		45	0	.	.	.	.
Dam	Mather		A	1	-0.02351	0.1332	2950	-0.18	0.8599
Dam	Mather		B	1	0.02196	0.1332	2950	0.16	0.8690
Dam	Mather		C	1	0.02383	0.1332	2950	0.18	0.8580
Population*Treatment	Mather	Nina		1	0	.	.	.	.
Population*Treatment	Mather	Nino		1	0	.	.	.	.
Population*Treatment	Mather	Normal		1	0	.	.	.	.
Population*Treatment	Mather	Nina		1	0.3562	0.7865	1	0.45	0.7293
Population*Treatment	Mather	Nino		1	0	.	.	.	.
Population*Treatment	Mather	Normal		1	0	.	.	.	.
Population*Treatment	Mather	Nina		1	0	.	.	.	.
Population*Treatment	Mather	Nino		1	0	.	.	.	.
Population*Treatment	Mather	Normal		1	0	.	.	.	.
Dam	Mather		A	2	-0.02998	0.1332	2950	-0.23	0.8219
Dam	Mather		B	2	-0.08005	0.1332	2950	-0.60	0.5479
Dam	Mather		C	2	0.006848	0.1332	2950	0.05	0.9590
Population*Treatment	Mather	Nina		2	0	.	.	.	.
Population*Treatment	Mather	Nino		2	0	.	.	.	.
Population*Treatment	Mather	Normal		2	0	.	.	.	.
Population*Treatment	Mather	Nina		2	0.5887	0.7865	1	0.75	0.5910
Population*Treatment	Mather	Nino		2	0	.	.	.	.
Population*Treatment	Mather	Normal		2	0	.	.	.	.
Population*Treatment	Mather	Nina		2	0	.	.	.	.
Population*Treatment	Mather	Nino		2	0	.	.	.	.
Population*Treatment	Mather	Normal		2	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	5	-0.05944	0.1342	2950	-0.44	0.6580
Dam	Mather		B	5	-0.01044	0.1332	2950	-0.08	0.9375
Dam	Mather		C	5	-0.04386	0.1332	2950	-0.33	0.7419
Population*Treatment	Mather	Nina		5	0	.	.	.	.
Population*Treatment	Mather	Nino		5	0	.	.	.	.
Population*Treatment	Mather	Normal		5	0	.	.	.	.
Population*Treatment	Mather	Nina		5	1.6335	0.7865	1	2.08	0.2857
Population*Treatment	Mather	Nino		5	0	.	.	.	.
Population*Treatment	Mather	Normal		5	0	.	.	.	.
Population*Treatment	Mather	Nina		5	0	.	.	.	.
Population*Treatment	Mather	Nino		5	0	.	.	.	.
Population*Treatment	Mather	Normal		5	0	.	.	.	.
Dam	Mather		A	6	0.01749	0.1332	2950	0.13	0.8956
Dam	Mather		B	6	0.02569	0.1339	2950	0.19	0.8479
Dam	Mather		C	6	0.01745	0.1339	2950	0.13	0.8963
Population*Treatment	Mather	Nina		6	0	.	.	.	.
Population*Treatment	Mather	Nino		6	0	.	.	.	.
Population*Treatment	Mather	Normal		6	0	.	.	.	.
Population*Treatment	Mather	Nina		6	1.6400	0.7865	1	2.09	0.2847
Population*Treatment	Mather	Nino		6	0	.	.	.	.
Population*Treatment	Mather	Normal		6	0	.	.	.	.
Population*Treatment	Mather	Nina		6	0	.	.	.	.
Population*Treatment	Mather	Nino		6	0	.	.	.	.
Population*Treatment	Mather	Normal		6	0	.	.	.	.
Dam	Mather		A	7	-0.03555	0.1333	2950	-0.27	0.7897
Dam	Mather		B	7	0.001763	0.1341	2950	0.01	0.9895
Dam	Mather		C	7	-0.00232	0.1333	2950	-0.02	0.9861
Population*Treatment	Mather	Nina		7	0	.	.	.	.
Population*Treatment	Mather	Nino		7	0	.	.	.	.
Population*Treatment	Mather	Normal		7	0	.	.	.	.
Population*Treatment	Mather	Nina		7	-0.5728	0.8104	1	-0.71	0.6083
Population*Treatment	Mather	Nino		7	0	.	.	.	.
Population*Treatment	Mather	Normal		7	0	.	.	.	.
Population*Treatment	Mather	Nina		7	0	.	.	.	.
Population*Treatment	Mather	Nino		7	0	.	.	.	.
Population*Treatment	Mather	Normal		7	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	9	0.02491	0.1332	2950	0.19	0.8517
Dam	Mather		B	9	-0.04268	0.1332	2950	-0.32	0.7487
Dam	Mather		C	9	0.02925	0.1332	2950	0.22	0.8262
Population*Treatment	Mather	Nina		9	0	.	.	.	.
Population*Treatment	Mather	Nino		9	0	.	.	.	.
Population*Treatment	Mather	Normal		9	0	.	.	.	.
Population*Treatment	Mather	Nina		9	1.7738	0.7865	1	2.26	0.2657
Population*Treatment	Mather	Nino		9	0	.	.	.	.
Population*Treatment	Mather	Normal		9	0	.	.	.	.
Population*Treatment	Mather	Nina		9	0	.	.	.	.
Population*Treatment	Mather	Nino		9	0	.	.	.	.
Population*Treatment	Mather	Normal		9	0	.	.	.	.
Dam	Mather		A	10	0.02711	0.1337	2950	0.20	0.8393
Dam	Mather		B	10	0.05836	0.1333	2950	0.44	0.6616
Dam	Mather		C	10	-0.04851	0.1333	2950	-0.36	0.7160
Population*Treatment	Mather	Nina		10	0	.	.	.	.
Population*Treatment	Mather	Nino		10	0	.	.	.	.
Population*Treatment	Mather	Normal		10	0	.	.	.	.
Population*Treatment	Mather	Nina		10	-0.3291	0.8404	1	-0.39	0.7624
Population*Treatment	Mather	Nino		10	0	.	.	.	.
Population*Treatment	Mather	Normal		10	0	.	.	.	.
Population*Treatment	Mather	Nina		10	0	.	.	.	.
Population*Treatment	Mather	Nino		10	0	.	.	.	.
Population*Treatment	Mather	Normal		10	0	.	.	.	.
Dam	Mather		A	11	0.06559	0.1339	2950	0.49	0.6244
Dam	Mather		B	11	-0.08097	0.1339	2950	-0.60	0.5455
Dam	Mather		C	11	-0.05245	0.1361	2950	-0.39	0.6999
Population*Treatment	Mather	Nina		11	0	.	.	.	.
Population*Treatment	Mather	Nino		11	0	.	.	.	.
Population*Treatment	Mather	Normal		11	0	.	.	.	.
Population*Treatment	Mather	Nina		11	0.9892	0.7866	1	1.26	0.4277
Population*Treatment	Mather	Nino		11	0	.	.	.	.
Population*Treatment	Mather	Normal		11	0	.	.	.	.
Population*Treatment	Mather	Nina		11	0	.	.	.	.
Population*Treatment	Mather	Nino		11	0	.	.	.	.
Population*Treatment	Mather	Normal		11	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	12	-0.01713	0.1332	2950	-0.13	0.8977
Dam	Mather		B	12	0.01638	0.1332	2950	0.12	0.9021
Dam	Mather		C	12	0.03679	0.1332	2950	0.28	0.7824
Population*Treatment	Mather	Nina		12	0	.	.	.	.
Population*Treatment	Mather	Nino		12	0	.	.	.	.
Population*Treatment	Mather	Normal		12	0	.	.	.	.
Population*Treatment	Mather	Nina		12	-0.3841	0.7865	1	-0.49	0.7108
Population*Treatment	Mather	Nino		12	0	.	.	.	.
Population*Treatment	Mather	Normal		12	0	.	.	.	.
Population*Treatment	Mather	Nina		12	0	.	.	.	.
Population*Treatment	Mather	Nino		12	0	.	.	.	.
Population*Treatment	Mather	Normal		12	0	.	.	.	.
Dam	Mather		A	13	-0.06117	0.1332	2950	-0.46	0.6461
Dam	Mather		B	13	-0.01538	0.1332	2950	-0.12	0.9081
Dam	Mather		C	13	-0.01556	0.1332	2950	-0.12	0.9070
Population*Treatment	Mather	Nina		13	0	.	.	.	.
Population*Treatment	Mather	Nino		13	0	.	.	.	.
Population*Treatment	Mather	Normal		13	0	.	.	.	.
Population*Treatment	Mather	Nina		13	1.4314	0.7865	1	1.82	0.3199
Population*Treatment	Mather	Nino		13	0	.	.	.	.
Population*Treatment	Mather	Normal		13	0	.	.	.	.
Population*Treatment	Mather	Nina		13	0	.	.	.	.
Population*Treatment	Mather	Nino		13	0	.	.	.	.
Population*Treatment	Mather	Normal		13	0	.	.	.	.
Dam	Mather		A	14	0.03904	0.1332	2950	0.29	0.7695
Dam	Mather		B	14	0.04545	0.1332	2950	0.34	0.7330
Dam	Mather		C	14	0.02286	0.1332	2950	0.17	0.8637
Population*Treatment	Mather	Nina		14	0	.	.	.	.
Population*Treatment	Mather	Nino		14	0	.	.	.	.
Population*Treatment	Mather	Normal		14	0	.	.	.	.
Population*Treatment	Mather	Nina		14	0.5639	0.7865	1	0.72	0.6040
Population*Treatment	Mather	Nino		14	0	.	.	.	.
Population*Treatment	Mather	Normal		14	0	.	.	.	.
Population*Treatment	Mather	Nina		14	0	.	.	.	.
Population*Treatment	Mather	Nino		14	0	.	.	.	.
Population*Treatment	Mather	Normal		14	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	15	-0.02160	0.1332	2950	-0.16	0.8712
Dam	Mather		B	15	-0.00172	0.1332	2950	-0.01	0.9897
Dam	Mather		C	15	-0.00021	0.1332	2950	-0.00	0.9988
Population*Treatment	Mather	Nina		15	0	.	.	.	.
Population*Treatment	Mather	Nino		15	0	.	.	.	.
Population*Treatment	Mather	Normal		15	0	.	.	.	.
Population*Treatment	Mather	Nina		15	0.4674	0.7865	1	0.59	0.6586
Population*Treatment	Mather	Nino		15	0	.	.	.	.
Population*Treatment	Mather	Normal		15	0	.	.	.	.
Population*Treatment	Mather	Nina		15	0	.	.	.	.
Population*Treatment	Mather	Nino		15	0	.	.	.	.
Population*Treatment	Mather	Normal		15	0	.	.	.	.
Dam	Mather		A	16	-0.00595	0.1332	2950	-0.04	0.9644
Dam	Mather		B	16	-0.08138	0.1332	2950	-0.61	0.5413
Dam	Mather		C	16	-0.08017	0.1342	2950	-0.60	0.5504
Population*Treatment	Mather	Nina		16	0	.	.	.	.
Population*Treatment	Mather	Nino		16	0	.	.	.	.
Population*Treatment	Mather	Normal		16	0	.	.	.	.
Population*Treatment	Mather	Nina		16	-0.3834	0.7865	1	-0.49	0.7113
Population*Treatment	Mather	Nino		16	0	.	.	.	.
Population*Treatment	Mather	Normal		16	0	.	.	.	.
Population*Treatment	Mather	Nina		16	0	.	.	.	.
Population*Treatment	Mather	Nino		16	0	.	.	.	.
Population*Treatment	Mather	Normal		16	0	.	.	.	.
Dam	Mather		A	17	0.004248	0.1332	2950	0.03	0.9746
Dam	Mather		B	17	0.06154	0.1332	2950	0.46	0.6441
Dam	Mather		C	17	-0.03453	0.1332	2950	-0.26	0.7955
Population*Treatment	Mather	Nina		17	0	.	.	.	.
Population*Treatment	Mather	Nino		17	0	.	.	.	.
Population*Treatment	Mather	Normal		17	0	.	.	.	.
Population*Treatment	Mather	Nina		17	0.02462	0.7865	1	0.03	0.9801
Population*Treatment	Mather	Nino		17	0	.	.	.	.
Population*Treatment	Mather	Normal		17	0	.	.	.	.
Population*Treatment	Mather	Nina		17	0	.	.	.	.
Population*Treatment	Mather	Nino		17	0	.	.	.	.
Population*Treatment	Mather	Normal		17	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	18	0.01201	0.1339	2950	0.09	0.9286
Dam	Mather		B	18	0.02810	0.1332	2950	0.21	0.8329
Dam	Mather		C	18	0.05348	0.1332	2950	0.40	0.6881
Population*Treatment	Mather	Nina		18	0	.	.	.	.
Population*Treatment	Mather	Nino		18	0	.	.	.	.
Population*Treatment	Mather	Normal		18	0	.	.	.	.
Population*Treatment	Mather	Nina		18	-0.8934	0.7865	1	-1.14	0.4595
Population*Treatment	Mather	Nino		18	0	.	.	.	.
Population*Treatment	Mather	Normal		18	0	.	.	.	.
Population*Treatment	Mather	Nina		18	0	.	.	.	.
Population*Treatment	Mather	Nino		18	0	.	.	.	.
Population*Treatment	Mather	Normal		18	0	.	.	.	.
Dam	Mather		A	19	-0.01349	0.1339	2950	-0.10	0.9198
Dam	Mather		B	19	-0.04668	0.1332	2950	-0.35	0.7260
Dam	Mather		C	19	-0.08043	0.1332	2950	-0.60	0.5460
Population*Treatment	Mather	Nina		19	0	.	.	.	.
Population*Treatment	Mather	Nino		19	0	.	.	.	.
Population*Treatment	Mather	Normal		19	0	.	.	.	.
Population*Treatment	Mather	Nina		19	-0.4420	0.7865	1	-0.56	0.6740
Population*Treatment	Mather	Nino		19	0	.	.	.	.
Population*Treatment	Mather	Normal		19	0	.	.	.	.
Population*Treatment	Mather	Nina		19	0	.	.	.	.
Population*Treatment	Mather	Nino		19	0	.	.	.	.
Population*Treatment	Mather	Normal		19	0	.	.	.	.
Dam	Mather		A	20	0.009762	0.1342	2950	0.07	0.9420
Dam	Mather		B	20	0.001175	0.1332	2950	0.01	0.9930
Dam	Mather		C	20	0.06045	0.1332	2950	0.45	0.6500
Population*Treatment	Mather	Nina		20	0	.	.	.	.
Population*Treatment	Mather	Nino		20	0	.	.	.	.
Population*Treatment	Mather	Normal		20	0	.	.	.	.
Population*Treatment	Mather	Nina		20	-0.4101	0.7865	1	-0.52	0.6940
Population*Treatment	Mather	Nino		20	0	.	.	.	.
Population*Treatment	Mather	Normal		20	0	.	.	.	.
Population*Treatment	Mather	Nina		20	0	.	.	.	.
Population*Treatment	Mather	Nino		20	0	.	.	.	.
Population*Treatment	Mather	Normal		20	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	21	0.005938	0.1332	2950	0.04	0.9644
Dam	Mather		B	21	0.002255	0.1332	2950	0.02	0.9865
Dam	Mather		C	21	0.06445	0.1332	2950	0.48	0.6285
Population*Treatment	Mather	Nina		21	0	.	.	.	.
Population*Treatment	Mather	Nino		21	0	.	.	.	.
Population*Treatment	Mather	Normal		21	0	.	.	.	.
Population*Treatment	Mather	Nina		21	-0.3920	0.7865	1	-0.50	0.7056
Population*Treatment	Mather	Nino		21	0	.	.	.	.
Population*Treatment	Mather	Normal		21	0	.	.	.	.
Population*Treatment	Mather	Nina		21	0	.	.	.	.
Population*Treatment	Mather	Nino		21	0	.	.	.	.
Population*Treatment	Mather	Normal		21	0	.	.	.	.
Dam	Mather		A	22	-0.04696	0.1332	2950	-0.35	0.7245
Dam	Mather		B	22	-0.02905	0.1332	2950	-0.22	0.8274
Dam	Mather		C	22	0.05068	0.1332	2950	0.38	0.7036
Population*Treatment	Mather	Nina		22	0	.	.	.	.
Population*Treatment	Mather	Nino		22	0	.	.	.	.
Population*Treatment	Mather	Normal		22	0	.	.	.	.
Population*Treatment	Mather	Nina		22	-0.3783	0.7865	1	-0.48	0.7146
Population*Treatment	Mather	Nino		22	0	.	.	.	.
Population*Treatment	Mather	Normal		22	0	.	.	.	.
Population*Treatment	Mather	Nina		22	0	.	.	.	.
Population*Treatment	Mather	Nino		22	0	.	.	.	.
Population*Treatment	Mather	Normal		22	0	.	.	.	.
Dam	Mather		A	23	0.02313	0.1332	2950	0.17	0.8622
Dam	Mather		B	23	0.01928	0.1332	2950	0.14	0.8849
Dam	Mather		C	23	0.02777	0.1339	2950	0.21	0.8357
Population*Treatment	Mather	Nina		23	0	.	.	.	.
Population*Treatment	Mather	Nino		23	0	.	.	.	.
Population*Treatment	Mather	Normal		23	0	.	.	.	.
Population*Treatment	Mather	Nina		23	-0.6317	0.7865	1	-0.80	0.5692
Population*Treatment	Mather	Nino		23	0	.	.	.	.
Population*Treatment	Mather	Normal		23	0	.	.	.	.
Population*Treatment	Mather	Nina		23	0	.	.	.	.
Population*Treatment	Mather	Nino		23	0	.	.	.	.
Population*Treatment	Mather	Normal		23	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	24	-0.05428	0.1332	2950	-0.41	0.6836
Dam	Mather		B	24	0.005538	0.1332	2950	0.04	0.9668
Dam	Mather		C	24	-0.00472	0.1332	2950	-0.04	0.9717
Population*Treatment	Mather	Nina		24	0	.	.	.	.
Population*Treatment	Mather	Nino		24	0	.	.	.	.
Population*Treatment	Mather	Normal		24	0	.	.	.	.
Population*Treatment	Mather	Nina		24	-0.8444	0.7865	1	-1.07	0.4774
Population*Treatment	Mather	Nino		24	0	.	.	.	.
Population*Treatment	Mather	Normal		24	0	.	.	.	.
Population*Treatment	Mather	Nina		24	0	.	.	.	.
Population*Treatment	Mather	Nino		24	0	.	.	.	.
Population*Treatment	Mather	Normal		24	0	.	.	.	.
Dam	Mather		A	25	-0.1015	0.1332	2950	-0.76	0.4460
Dam	Mather		B	25	-0.1234	0.1339	2950	-0.92	0.3568
Dam	Mather		C	25	-0.00054	0.1332	2950	-0.00	0.9968
Population*Treatment	Mather	Nina		25	0	.	.	.	.
Population*Treatment	Mather	Nino		25	0	.	.	.	.
Population*Treatment	Mather	Normal		25	0	.	.	.	.
Population*Treatment	Mather	Nina		25	-0.3531	0.7865	1	-0.45	0.7314
Population*Treatment	Mather	Nino		25	0	.	.	.	.
Population*Treatment	Mather	Normal		25	0	.	.	.	.
Population*Treatment	Mather	Nina		25	0	.	.	.	.
Population*Treatment	Mather	Nino		25	0	.	.	.	.
Population*Treatment	Mather	Normal		25	0	.	.	.	.
Dam	Mather		A	26	-0.01358	0.1332	2950	-0.10	0.9188
Dam	Mather		B	26	0.07973	0.1332	2950	0.60	0.5495
Dam	Mather		C	26	0.03272	0.1332	2950	0.25	0.8060
Population*Treatment	Mather	Nina		26	0	.	.	.	.
Population*Treatment	Mather	Nino		26	0	.	.	.	.
Population*Treatment	Mather	Normal		26	0	.	.	.	.
Population*Treatment	Mather	Nina		26	-0.5106	0.7865	1	-0.65	0.6335
Population*Treatment	Mather	Nino		26	0	.	.	.	.
Population*Treatment	Mather	Normal		26	0	.	.	.	.
Population*Treatment	Mather	Nina		26	0	.	.	.	.
Population*Treatment	Mather	Nino		26	0	.	.	.	.
Population*Treatment	Mather	Normal		26	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	27	0.01425	0.1332	2950	0.11	0.9148
Dam	Mather		B	27	0.06196	0.1332	2950	0.47	0.6419
Dam	Mather		C	27	-0.03167	0.1332	2950	-0.24	0.8121
Population*Treatment	Mather	Nina		27	0	.	.	.	.
Population*Treatment	Mather	Nino		27	0	.	.	.	.
Population*Treatment	Mather	Normal		27	0	.	.	.	.
Population*Treatment	Mather	Nina		27	0.1100	0.7865	1	0.14	0.9116
Population*Treatment	Mather	Nino		27	0	.	.	.	.
Population*Treatment	Mather	Normal		27	0	.	.	.	.
Population*Treatment	Mather	Nina		27	0	.	.	.	.
Population*Treatment	Mather	Nino		27	0	.	.	.	.
Population*Treatment	Mather	Normal		27	0	.	.	.	.
Dam	Mather		A	28	0.01038	0.1357	2950	0.08	0.9390
Dam	Mather		B	28	0.06721	0.1332	2950	0.50	0.6139
Dam	Mather		C	28	-0.04914	0.1332	2950	-0.37	0.7122
Population*Treatment	Mather	Nina		28	0	.	.	.	.
Population*Treatment	Mather	Nino		28	0	.	.	.	.
Population*Treatment	Mather	Normal		28	0	.	.	.	.
Population*Treatment	Mather	Nina		28	1.2716	0.7866	1	1.62	0.3527
Population*Treatment	Mather	Nino		28	0	.	.	.	.
Population*Treatment	Mather	Normal		28	0	.	.	.	.
Population*Treatment	Mather	Nina		28	0	.	.	.	.
Population*Treatment	Mather	Nino		28	0	.	.	.	.
Population*Treatment	Mather	Normal		28	0	.	.	.	.
Dam	Mather		A	29	-0.03678	0.1333	2950	-0.28	0.7826
Dam	Mather		B	29	-0.02720	0.1341	2950	-0.20	0.8394
Dam	Mather		C	29	0.04173	0.1333	2950	0.31	0.7542
Population*Treatment	Mather	Nina		29	0	.	.	.	.
Population*Treatment	Mather	Nino		29	0	.	.	.	.
Population*Treatment	Mather	Normal		29	0	.	.	.	.
Population*Treatment	Mather	Nina		29	-0.5832	0.8104	1	-0.72	0.6029
Population*Treatment	Mather	Nino		29	0	.	.	.	.
Population*Treatment	Mather	Normal		29	0	.	.	.	.
Population*Treatment	Mather	Nina		29	0	.	.	.	.
Population*Treatment	Mather	Nino		29	0	.	.	.	.
Population*Treatment	Mather	Normal		29	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	30	-0.01448	0.1333	2950	-0.11	0.9135
Dam	Mather		B	30	-0.03386	0.1333	2950	-0.25	0.7994
Dam	Mather		C	30	0.02235	0.1352	2950	0.17	0.8687
Population*Treatment	Mather	Nina		30	0	.	.	.	.
Population*Treatment	Mather	Nino		30	0	.	.	.	.
Population*Treatment	Mather	Normal		30	0	.	.	.	.
Population*Treatment	Mather	Nina		30	-0.3111	0.8104	1	-0.38	0.7667
Population*Treatment	Mather	Nino		30	0	.	.	.	.
Population*Treatment	Mather	Normal		30	0	.	.	.	.
Population*Treatment	Mather	Nina		30	0	.	.	.	.
Population*Treatment	Mather	Nino		30	0	.	.	.	.
Population*Treatment	Mather	Normal		30	0	.	.	.	.
Dam	Mather		A	31	-0.03561	0.1332	2950	-0.27	0.7892
Dam	Mather		B	31	-0.00422	0.1332	2950	-0.03	0.9747
Dam	Mather		C	31	0.06331	0.1332	2950	0.48	0.6346
Population*Treatment	Mather	Nina		31	0	.	.	.	.
Population*Treatment	Mather	Nino		31	0	.	.	.	.
Population*Treatment	Mather	Normal		31	0	.	.	.	.
Population*Treatment	Mather	Nina		31	-0.2000	0.7865	1	-0.25	0.8415
Population*Treatment	Mather	Nino		31	0	.	.	.	.
Population*Treatment	Mather	Normal		31	0	.	.	.	.
Population*Treatment	Mather	Nina		31	0	.	.	.	.
Population*Treatment	Mather	Nino		31	0	.	.	.	.
Population*Treatment	Mather	Normal		31	0	.	.	.	.
Dam	Mather		A	32	-0.04920	0.1332	2950	-0.37	0.7119
Dam	Mather		B	32	0.01326	0.1332	2950	0.10	0.9207
Dam	Mather		C	32	0.01876	0.1332	2950	0.14	0.8880
Population*Treatment	Mather	Nina		32	0	.	.	.	.
Population*Treatment	Mather	Nino		32	0	.	.	.	.
Population*Treatment	Mather	Normal		32	0	.	.	.	.
Population*Treatment	Mather	Nina		32	-0.08315	0.7865	1	-0.11	0.9329
Population*Treatment	Mather	Nino		32	0	.	.	.	.
Population*Treatment	Mather	Normal		32	0	.	.	.	.
Population*Treatment	Mather	Nina		32	0	.	.	.	.
Population*Treatment	Mather	Nino		32	0	.	.	.	.
Population*Treatment	Mather	Normal		32	0	.	.	.	.

**BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with
Population x population**

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	33	0.03477	0.1337	2950	0.26	0.7948
Dam	Mather		B	33	0.02651	0.1333	2950	0.20	0.8424
Dam	Mather		C	33	-0.00775	0.1333	2950	-0.06	0.9537
Population*Treatment	Mather	Nina		33	0	.	.	.	.
Population*Treatment	Mather	Nino		33	0	.	.	.	.
Population*Treatment	Mather	Normal		33	0	.	.	.	.
Population*Treatment	Mather	Nina		33	-0.8752	0.8404	1	-1.04	0.4871
Population*Treatment	Mather	Nino		33	0	.	.	.	.
Population*Treatment	Mather	Normal		33	0	.	.	.	.
Population*Treatment	Mather	Nina		33	0	.	.	.	.
Population*Treatment	Mather	Nino		33	0	.	.	.	.
Population*Treatment	Mather	Normal		33	0	.	.	.	.
Dam	Mather		A	34	0.09615	0.1333	2950	0.72	0.4706
Dam	Mather		B	34	-0.06779	0.1334	2950	-0.51	0.6114
Dam	Mather		C	34	-0.01653	0.1333	2950	-0.12	0.9013
Population*Treatment	Mather	Nina		34	0	.	.	.	.
Population*Treatment	Mather	Nino		34	0	.	.	.	.
Population*Treatment	Mather	Normal		34	0	.	.	.	.
Population*Treatment	Mather	Nina		34	0.1567	0.8104	1	0.19	0.8784
Population*Treatment	Mather	Nino		34	0	.	.	.	.
Population*Treatment	Mather	Normal		34	0	.	.	.	.
Population*Treatment	Mather	Nina		34	0	.	.	.	.
Population*Treatment	Mather	Nino		34	0	.	.	.	.
Population*Treatment	Mather	Normal		34	0	.	.	.	.
Dam	Mather		A	35	-0.1046	0.1334	2950	-0.78	0.4332
Dam	Mather		B	35	0.09861	0.1340	2950	0.74	0.4618
Dam	Mather		C	35	0.01329	0.1333	2950	0.10	0.9206
Population*Treatment	Mather	Nina		35	0	.	.	.	.
Population*Treatment	Mather	Nino		35	0	.	.	.	.
Population*Treatment	Mather	Normal		35	0	.	.	.	.
Population*Treatment	Mather	Nina		35	1.4180	0.8104	1	1.75	0.3305
Population*Treatment	Mather	Nino		35	0	.	.	.	.
Population*Treatment	Mather	Normal		35	0	.	.	.	.
Population*Treatment	Mather	Nina		35	0	.	.	.	.
Population*Treatment	Mather	Nino		35	0	.	.	.	.
Population*Treatment	Mather	Normal		35	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	36	0.05036	0.1339	2950	0.38	0.7069
Dam	Mather		B	36	-0.00423	0.1332	2950	-0.03	0.9747
Dam	Mather		C	36	-0.04129	0.1332	2950	-0.31	0.7566
Population*Treatment	Mather	Nina		36	0	.	.	.	.
Population*Treatment	Mather	Nino		36	0	.	.	.	.
Population*Treatment	Mather	Normal		36	0	.	.	.	.
Population*Treatment	Mather	Nina		36	1.0659	0.7865	1	1.36	0.4047
Population*Treatment	Mather	Nino		36	0	.	.	.	.
Population*Treatment	Mather	Normal		36	0	.	.	.	.
Population*Treatment	Mather	Nina		36	0	.	.	.	.
Population*Treatment	Mather	Nino		36	0	.	.	.	.
Population*Treatment	Mather	Normal		36	0	.	.	.	.
Dam	Mather		A	39	-0.03320	0.1332	2950	-0.25	0.8032
Dam	Mather		B	39	0.07019	0.1332	2950	0.53	0.5983
Dam	Mather		C	39	0.003132	0.1332	2950	0.02	0.9812
Population*Treatment	Mather	Nina		39	0	.	.	.	.
Population*Treatment	Mather	Nino		39	0	.	.	.	.
Population*Treatment	Mather	Normal		39	0	.	.	.	.
Population*Treatment	Mather	Nina		39	0.7581	0.7865	1	0.96	0.5117
Population*Treatment	Mather	Nino		39	0	.	.	.	.
Population*Treatment	Mather	Normal		39	0	.	.	.	.
Population*Treatment	Mather	Nina		39	0	.	.	.	.
Population*Treatment	Mather	Nino		39	0	.	.	.	.
Population*Treatment	Mather	Normal		39	0	.	.	.	.
Dam	Mather		A	40	0.01563	0.1352	2950	0.12	0.9080
Dam	Mather		B	40	0.03554	0.1333	2950	0.27	0.7897
Dam	Mather		C	40	0.005925	0.1333	2950	0.04	0.9645
Population*Treatment	Mather	Nina		40	0	.	.	.	.
Population*Treatment	Mather	Nino		40	0	.	.	.	.
Population*Treatment	Mather	Normal		40	0	.	.	.	.
Population*Treatment	Mather	Nina		40	-0.1084	0.8104	1	-0.13	0.9153
Population*Treatment	Mather	Nino		40	0	.	.	.	.
Population*Treatment	Mather	Normal		40	0	.	.	.	.
Population*Treatment	Mather	Nina		40	0	.	.	.	.
Population*Treatment	Mather	Nino		40	0	.	.	.	.
Population*Treatment	Mather	Normal		40	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	42	0.02805	0.1332	2950	0.21	0.8332
Dam	Mather		B	42	0.05393	0.1332	2950	0.40	0.6856
Dam	Mather		C	42	0.04432	0.1332	2950	0.33	0.7394
Population*Treatment	Mather	Nina		42	0	.	.	.	.
Population*Treatment	Mather	Nino		42	0	.	.	.	.
Population*Treatment	Mather	Normal		42	0	.	.	.	.
Population*Treatment	Mather	Nina		42	1.2095	0.7865	1	1.54	0.3671
Population*Treatment	Mather	Nino		42	0	.	.	.	.
Population*Treatment	Mather	Normal		42	0	.	.	.	.
Population*Treatment	Mather	Nina		42	0	.	.	.	.
Population*Treatment	Mather	Nino		42	0	.	.	.	.
Population*Treatment	Mather	Normal		42	0	.	.	.	.
Dam	Mather		A	43	-0.00497	0.1332	2950	-0.04	0.9703
Dam	Mather		B	43	0.01347	0.1332	2950	0.10	0.9194
Dam	Mather		C	43	-0.03013	0.1332	2950	-0.23	0.8210
Population*Treatment	Mather	Nina		43	0	.	.	.	.
Population*Treatment	Mather	Nino		43	0	.	.	.	.
Population*Treatment	Mather	Normal		43	0	.	.	.	.
Population*Treatment	Mather	Nina		43	0.7769	0.7865	1	0.99	0.5039
Population*Treatment	Mather	Nino		43	0	.	.	.	.
Population*Treatment	Mather	Normal		43	0	.	.	.	.
Population*Treatment	Mather	Nina		43	0	.	.	.	.
Population*Treatment	Mather	Nino		43	0	.	.	.	.
Population*Treatment	Mather	Normal		43	0	.	.	.	.
Dam	Mather		A	44	0.001546	0.1332	2950	0.01	0.9907
Dam	Mather		B	44	0.009283	0.1332	2950	0.07	0.9444
Dam	Mather		C	44	0.007157	0.1339	2950	0.05	0.9574
Population*Treatment	Mather	Nina		44	0	.	.	.	.
Population*Treatment	Mather	Nino		44	0	.	.	.	.
Population*Treatment	Mather	Normal		44	0	.	.	.	.
Population*Treatment	Mather	Nina		44	-0.2177	0.7865	1	-0.28	0.8281
Population*Treatment	Mather	Nino		44	0	.	.	.	.
Population*Treatment	Mather	Normal		44	0	.	.	.	.
Population*Treatment	Mather	Nina		44	0	.	.	.	.
Population*Treatment	Mather	Nino		44	0	.	.	.	.
Population*Treatment	Mather	Normal		44	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	Mather		A	45	0.02866	0.1332	2950	0.22	0.8296
Dam	Mather		B	45	0.02310	0.1332	2950	0.17	0.8624
Dam	Mather		C	45	0.03799	0.1332	2950	0.29	0.7755
Population*Treatment	Mather	Nina		45	0	.	.	.	.
Population*Treatment	Mather	Nino		45	0	.	.	.	.
Population*Treatment	Mather	Normal		45	0	.	.	.	.
Population*Treatment	Mather	Nina		45	1.8610	0.7865	1	2.37	0.2546
Population*Treatment	Mather	Nino		45	0	.	.	.	.
Population*Treatment	Mather	Normal		45	0	.	.	.	.
Population*Treatment	Mather	Nina		45	0	.	.	.	.
Population*Treatment	Mather	Nino		45	0	.	.	.	.
Population*Treatment	Mather	Normal		45	0	.	.	.	.
Dam	Mather		A	47	-0.02598	0.1332	2658	-0.20	0.8453
Dam	Mather		B	47	-0.04684	0.1332	2658	-0.35	0.7251
Dam	Mather		C	47	-0.00917	0.1332	2658	-0.07	0.9451
Population*Treatment	Mather	Nina		47	0	.	.	.	.
Population*Treatment	Mather	Nino		47	0	.	.	.	.
Population*Treatment	Mather	Normal		47	0	.	.	.	.
Population*Treatment	Mather	Nina		47	0	.	.	.	.
Population*Treatment	Mather	Nino		47	0	.	.	.	.
Population*Treatment	Mather	Normal		47	0	.	.	.	.
Population*Treatment	Mather	Nina		47	0	.	.	.	.
Population*Treatment	Mather	Nino		47	0	.	.	.	.
Population*Treatment	Mather	Normal		47	0	.	.	.	.
Dam	pixley		A	1	-0.00896	0.1341	2950	-0.07	0.9467
Dam	pixley		B	1	0.03455	0.1341	2950	0.26	0.7967
Dam	pixley		C	1	0.01325	0.1341	2950	0.10	0.9213
Population*Treatment	pixley	Nina		1	0	.	.	.	.
Population*Treatment	pixley	Nino		1	0	.	.	.	.
Population*Treatment	pixley	Normal		1	0	.	.	.	.
Population*Treatment	pixley	Nina		1	0	.	.	.	.
Population*Treatment	pixley	Nino		1	0	.	.	.	.
Population*Treatment	pixley	Normal		1	0	.	.	.	.
Population*Treatment	pixley	Nina		1	1.5027	0.7673	1	1.96	0.3006
Population*Treatment	pixley	Nino		1	0	.	.	.	.
Population*Treatment	pixley	Normal		1	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	2	-0.02040	0.1394	2950	-0.15	0.8836
Dam	pixley		B	2	-0.01419	0.1377	2950	-0.10	0.9179
Dam	pixley		C	2	0.06315	0.1352	2950	0.47	0.6406
Population*Treatment	pixley	Nina		2	0	.	.	.	.
Population*Treatment	pixley	Nino		2	0	.	.	.	.
Population*Treatment	pixley	Normal		2	0	.	.	.	.
Population*Treatment	pixley	Nina		2	0	.	.	.	.
Population*Treatment	pixley	Nino		2	0	.	.	.	.
Population*Treatment	pixley	Normal		2	0	.	.	.	.
Population*Treatment	pixley	Nina		2	0.6235	0.9064	1.19	0.69	0.6006
Population*Treatment	pixley	Nino		2	0	.	.	.	.
Population*Treatment	pixley	Normal		2	0	.	.	.	.
Dam	pixley		A	3	-0.05259	0.1341	2950	-0.39	0.6950
Dam	pixley		B	3	0.04221	0.1341	2950	0.31	0.7530
Dam	pixley		C	3	0.04643	0.1341	2950	0.35	0.7292
Population*Treatment	pixley	Nina		3	0	.	.	.	.
Population*Treatment	pixley	Nino		3	0	.	.	.	.
Population*Treatment	pixley	Normal		3	0	.	.	.	.
Population*Treatment	pixley	Nina		3	0	.	.	.	.
Population*Treatment	pixley	Nino		3	0	.	.	.	.
Population*Treatment	pixley	Normal		3	0	.	.	.	.
Population*Treatment	pixley	Nina		3	0.3553	0.7673	1	0.46	0.7240
Population*Treatment	pixley	Nino		3	0	.	.	.	.
Population*Treatment	pixley	Normal		3	0	.	.	.	.
Dam	pixley		A	4	0.009869	0.1368	2950	0.07	0.9425
Dam	pixley		B	4	-0.02287	0.1373	2950	-0.17	0.8678
Dam	pixley		C	4	-0.00203	0.1375	2950	-0.01	0.9882
Population*Treatment	pixley	Nina		4	0	.	.	.	.
Population*Treatment	pixley	Nino		4	0	.	.	.	.
Population*Treatment	pixley	Normal		4	0	.	.	.	.
Population*Treatment	pixley	Nina		4	0	.	.	.	.
Population*Treatment	pixley	Nino		4	0	.	.	.	.
Population*Treatment	pixley	Normal		4	0	.	.	.	.
Population*Treatment	pixley	Nina		4	1.0328	0.9073	1.2	1.14	0.4334
Population*Treatment	pixley	Nino		4	0	.	.	.	.
Population*Treatment	pixley	Normal		4	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	5	-0.1217	0.1374	2950	-0.89	0.3757
Dam	pixley		B	5	-0.00669	0.1354	2950	-0.05	0.9606
Dam	pixley		C	5	0.05051	0.1367	2950	0.37	0.7118
Population*Treatment	pixley	Nina		5	0	.	.	.	.
Population*Treatment	pixley	Nino		5	0	.	.	.	.
Population*Treatment	pixley	Normal		5	0	.	.	.	.
Population*Treatment	pixley	Nina		5	0	.	.	.	.
Population*Treatment	pixley	Nino		5	0	.	.	.	.
Population*Treatment	pixley	Normal		5	0	.	.	.	.
Population*Treatment	pixley	Nina		5	-0.6769	0.8569	1	-0.79	0.5744
Population*Treatment	pixley	Nino		5	0	.	.	.	.
Population*Treatment	pixley	Normal		5	0	.	.	.	.
Dam	pixley		A	6	-0.03667	0.1341	2950	-0.27	0.7846
Dam	pixley		B	6	-0.09168	0.1341	2950	-0.68	0.4943
Dam	pixley		C	6	-0.04022	0.1341	2950	-0.30	0.7643
Population*Treatment	pixley	Nina		6	0	.	.	.	.
Population*Treatment	pixley	Nino		6	0	.	.	.	.
Population*Treatment	pixley	Normal		6	0	.	.	.	.
Population*Treatment	pixley	Nina		6	0	.	.	.	.
Population*Treatment	pixley	Nino		6	0	.	.	.	.
Population*Treatment	pixley	Normal		6	0	.	.	.	.
Population*Treatment	pixley	Nina		6	1.6287	0.7673	1	2.12	0.2803
Population*Treatment	pixley	Nino		6	0	.	.	.	.
Population*Treatment	pixley	Normal		6	0	.	.	.	.
Dam	pixley		A	7	-0.00951	0.1341	2950	-0.07	0.9435
Dam	pixley		B	7	0.04376	0.1341	2950	0.33	0.7443
Dam	pixley		C	7	-0.02946	0.1341	2950	-0.22	0.8262
Population*Treatment	pixley	Nina		7	0	.	.	.	.
Population*Treatment	pixley	Nino		7	0	.	.	.	.
Population*Treatment	pixley	Normal		7	0	.	.	.	.
Population*Treatment	pixley	Nina		7	0	.	.	.	.
Population*Treatment	pixley	Nino		7	0	.	.	.	.
Population*Treatment	pixley	Normal		7	0	.	.	.	.
Population*Treatment	pixley	Nina		7	1.5625	0.7673	1	2.04	0.2906
Population*Treatment	pixley	Nino		7	0	.	.	.	.
Population*Treatment	pixley	Normal		7	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	8	0.02156	0.1366	2950	0.16	0.8746
Dam	pixley		B	8	-0.09475	0.1369	2950	-0.69	0.4890
Dam	pixley		C	8	-0.04995	0.1352	2950	-0.37	0.7118
Population*Treatment	pixley	Nina		8	0	.	.	.	.
Population*Treatment	pixley	Nino		8	0	.	.	.	.
Population*Treatment	pixley	Normal		8	0	.	.	.	.
Population*Treatment	pixley	Nina		8	0	.	.	.	.
Population*Treatment	pixley	Nino		8	0	.	.	.	.
Population*Treatment	pixley	Normal		8	0	.	.	.	.
Population*Treatment	pixley	Nina		8	-0.3561	0.8568	1	-0.42	0.7492
Population*Treatment	pixley	Nino		8	0	.	.	.	.
Population*Treatment	pixley	Normal		8	0	.	.	.	.
Dam	pixley		A	9	-0.05434	0.1341	2950	-0.41	0.6854
Dam	pixley		B	9	0.06986	0.1349	2950	0.52	0.6045
Dam	pixley		C	9	0.02994	0.1364	2950	0.22	0.8262
Population*Treatment	pixley	Nina		9	0	.	.	.	.
Population*Treatment	pixley	Nino		9	0	.	.	.	.
Population*Treatment	pixley	Normal		9	0	.	.	.	.
Population*Treatment	pixley	Nina		9	0	.	.	.	.
Population*Treatment	pixley	Nino		9	0	.	.	.	.
Population*Treatment	pixley	Normal		9	0	.	.	.	.
Population*Treatment	pixley	Nina		9	0.7068	0.7674	1	0.92	0.5262
Population*Treatment	pixley	Nino		9	0	.	.	.	.
Population*Treatment	pixley	Normal		9	0	.	.	.	.
Dam	pixley		A	10	0.06363	0.1341	2950	0.47	0.6352
Dam	pixley		B	10	0.01504	0.1349	2950	0.11	0.9112
Dam	pixley		C	10	0.01489	0.1349	2950	0.11	0.9121
Population*Treatment	pixley	Nina		10	0	.	.	.	.
Population*Treatment	pixley	Nino		10	0	.	.	.	.
Population*Treatment	pixley	Normal		10	0	.	.	.	.
Population*Treatment	pixley	Nina		10	0	.	.	.	.
Population*Treatment	pixley	Nino		10	0	.	.	.	.
Population*Treatment	pixley	Normal		10	0	.	.	.	.
Population*Treatment	pixley	Nina		10	1.8409	0.7674	1	2.40	0.2514
Population*Treatment	pixley	Nino		10	0	.	.	.	.
Population*Treatment	pixley	Normal		10	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	11	-0.01388	0.1391	2950	-0.10	0.9205
Dam	pixley		B	11	0.01320	0.1343	2950	0.10	0.9217
Dam	pixley		C	11	-0.09061	0.1351	2950	-0.67	0.5026
Population*Treatment	pixley	Nina		11	0	.	.	.	.
Population*Treatment	pixley	Nino		11	0	.	.	.	.
Population*Treatment	pixley	Normal		11	0	.	.	.	.
Population*Treatment	pixley	Nina		11	0	.	.	.	.
Population*Treatment	pixley	Nino		11	0	.	.	.	.
Population*Treatment	pixley	Normal		11	0	.	.	.	.
Population*Treatment	pixley	Nina		11	-1.1704	0.8195	1	-1.43	0.3889
Population*Treatment	pixley	Nino		11	0	.	.	.	.
Population*Treatment	pixley	Normal		11	0	.	.	.	.
Dam	pixley		A	12	-0.01245	0.1394	2950	-0.09	0.9288
Dam	pixley		B	12	-0.03494	0.1360	2950	-0.26	0.7972
Dam	pixley		C	12	0.007926	0.1369	2950	0.06	0.9539
Population*Treatment	pixley	Nina		12	0	.	.	.	.
Population*Treatment	pixley	Nino		12	0	.	.	.	.
Population*Treatment	pixley	Normal		12	0	.	.	.	.
Population*Treatment	pixley	Nina		12	0	.	.	.	.
Population*Treatment	pixley	Nino		12	0	.	.	.	.
Population*Treatment	pixley	Normal		12	0	.	.	.	.
Population*Treatment	pixley	Nina		12	-0.4401	0.9064	1.19	-0.49	0.7014
Population*Treatment	pixley	Nino		12	0	.	.	.	.
Population*Treatment	pixley	Normal		12	0	.	.	.	.
Dam	pixley		A	13	0.04795	0.1349	2950	0.36	0.7222
Dam	pixley		B	13	0.07295	0.1341	2950	0.54	0.5865
Dam	pixley		C	13	-0.02662	0.1341	2950	-0.20	0.8427
Population*Treatment	pixley	Nina		13	0	.	.	.	.
Population*Treatment	pixley	Nino		13	0	.	.	.	.
Population*Treatment	pixley	Normal		13	0	.	.	.	.
Population*Treatment	pixley	Nina		13	0	.	.	.	.
Population*Treatment	pixley	Nino		13	0	.	.	.	.
Population*Treatment	pixley	Normal		13	0	.	.	.	.
Population*Treatment	pixley	Nina		13	0.5823	0.7674	1	0.76	0.5868
Population*Treatment	pixley	Nino		13	0	.	.	.	.
Population*Treatment	pixley	Normal		13	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	14	-0.00968	0.1374	2950	-0.07	0.9438
Dam	pixley		B	14	0.02011	0.1342	2950	0.15	0.8809
Dam	pixley		C	14	-0.01551	0.1357	2950	-0.11	0.9090
Population*Treatment	pixley	Nina		14	0	.	.	.	.
Population*Treatment	pixley	Nino		14	0	.	.	.	.
Population*Treatment	pixley	Normal		14	0	.	.	.	.
Population*Treatment	pixley	Nina		14	0	.	.	.	.
Population*Treatment	pixley	Nino		14	0	.	.	.	.
Population*Treatment	pixley	Normal		14	0	.	.	.	.
Population*Treatment	pixley	Nina		14	0.4143	0.7907	1	0.52	0.6928
Population*Treatment	pixley	Nino		14	0	.	.	.	.
Population*Treatment	pixley	Normal		14	0	.	.	.	.
Dam	pixley		A	15	0.02406	0.1342	2950	0.18	0.8577
Dam	pixley		B	15	-0.04319	0.1351	2950	-0.32	0.7492
Dam	pixley		C	15	0.02973	0.1349	2950	0.22	0.8256
Population*Treatment	pixley	Nina		15	0	.	.	.	.
Population*Treatment	pixley	Nino		15	0	.	.	.	.
Population*Treatment	pixley	Normal		15	0	.	.	.	.
Population*Treatment	pixley	Nina		15	0	.	.	.	.
Population*Treatment	pixley	Nino		15	0	.	.	.	.
Population*Treatment	pixley	Normal		15	0	.	.	.	.
Population*Treatment	pixley	Nina		15	1.2149	0.7906	1	1.54	0.3673
Population*Treatment	pixley	Nino		15	0	.	.	.	.
Population*Treatment	pixley	Normal		15	0	.	.	.	.
Dam	pixley		A	16	0.01123	0.1341	2950	0.08	0.9333
Dam	pixley		B	16	-0.00269	0.1349	2950	-0.02	0.9841
Dam	pixley		C	16	0.03053	0.1341	2950	0.23	0.8199
Population*Treatment	pixley	Nina		16	0	.	.	.	.
Population*Treatment	pixley	Nino		16	0	.	.	.	.
Population*Treatment	pixley	Normal		16	0	.	.	.	.
Population*Treatment	pixley	Nina		16	0	.	.	.	.
Population*Treatment	pixley	Nino		16	0	.	.	.	.
Population*Treatment	pixley	Normal		16	0	.	.	.	.
Population*Treatment	pixley	Nina		16	2.1592	0.7674	1	2.81	0.2174
Population*Treatment	pixley	Nino		16	0	.	.	.	.
Population*Treatment	pixley	Normal		16	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	17	0.02371	0.1394	2950	0.17	0.8650
Dam	pixley		B	17	-0.05957	0.1376	2950	-0.43	0.6652
Dam	pixley		C	17	-0.02631	0.1362	2950	-0.19	0.8469
Population*Treatment	pixley	Nina		17	0	.	.	.	.
Population*Treatment	pixley	Nino		17	0	.	.	.	.
Population*Treatment	pixley	Normal		17	0	.	.	.	.
Population*Treatment	pixley	Nina		17	0	.	.	.	.
Population*Treatment	pixley	Nino		17	0	.	.	.	.
Population*Treatment	pixley	Normal		17	0	.	.	.	.
Population*Treatment	pixley	Nina		17	-1.0080	0.9748	1.6	-1.03	0.4322
Population*Treatment	pixley	Nino		17	0	.	.	.	.
Population*Treatment	pixley	Normal		17	0	.	.	.	.
Dam	pixley		A	18	-0.02616	0.1341	2950	-0.20	0.8454
Dam	pixley		B	18	-0.07063	0.1341	2950	-0.53	0.5985
Dam	pixley		C	18	0.03265	0.1349	2950	0.24	0.8087
Population*Treatment	pixley	Nina		18	0	.	.	.	.
Population*Treatment	pixley	Nino		18	0	.	.	.	.
Population*Treatment	pixley	Normal		18	0	.	.	.	.
Population*Treatment	pixley	Nina		18	0	.	.	.	.
Population*Treatment	pixley	Nino		18	0	.	.	.	.
Population*Treatment	pixley	Normal		18	0	.	.	.	.
Population*Treatment	pixley	Nina		18	1.4715	0.7674	1	1.92	0.3060
Population*Treatment	pixley	Nino		18	0	.	.	.	.
Population*Treatment	pixley	Normal		18	0	.	.	.	.
Dam	pixley		A	19	0.04434	0.1349	2950	0.33	0.7424
Dam	pixley		B	19	-0.03658	0.1374	2950	-0.27	0.7901
Dam	pixley		C	19	-0.02621	0.1342	2950	-0.20	0.8451
Population*Treatment	pixley	Nina		19	0	.	.	.	.
Population*Treatment	pixley	Nino		19	0	.	.	.	.
Population*Treatment	pixley	Normal		19	0	.	.	.	.
Population*Treatment	pixley	Nina		19	0	.	.	.	.
Population*Treatment	pixley	Nino		19	0	.	.	.	.
Population*Treatment	pixley	Normal		19	0	.	.	.	.
Population*Treatment	pixley	Nina		19	1.2780	0.7907	1	1.62	0.3527
Population*Treatment	pixley	Nino		19	0	.	.	.	.
Population*Treatment	pixley	Normal		19	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	20	-0.00121	0.1382	2950	-0.01	0.9930
Dam	pixley		B	20	-0.08320	0.1357	2950	-0.61	0.5397
Dam	pixley		C	20	0.03077	0.1342	2950	0.23	0.8186
Population*Treatment	pixley	Nina		20	0	.	.	.	.
Population*Treatment	pixley	Nino		20	0	.	.	.	.
Population*Treatment	pixley	Normal		20	0	.	.	.	.
Population*Treatment	pixley	Nina		20	0	.	.	.	.
Population*Treatment	pixley	Nino		20	0	.	.	.	.
Population*Treatment	pixley	Normal		20	0	.	.	.	.
Population*Treatment	pixley	Nina		20	0.5685	0.7907	1	0.72	0.6032
Population*Treatment	pixley	Nino		20	0	.	.	.	.
Population*Treatment	pixley	Normal		20	0	.	.	.	.
Dam	pixley		A	21	-0.00333	0.1369	2950	-0.02	0.9806
Dam	pixley		B	21	0.02340	0.1384	2950	0.17	0.8657
Dam	pixley		C	21	-0.05882	0.1368	2950	-0.43	0.6671
Population*Treatment	pixley	Nina		21	0	.	.	.	.
Population*Treatment	pixley	Nino		21	0	.	.	.	.
Population*Treatment	pixley	Normal		21	0	.	.	.	.
Population*Treatment	pixley	Nina		21	0	.	.	.	.
Population*Treatment	pixley	Nino		21	0	.	.	.	.
Population*Treatment	pixley	Normal		21	0	.	.	.	.
Population*Treatment	pixley	Nina		21	-1.0977	0.9057	1.19	-1.21	0.4135
Population*Treatment	pixley	Nino		21	0	.	.	.	.
Population*Treatment	pixley	Normal		21	0	.	.	.	.
Dam	pixley		A	22	-0.00940	0.1343	2950	-0.07	0.9442
Dam	pixley		B	22	-0.06527	0.1377	2950	-0.47	0.6356
Dam	pixley		C	22	-0.03165	0.1389	2950	-0.23	0.8198
Population*Treatment	pixley	Nina		22	0	.	.	.	.
Population*Treatment	pixley	Nino		22	0	.	.	.	.
Population*Treatment	pixley	Normal		22	0	.	.	.	.
Population*Treatment	pixley	Nina		22	0	.	.	.	.
Population*Treatment	pixley	Nino		22	0	.	.	.	.
Population*Treatment	pixley	Normal		22	0	.	.	.	.
Population*Treatment	pixley	Nina		22	0.1202	0.8200	1	0.15	0.9073
Population*Treatment	pixley	Nino		22	0	.	.	.	.
Population*Treatment	pixley	Normal		22	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	23	0.04248	0.1341	2950	0.32	0.7515
Dam	pixley		B	23	0.04338	0.1349	2950	0.32	0.7477
Dam	pixley		C	23	-0.00853	0.1379	2950	-0.06	0.9507
Population*Treatment	pixley	Nina		23	0	.	.	.	.
Population*Treatment	pixley	Nino		23	0	.	.	.	.
Population*Treatment	pixley	Normal		23	0	.	.	.	.
Population*Treatment	pixley	Nina		23	0	.	.	.	.
Population*Treatment	pixley	Nino		23	0	.	.	.	.
Population*Treatment	pixley	Normal		23	0	.	.	.	.
Population*Treatment	pixley	Nina		23	1.2441	0.7674	1	1.62	0.3519
Population*Treatment	pixley	Nino		23	0	.	.	.	.
Population*Treatment	pixley	Normal		23	0	.	.	.	.
Dam	pixley		A	24	0.01616	0.1341	2950	0.12	0.9041
Dam	pixley		B	24	-0.05429	0.1349	2950	-0.40	0.6873
Dam	pixley		C	24	-0.06933	0.1341	2950	-0.52	0.6052
Population*Treatment	pixley	Nina		24	0	.	.	.	.
Population*Treatment	pixley	Nino		24	0	.	.	.	.
Population*Treatment	pixley	Normal		24	0	.	.	.	.
Population*Treatment	pixley	Nina		24	0	.	.	.	.
Population*Treatment	pixley	Nino		24	0	.	.	.	.
Population*Treatment	pixley	Normal		24	0	.	.	.	.
Population*Treatment	pixley	Nina		24	1.7994	0.7674	1	2.34	0.2566
Population*Treatment	pixley	Nino		24	0	.	.	.	.
Population*Treatment	pixley	Normal		24	0	.	.	.	.
Dam	pixley		A	25	0.03315	0.1341	2950	0.25	0.8048
Dam	pixley		B	25	0.04502	0.1341	2950	0.34	0.7372
Dam	pixley		C	25	-0.04620	0.1356	2950	-0.34	0.7334
Population*Treatment	pixley	Nina		25	0	.	.	.	.
Population*Treatment	pixley	Nino		25	0	.	.	.	.
Population*Treatment	pixley	Normal		25	0	.	.	.	.
Population*Treatment	pixley	Nina		25	0	.	.	.	.
Population*Treatment	pixley	Nino		25	0	.	.	.	.
Population*Treatment	pixley	Normal		25	0	.	.	.	.
Population*Treatment	pixley	Nina		25	1.3722	0.7674	1	1.79	0.3246
Population*Treatment	pixley	Nino		25	0	.	.	.	.
Population*Treatment	pixley	Normal		25	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	26	-0.00990	0.1341	2950	-0.07	0.9412
Dam	pixley		B	26	0.03437	0.1341	2950	0.26	0.7978
Dam	pixley		C	26	0.04902	0.1349	2950	0.36	0.7163
Population*Treatment	pixley	Nina		26	0	.	.	.	.
Population*Treatment	pixley	Nino		26	0	.	.	.	.
Population*Treatment	pixley	Normal		26	0	.	.	.	.
Population*Treatment	pixley	Nina		26	0	.	.	.	.
Population*Treatment	pixley	Nino		26	0	.	.	.	.
Population*Treatment	pixley	Normal		26	0	.	.	.	.
Population*Treatment	pixley	Nina		26	1.8682	0.7674	1	2.43	0.2481
Population*Treatment	pixley	Nino		26	0	.	.	.	.
Population*Treatment	pixley	Normal		26	0	.	.	.	.
Dam	pixley		A	27	-0.09262	0.1356	2950	-0.68	0.4946
Dam	pixley		B	27	0.02205	0.1341	2950	0.16	0.8694
Dam	pixley		C	27	0.07070	0.1341	2950	0.53	0.5981
Population*Treatment	pixley	Nina		27	0	.	.	.	.
Population*Treatment	pixley	Nino		27	0	.	.	.	.
Population*Treatment	pixley	Normal		27	0	.	.	.	.
Population*Treatment	pixley	Nina		27	0	.	.	.	.
Population*Treatment	pixley	Nino		27	0	.	.	.	.
Population*Treatment	pixley	Normal		27	0	.	.	.	.
Population*Treatment	pixley	Nina		27	0.4755	0.7674	1	0.62	0.6469
Population*Treatment	pixley	Nino		27	0	.	.	.	.
Population*Treatment	pixley	Normal		27	0	.	.	.	.
Dam	pixley		A	28	-0.01053	0.1341	2950	-0.08	0.9374
Dam	pixley		B	28	0.03704	0.1341	2950	0.28	0.7825
Dam	pixley		C	28	-0.02948	0.1341	2950	-0.22	0.8261
Population*Treatment	pixley	Nina		28	0	.	.	.	.
Population*Treatment	pixley	Nino		28	0	.	.	.	.
Population*Treatment	pixley	Normal		28	0	.	.	.	.
Population*Treatment	pixley	Nina		28	0	.	.	.	.
Population*Treatment	pixley	Nino		28	0	.	.	.	.
Population*Treatment	pixley	Normal		28	0	.	.	.	.
Population*Treatment	pixley	Nina		28	2.0099	0.7673	1	2.62	0.2322
Population*Treatment	pixley	Nino		28	0	.	.	.	.
Population*Treatment	pixley	Normal		28	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	29	0.02343	0.1341	2950	0.17	0.8613
Dam	pixley		B	29	-0.01986	0.1349	2950	-0.15	0.8830
Dam	pixley		C	29	0.005450	0.1341	2950	0.04	0.9676
Population*Treatment	pixley	Nina		29	0	.	.	.	.
Population*Treatment	pixley	Nino		29	0	.	.	.	.
Population*Treatment	pixley	Normal		29	0	.	.	.	.
Population*Treatment	pixley	Nina		29	0	.	.	.	.
Population*Treatment	pixley	Nino		29	0	.	.	.	.
Population*Treatment	pixley	Normal		29	0	.	.	.	.
Population*Treatment	pixley	Nina		29	1.9337	0.7674	1	2.52	0.2405
Population*Treatment	pixley	Nino		29	0	.	.	.	.
Population*Treatment	pixley	Normal		29	0	.	.	.	.
Dam	pixley		A	30	0.02559	0.1341	2950	0.19	0.8487
Dam	pixley		B	30	0.04509	0.1341	2950	0.34	0.7368
Dam	pixley		C	30	0.04076	0.1341	2950	0.30	0.7612
Population*Treatment	pixley	Nina		30	0	.	.	.	.
Population*Treatment	pixley	Nino		30	0	.	.	.	.
Population*Treatment	pixley	Normal		30	0	.	.	.	.
Population*Treatment	pixley	Nina		30	0	.	.	.	.
Population*Treatment	pixley	Nino		30	0	.	.	.	.
Population*Treatment	pixley	Normal		30	0	.	.	.	.
Population*Treatment	pixley	Nina		30	1.5904	0.7673	1	2.07	0.2862
Population*Treatment	pixley	Nino		30	0	.	.	.	.
Population*Treatment	pixley	Normal		30	0	.	.	.	.
Dam	pixley		A	31	0.01760	0.1341	2950	0.13	0.8956
Dam	pixley		B	31	-0.00274	0.1341	2950	-0.02	0.9837
Dam	pixley		C	31	0.05768	0.1341	2950	0.43	0.6672
Population*Treatment	pixley	Nina		31	0	.	.	.	.
Population*Treatment	pixley	Nino		31	0	.	.	.	.
Population*Treatment	pixley	Normal		31	0	.	.	.	.
Population*Treatment	pixley	Nina		31	0	.	.	.	.
Population*Treatment	pixley	Nino		31	0	.	.	.	.
Population*Treatment	pixley	Normal		31	0	.	.	.	.
Population*Treatment	pixley	Nina		31	0.1517	0.7673	1	0.20	0.8757
Population*Treatment	pixley	Nino		31	0	.	.	.	.
Population*Treatment	pixley	Normal		31	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	32	0.02064	0.1341	2950	0.15	0.8777
Dam	pixley		B	32	0.06525	0.1341	2950	0.49	0.6266
Dam	pixley		C	32	0.03501	0.1341	2950	0.26	0.7941
Population*Treatment	pixley	Nina		32	0	.	.	.	.
Population*Treatment	pixley	Nino		32	0	.	.	.	.
Population*Treatment	pixley	Normal		32	0	.	.	.	.
Population*Treatment	pixley	Nina		32	0	.	.	.	.
Population*Treatment	pixley	Nino		32	0	.	.	.	.
Population*Treatment	pixley	Normal		32	0	.	.	.	.
Population*Treatment	pixley	Nina		32	1.8642	0.7673	1	2.43	0.2486
Population*Treatment	pixley	Nino		32	0	.	.	.	.
Population*Treatment	pixley	Normal		32	0	.	.	.	.
Dam	pixley		A	33	-0.04207	0.1349	2950	-0.31	0.7551
Dam	pixley		B	33	-0.05123	0.1341	2950	-0.38	0.7025
Dam	pixley		C	33	0.02864	0.1341	2950	0.21	0.8309
Population*Treatment	pixley	Nina		33	0	.	.	.	.
Population*Treatment	pixley	Nino		33	0	.	.	.	.
Population*Treatment	pixley	Normal		33	0	.	.	.	.
Population*Treatment	pixley	Nina		33	0	.	.	.	.
Population*Treatment	pixley	Nino		33	0	.	.	.	.
Population*Treatment	pixley	Normal		33	0	.	.	.	.
Population*Treatment	pixley	Nina		33	2.4034	0.7674	1	3.13	0.1968
Population*Treatment	pixley	Nino		33	0	.	.	.	.
Population*Treatment	pixley	Normal		33	0	.	.	.	.
Dam	pixley		A	34	0.05412	0.1341	2950	0.40	0.6866
Dam	pixley		B	34	0.03230	0.1341	2950	0.24	0.8097
Dam	pixley		C	34	0.01840	0.1341	2950	0.14	0.8909
Population*Treatment	pixley	Nina		34	0	.	.	.	.
Population*Treatment	pixley	Nino		34	0	.	.	.	.
Population*Treatment	pixley	Normal		34	0	.	.	.	.
Population*Treatment	pixley	Nina		34	0	.	.	.	.
Population*Treatment	pixley	Nino		34	0	.	.	.	.
Population*Treatment	pixley	Normal		34	0	.	.	.	.
Population*Treatment	pixley	Nina		34	1.6915	0.7673	1	2.20	0.2711
Population*Treatment	pixley	Nino		34	0	.	.	.	.
Population*Treatment	pixley	Normal		34	0	.	.	.	.

BLUPS derived from Model G: residual error AND among-sire variance allowed to vary with Population x population

The Mixed Procedure

Solution for Random Effects									
Effect	Population	Treatment	Dam	Sire	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Dam	pixley		A	35	0.03949	0.1341	2950	0.29	0.7685
Dam	pixley		B	35	0.05495	0.1341	2950	0.41	0.6821
Dam	pixley		C	35	0.01865	0.1341	2950	0.14	0.8894
Population*Treatment	pixley	Nina		35	0	.	.	.	.
Population*Treatment	pixley	Nino		35	0	.	.	.	.
Population*Treatment	pixley	Normal		35	0	.	.	.	.
Population*Treatment	pixley	Nina		35	0	.	.	.	.
Population*Treatment	pixley	Nino		35	0	.	.	.	.
Population*Treatment	pixley	Normal		35	0	.	.	.	.
Population*Treatment	pixley	Nina		35	1.8657	0.7673	1	2.43	0.2484
Population*Treatment	pixley	Nino		35	0	.	.	.	.
Population*Treatment	pixley	Normal		35	0	.	.	.	.
Dam	pixley		A	36	0.06065	0.1341	2950	0.45	0.6512
Dam	pixley		B	36	-0.09380	0.1356	2950	-0.69	0.4892
Dam	pixley		C	36	-0.03374	0.1364	2950	-0.25	0.8046
Population*Treatment	pixley	Nina		36	0	.	.	.	.
Population*Treatment	pixley	Nino		36	0	.	.	.	.
Population*Treatment	pixley	Normal		36	0	.	.	.	.
Population*Treatment	pixley	Nina		36	0	.	.	.	.
Population*Treatment	pixley	Nino		36	0	.	.	.	.
Population*Treatment	pixley	Normal		36	0	.	.	.	.
Population*Treatment	pixley	Nina		36	0	.	.	.	.
Population*Treatment	pixley	Nino		36	0	.	.	.	.
Population*Treatment	pixley	Normal		36	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Population	2	1	2.92	0.3826
Treatment	2	1	46.35	0.1033
Population*Treatment	4	1	1.52	0.5371