

ANOVA for STOMATA LOWER mm*mm

Source of Variations	df	Sum of Squares	Mean Squares	F Ratio	Probability	η^2	ηp^2	ω^2
Replicates	2	43.16250	21.58125	2.224	0.11250	0.015	0.035	0.008
Treatments	62	1698.87022	27.40113	2.823	0.00000 ***	0.577	0.585	0.236
Parents	17	582.74042	34.27885	3.532	0.00002 ***	0.198	0.326	0.118
Parents (Line)	14	413.38794	29.52771	3.043	0.00046 ***	0.140	0.256	0.083
Parents(Testers)	2	137.77220	68.88610	7.098	0.00121 **	0.047	0.103	0.038
Parents (L vs T)	1	31.58027	31.58027	3.254	0.07368	0.011	0.026	0.007
Parent vs Crosses	1	41.15028	41.15028	4.240	0.04157 *	0.014	0.033	0.011
Crosses	44	1074.97952	24.43135	2.517	0.00004 ***	0.365	0.472	0.161
Line effect	14	411.38870	29.38491	1.508	0.17227	0.140	0.430	0.041
Tester effect	2	117.89992	58.94996	3.025	0.06466	0.040	0.178	0.026
Line * Tester effect	28	545.69091	19.48896	2.008	0.00504 **	0.185	0.312	0.078
Error	124	1203.42666	9.70505					
Total	188	2945.45938	15.66734					

ANOVA for STOMATA LOWER mm*mm

Source of Variations	df	Sum of Squares	Mean Squares	F Ratio	Probability	η^2	ηp^2	ω^2
Replicates	2	56.36888	28.18444	2.728	0.07086	0.028	0.058	0.017
Crosses	44	1074.97952	24.43135	2.365	0.00031 ***	0.527	0.542	0.199
Line effect	14	411.38870	29.38491	1.508	0.17227	0.202	0.430	0.057
Tester effect	2	117.89992	58.94996	3.025	0.06466	0.058	0.178	0.037
Line * Tester effect	28	545.69091	19.48896	1.887	0.01341 *	0.267	0.375	0.099
Error	88	909.08264	10.33048					
Total	134	2040.43104	15.22710					

Env. 1

Parental Mean	40.0433	40.0433
General Mean	40.7811	40.7811
Cross Mean	41.0762	41.0762
Average Heterosis %	2.5794	2.5794

ANOVA for for testing Epistatis

Source of Variations	df	Sum of Squares	Mean Squares	F Ratio	Probability
i type Epistatis	1	0.54450	0.54450	0.009	0.93179
j+l type Epistatis	14	2250.84374	160.77455	1.891	0.07363
Total Epistatis	15	2251.38825	150.09255	1.803	0.08251
i type Epistatis x blocks	2	116.49845	58.24922	0.700	0.50461
j+l type Epistatis x blocks	28	2380.58254	85.02081	1.021	0.47571
Total Epistatis x blocks	30	2497.08099	83.23603		

ANOVA for (L1+L2 total)

Source of Variations	df	Sum of Squares	Mean Squares	F Ratio	Probability
Replicates	2	26.62500	13.31250	0.591	0.56077
Line(sums)	14	911.71875	65.12277	2.889	0.00818 **
Error	28	631.18750	22.54241		
Total	44	1569.53125	35.67116		

 $\sigma^2 s$ 7.0967

D 56.7738

ANOVA for (L1-L2 total)

Source of Variations	df	Sum of Squares	Mean Squares	F Ratio	Probability
Replicates	2	19.64792	9.82396	0.708	0.50115
LineS differences	14	341.10046	24.36432	1.756	0.09953
Error	28	388.41824	13.87208		
Total	44	749.16663	17.02651		

Correlation r 0.1866 Probability 0.8320

 $\sigma^2 d$ 1.7487

H 13.9897

Dominance Degree 0.4964

FAMILY MEANS TABLE

	μ L1	μ L2	μ L3	Σ 2L3-L1-L2	Σ L1+L2	Σ L1-L2
COGG -2	41.753	38.570	40.517	5.130	246.810	3.710
ML -267	42.990	39.630	41.577	5.307	253.700	4.240
PUSA -105	43.167	38.217	40.517	7.250	251.050	7.950
RMG -275	41.223	42.813	36.270	-8.133	232.480	14.860
PDM -89 - 221	46.000	43.877	41.223	-0.530	261.670	14.330
LGG -460	45.470	44.410	42.637	-0.713	264.320	8.500
LGG -410	39.630	38.680	44.050	6.320	251.040	-13.260
COGG -22	43.170	46.000	38.393	-10.437	244.690	14.330
ML -26 - 7	45.117	42.287	43.167	3.710	264.850	5.850
PUSA -105 / A	42.110	41.400	40.517	-0.173	247.880	4.780
RMG -2753	39.457	42.817	35.917	-10.260	226.120	10.620
PDM -89	44.230	37.153	40.693	10.617	254.770	10.610
LGG -46	44.760	38.037	37.863	6.550	247.870	20.690
LGG -41	38.570	43.880	37.860	-11.330	229.290	2.130
LPQ-AS-23	35.383	38.923	37.507	-4.957	218.670	-6.370

Triple Test CrossANOVA (Summary)

	DF	PLANT HEIGHT cm	DAYS TO FLOWERING	DAYS TO MATURITY	FLAG LEAF AREA cm ² cm	LEAF THICKNES mm	STOMATA UPPER mm ² mm	STOMATA LOWER mm ² mm
Replicates	2	48.517 *	29.337 *	38.952 *	98.481 **	0.011 ***	50.124 *	21.581
Treatments	62	50.617 ***	90.330 ***	39.454 ***	96.267 ***	0.000 ***	32.145 ***	27.401 ***
Parents	17	46.787 ***	46.131 ***	37.700 ***	81.675 ***	0.000 **	25.054 **	34.279 ***
Parents (Line)	14	37.070 **	37.876 ***	39.352 ***	90.215 ***	0.000 *	19.347 *	29.528 ***
Parents(Testers)	2	66.350 *	62.914 ***	1.120	51.647 *	0.000	66.707 **	68.886 **
Parents (L vs T)	1	143.708 **	128.133 ***	87.723 **	22.171	0.001 *	21.647	31.580
Parent vs Crosses	1	51.208	2853.235 ***	982.225 ***	1888.021 ***	0.008 ***	274.873 ***	41.150 *
Crosses	44	52.083 ***	44.614 ***	18.705 **	61.184 ***	0.000 *	29.368 ***	24.431 ***
Line effect	14	80.191	92.217 ***	28.785 *	124.730 **	0.000	41.313 *	29.385
Tester effect	2	25.803	21.365	16.572	0.722	0.000	80.830 *	58.950
Line * Tester effect	28	39.906 ***	22.472 ***	13.817	33.729 ***	0.000 *	19.719 *	19.489 **
Error	124	15.227	7.919	9.395	13.997	0.000	10.490	9.705
Total	188	27.252	35.325	19.623	42.027	0.000	18.053	15.667
Replicates	2	92.865 **	13.239	11.013	28.496	0.006 ***	43.108 *	28.184
Crosses	44	52.083 ***	44.614 ***	18.705 ***	61.184 ***	0.000 *	29.368 ***	24.431 ***
Line effect	14	80.191	92.217 ***	28.785 *	124.730 **	0.000	41.313 *	29.385
Tester effect	2	25.803	21.365	16.572	0.722	0.000	80.830 *	58.950
Line * Tester effect	28	39.906 ***	22.472 ***	13.817 *	33.729 ***	0.000	19.719 **	19.489 *
Error	88	13.628	6.823	8.366	10.692	0.000	9.759	10.330
Total	134	27.438	19.328	11.800	27.537	0.000	16.696	15.227