

ANOVA for PEDUNCLE VOLUME

Source of Variations	df	Sum of Squares	Mean Squares	F Ratio	Probability	h ²	hp ²	w ²
Replicates	2	0.50166	0.25083	0.967	0.38336	0.006	0.018	0.000
Environments	2	16.82098	8.41049	32.435	0.00000 ***	0.188	0.375	0.154
Rep * Env.	4	1.03211	0.25803	0.995	0.41354	0.012	0.036	0.000
Treatments	18	5.86253	0.32570	1.256	0.23156	0.066	0.173	0.013
Parents	6	2.52982	0.42164	1.626	0.14680	0.028	0.083	0.011
Parents (Line)	2	0.07262	0.03631	0.140	0.86948	0.001	0.003	-0.005
Parents(Testers)	3	0.48839	0.16280	0.628	0.59857	0.005	0.017	-0.003
local	1	0.39309	0.39309	1.516	0.22091	0.004	0.014	0.001
Medium	1	0.07476	0.07476	0.288	0.59242	0.001	0.003	-0.002
local Vs Medium	1	0.02054	0.02054	0.079	0.77888	0.000	0.001	-0.003
Parents (L vs T)	1	1.96880	1.96880	7.593	0.00688 **	0.022	0.066	0.019
Parent vs Crosses	1	0.00573	0.00573	0.022	0.88213	0.000	0.000	-0.003
Crosses	11	3.32699	0.30245	1.166	0.31892	0.037	0.106	0.005
local	5	2.69471	0.53894	2.078	0.07360	0.030	0.088	0.015
Medium	5	0.32401	0.06480	0.250	0.93904	0.004	0.011	-0.011
local Vs Medium	1	0.30827	0.30827	1.189	0.27799	0.003	0.011	0.001
Line effect	2	1.11178	0.55589	2.053	0.20928	0.012	0.406	0.006
Tester effect	3	0.59057	0.19686	0.727	0.57209	0.007	0.267	-0.002
Line * Tester effect	6	1.62464	0.27077	1.044	0.40094	0.018	0.055	0.001
Env * Treat	36	37.02220	1.02839	3.966	0.00000 ***	0.415	0.569	0.219
Env * Parents	12	11.85256	0.98771	3.809	0.00008 ***	0.133	0.297	0.086
Env * Parents (L)	4	2.14278	0.53569	2.066	0.09028	0.024	0.071	0.012
Env * Parents (T)	6	6.90523	1.15087	4.438	0.00047 ***	0.077	0.198	0.056
local*Env	2	3.13101	1.56551	6.037	0.00327 **	0.035	0.101	0.028
Medium*Env	2	2.24964	1.12482	4.338	0.01541 *	0.025	0.074	0.019
local Vs Medium*Env	2	1.52457	0.76229	2.940	0.05712	0.017	0.052	0.011
Env * PAR (L vs T)	2	2.80455	1.40228	5.408	0.00578 **	0.031	0.091	0.025
Env * Parent vs Cross	2	12.83767	6.41883	24.754	0.00000 ***	0.144	0.314	0.121
Env * Crosses	22	12.33198	0.56054	2.162	0.00491 **	0.138	0.306	0.065
local*Env	10	7.06591	0.70659	2.725	0.00502 **	0.079	0.201	0.046
Medium*Env	10	2.07491	0.20749	0.800	0.62873	0.023	0.069	-0.006
local Vs Medium*Env	2	3.19116	1.59558	6.153	0.00295 **	0.036	0.102	0.029
Env * Line effect	4	2.29778	0.57444	2.022	0.15529	0.026	0.403	0.013
Env * Tester effect	6	6.62433	1.10406	3.885	0.02174 *	0.074	0.660	0.051
Env * L * T effect	12	3.40987	0.28416	1.096	0.37105	0.038	0.109	0.003
Error	108	28.00437	0.25930					
Total	170	89.24385	0.52496					

ANOVA for PEDUNCLE VOLUME

Source of Variations	df	Sum of Squares	Mean Squares	F Ratio	Probability	h ²	hp ²	w ²
Replicates	2	0.87248	0.43624	1.802	0.17304	0.015	0.052	0.007
Environments	2	22.72102	11.36051	46.919	0.00000 ***	0.402	0.587	0.281
Rep * Env.	4	1.22376	0.30594	1.264	0.29322	0.022	0.071	0.004
Crosses	11	3.32699	0.30245	1.249	0.27375	0.059	0.172	0.011
local	5	2.69471	0.53894	2.226	0.06193	0.048	0.144	0.025
Medium	5	0.32401	0.06480	0.268	0.92922	0.006	0.020	-0.016
local Vs Medium	1	0.30827	0.30827	1.273	0.26326	0.005	0.019	0.001
Line effect	2	1.11178	0.55589	2.053	0.20928	0.020	0.406	0.010
Tester effect	3	0.59057	0.19686	0.727	0.57209	0.010	0.267	-0.004
Line * Tester effect	6	1.62464	0.27077	1.118	0.36140	0.029	0.092	0.003
Env * Crosses	22	12.33198	0.56054	2.315	0.00469 **	0.218	0.436	0.102
local*Env	10	7.06591	0.70659	2.918	0.00437 **	0.125	0.307	0.073
Medium*Env	10	2.07491	0.20749	0.857	0.57688	0.037	0.115	-0.006
local Vs Medium*Env	2	3.19116	1.59558	6.590	0.00246 **	0.057	0.166	0.045
Env * Line effect	4	2.29778	0.57444	2.022	0.15529	0.041	0.403	0.020
Env * Tester effect	6	6.62433	1.10406	3.885	0.02174 *	0.117	0.660	0.078
Env * L * T effect	12	3.40987	0.28416	1.174	0.32025	0.060	0.176	0.008
Error	66	15.98050	0.24213					
Total	107	56.45672	0.52763					

	Env. 1	Env. 2	Env. 3	Mean
local	2.7783	3.5133	3.8383	3.3767
Medium	2.9333	3.8367	3.2167	3.3289
Parental Mean	2.7610	3.2748	3.5633	3.1997
General Mean	3.1786	2.8149	3.5828	3.1921
Cross Mean	3.4222	2.5467	3.5942	3.1877
Average Heterosis	22.9508	-22.2335	0.8653	-0.3750

General GCA & SCA Effects Table for PEDUNCLE VOLUME

	COGG -2	ML -267	PUSA -105	GCA TEST	s ² GCA	s ² SCA	GCA/SCA
RMG -275	-0.254	0.046	0.208	-0.003	0.000	0.110	0.000
PDM -89 - 22	0.081	-0.098	0.016	0.110	0.012	0.016	0.735
LGG -460	0.117	-0.041	-0.076	-0.008	0.000	0.021	0.003
LGG -410	0.055	0.092	-0.148	-0.099	0.010	0.033	0.293
GCA Line	-0.135	0.027	0.109				
s ² GCA	0.018	0.001	0.012				
s ² SCA	0.088	0.022	0.071				
GCA/SCA	0.209	0.033	0.167				

General 1 Env. GCA & SCA Effects Table for PEDUNCLE VOLUME

	COGG -2	ML -267	PUSA -105	GCA TEST	s ² GCA	s ² SCA	GCA/SCA
RMG -275	-0.206	-0.042	0.248	-0.190	0.036	0.105	0.343
PDM -89 - 22	0.062	-0.031	-0.031	0.092	0.009	0.006	1.478
LGG -460	0.079	-0.021	-0.058	0.079	0.006	0.010	0.624
LGG -410	0.065	0.093	-0.158	0.019	0.000	0.038	0.009
GCA Line	0.040	-0.014	-0.026				
s ² GCA	0.002	0.000	0.001				
s ² SCA	0.057	0.012	0.091				
GCA/SCA	0.029	0.016	0.008				

General 2 Env. GCA & SCA Effects Table for PEDUNCLE VOLUME

	COGG -2	ML -267	PUSA -105	GCA TEST	s ² GCA	s ² SCA	GCA/SCA
RMG -275	-0.044	-0.135	0.180	0.058	0.003	0.053	0.063
PDM -89 - 22	0.183	-0.474	0.291	0.533	0.284	0.343	0.829
LGG -460	-0.007	0.279	-0.272	-0.043	0.002	0.152	0.012
LGG -410	-0.132	0.330	-0.198	-0.548	0.300	0.166	1.810
GCA Line	-0.097	-0.146	0.242				
s ² GCA	0.009	0.021	0.059				
s ² SCA	0.053	0.430	0.230				
GCA/SCA	0.176	0.049	0.255				

General 3 Env. GCA & SCA Effects Table for PEDUNCLE VOLUME

	COGG -2	ML -267	PUSA -105	GCA TEST	s ² GCA	s ² SCA	GCA/SCA
RMG -275	-0.511	0.316	0.196	0.124	0.015	0.399	0.038
PDM -89 - 22	-0.001	0.212	-0.211	-0.296	0.088	0.090	0.980
LGG -460	0.279	-0.381	0.102	-0.060	0.004	0.233	0.015
LGG -410	0.233	-0.147	-0.087	0.232	0.054	0.083	0.648
GCA Line	-0.350	0.240	0.110				
s ² GCA	0.122	0.058	0.012				
s ² SCA	0.393	0.311	0.101				
GCA/SCA	0.311	0.185	0.120				

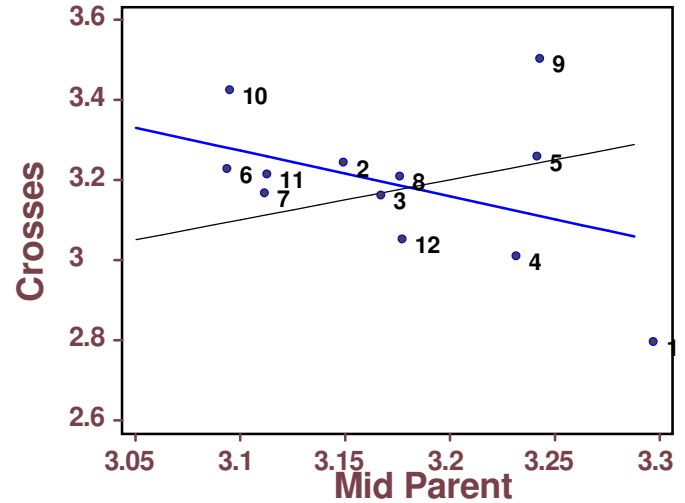
Means Table for PEDUNCLE VOLUME

	RMG -275	PDM -89 -	LGG -460	LGG -410	Cross Mean	Parent Mean
COGG -2	2.796	3.243	3.161	3.009	3.052	3.069
ML -267	3.258	3.227	3.166	3.208	3.214	2.958
PUSA -105	3.501	3.422	3.212	3.050	3.296	2.960
Cross Mean (Tester)	3.185	3.297	3.180	3.089	3.188	3.611
Parent Mean (Tester)	3.524	3.229	3.264	3.393	3.353	

Comparison	Std.Error	C.D.95%	C.D.99%
GCA(Line)	0.0820	0.1637	0.2175
GCA(Tester)	0.0947	0.1891	0.2512
SCA	0.1640	0.3275	0.4350
Gi - Gj(Line)	0.1160	0.2316	0.3076
Gi - Gj(Tester)	0.1339	0.2674	0.3552
Sij - Skl	0.2320	0.4631	0.6153
Sij - Sik	0.2320	0.4631	0.6153

Component	Singh & Chowdhary	Fixed Effect	Random Effect	F-ratio	(DF) N1	(DF) N2	Prob.	Std.Error
s ² Line		0.0087	-0.0001	0.994	4	8	0.4636	0.0151
s ² Tester		-0.0017	-0.0331	0.350	12	9	0.9534	0.0219
s ² GCA		0.0043	-0.0143	34.590	2	0	1.0000	0.0127
s ² L*t(SCA)		0.0032	-0.0015	0.953	6	12	0.4946	0.0192
s ² Env		0.1951	0.1748 *	6.938	2	10	0.0129	0.0025*
s ² Env * Line		0.0277	0.0242	2.022	4	12	0.1553	0.0291
s ² Env * Testers		0.0958	0.0911 *	3.885	6	12	0.0217	0.0625
s ² Env.* GCA		0.0569	0.0529 *	2.953	8	12	0.0446	0.0315
s ² Env * L * t(SCAL)		0.0140	0.0140	1.174	12	66	0.3202	0.0588
s ² e		0.0269	0.0269					
s ² a(F = 1)		0.0085	-0.0285					
s ² d(F = 1)		0.0032	-0.0015					
s ² a / Var.d		2.6780	19.1941					
Degree of Dominance		0.6111	0.2283					
s ² a(F = 0)		0.0170	-0.0571					
s ² d(F = 0)		0.0127	-0.0059					
s ² a / Var.d		1.3390	9.5971					
Degree of Dominance		0.8642	0.3228					
s ² P		0.1664	0.1166					
Heritability (NS) %		5.1236	-24.4725					
Genetic Advance 5 %		0.0430	-0.1722					
Cov Full Sib	0.0100							
Contribution of								
Line	33.4170 %							
Tester	17.7508 %							
Line*Tester	48.8322 %							
Parent	Regression Equation	T-test	Prob	R²				
Line Y =	+8.68565	+-1.83537 x	2.0413	0.1339	0.2941			
Mid Y =	+6.81248	+-1.14197 x	1.4415	0.2451	0.1720			
Tester Y =	+4.26158	+-0.3203 x	0.6879	0.5409	0.0452			

PEDUNCLE VOLUME



Heterosis Table

F1	Mean	Lesser	Line	Mid	Tester	Better	Selected	Check
1*4 COGG -2*RMG -275	2.80	-8.91	-8.91	-15.20	-20.68 *	-20.68 *	-5.48	-15.88
1*5 COGG -2*PDM -89 - 22	3.24	5.68	5.68	3.00	0.45	0.45	9.65	-2.41
1*6 COGG -2*LGG -460	3.16	3.01	3.01	-0.18	-3.17	-3.17	6.87	-4.88
1*7 COGG -2*LGG -410	3.01	-1.96	-1.96	-6.88	-11.33	-11.33	1.73	-9.46
2*4 ML -267*RMG -275	3.26	10.14	10.14	0.51	-7.57	-7.57	10.14	-1.97
2*5 ML -267*PDM -89 - 22	3.23	9.09	9.09	4.31	-0.07	-0.07	9.09	-2.91
2*6 ML -267*LGG -460	3.17	7.02	7.02	1.75	-3.03	-3.03	7.02	-4.75
2*7 ML -267*LGG -410	3.21	8.45	8.45	1.01	-5.47	-5.47	8.45	-3.48
3*4 PUSA -105*RMG -275	3.50	18.28	18.28	7.98	-0.66	-0.66	18.37	5.35
3*5 PUSA -105*PDM -89 -	3.42	15.62	15.62	10.59	5.99	5.99	15.70	2.98
3*6 PUSA -105*LGG -460	3.21	8.52	8.52	3.21	-1.60	-1.60	8.60	-3.34
3*7 PUSA -105*LGG -410	3.05	3.04	3.04	-3.99	-10.12	-10.12	3.12	-8.22

Comparison of F1 with	S.E.Diff.	CD 95%	CD 99%
Mid Parent	0.2009	0.5577	0.9249
Line / Tester Parent	0.2320	0.6440	1.0680
Selected Parent / Check	0.2320	0.6440	1.0680

Heterosis Ranges

