

APPENDIX

Appendix table 1 Analysis of variance of size of leaf (Table 2).

1.1 Width of leaf (cm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	19.805	2.201	0.90 ^{ns}
Factor A	12	528.347	44.029	17.95 **
Error	108	264.837	2.452	
Total	129	812.99		

CV = 13.1 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

1.2 Length of leaf (cm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	9.566	1.063	1.02 ^{ns}
Factor A	12	215.638	17.97	17.25 **
Error	108	112.485	1.042	
Total	129	337.689		

CV = 12.1 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 1 (continue)

1.3 Petiole length (cm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	5.36	0.596	0.77 ^{ns}
Factor A	12	237.125	19.76	25.42 **
Error	108	83.956	0.777	
Total	129			

CV = 13.2 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 2 Analysis of variance of botanical characteristics of pistillate flower and sessile bract of pistillate flower (Table 3).

2.1 Petal width of pistillate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	88.615	9.846	2.74 **
Factor A	12	309.723	25.81	7.17 **
Error	108	388.585	3.598	
Total	129	786.923		

CV = 21.4 %

^{1/} ** = significant at .01 level.

Appendix table 2 (continue)

2.2 Petal length of pistillate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	39.223	4.025	1.66 ^{ns}
Factor A	12	1032.523	86.044	35.54 ^{**}
Error	108	261.477	2.421	
Total	129	1330.223		

CV = 12.5 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

2.3 Peduncle length of pistillate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	2305.423	256.158	1.51 ^{ns}
Factor A	12	29752.723	2479.394	14.58 ^{**}
Error	108	18367.277	170.067	
Total	129	50425.423		

CV = 27.4 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 2 (continue)

2.4 Sessile bract width of pistillate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	60.777	6.753	1.23 ^{ns}
Factor A	12	443.031	36.919	6.70 ^{**}
Error	108	595.123	5.51	
Total	129			

CV = 29.4 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

2.5 Sessile bract length of pistillate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	46.685	5.187	1.58 ^{ns}
Factor A	12	180.877	15.073	4.59 ^{**}
Error	108	354.815	3.285	
Total	129	582.377		

CV = 33.1 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 2 (continue)

2.6 Distance to peduncle base of sessile bract of pistillate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	4.16	0.462	1.27 ^{ns}
Factor A	12	25.665	2.139	5.89 ^{**}
Error	108	39.248	0.363	
Total	129			

CV = 27.0 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 3 Analysis of variance of botanical characteristics of staminate flower and sessile bract of staminate flower (Table 4).

3.1 Petal width of staminate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	16.377	1.82	0.45 ^{ns}
Factor A	12	323.6	26.967	6.69 ^{**}
Error	108	435.323	4.031	
Total	129	775.3		

CV = 19.5 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 3 (continue)

3.2 Petal length of pistillate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	49.846	5.538	1.32 ^{ns}
Factor A	12	813.523	57.794	16.14 ^{**}
Error	108	453.554	4.2	
Total	129	1316.923		

CV = 12.9 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

3.3 Peduncle length of staminate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	1311.762	145.751	1.40 ^{ns}
Factor A	12	21720.708	1810.059	17.35 ^{**}
Error	108	11269.138	104.344	
Total	129	34301.608		

CV = 17.7 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 3 (continue)

3.4 Sessile bract width of staminate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	30.223	3.358	0.65 ^{ns}
Factor A	12	408.031	34.003	6.55 **
Error	108	560.277	5.188	
Total	129			

CV = 27.7 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

3.5 Sessile bract length of staminate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	20.654	2.295	0.84 ^{ns}
Factor A	12	202.077	16.84	6.13 **
Error	108	296.846	2.749	
Total	129	519.577		

CV = 28.9 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 3 (continue)

3.6 Distance to peduncle base of sessile bract of staminate flower (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	185.146	20.572	1.19 ^{ns}
Factor A	12	5203.769	433.647	25.03 ^{**}
Error	108	1871.154	17.325	
Total	129	7260.069		

CV = 34.9 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 4 Analysis of variance of botanical characteristics of fruit of local bitter gourd (Table 5).

4.1 Fruit peduncle length (cm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	17.97	1.997	1.76 ^{ns}
Factor A	12	240.663	20.055	17.64 ^{**}
Error	108	122.819	1.137	
Total	129	381.453		

CV = 20.2 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 4 (continue)

4.2 Fruit base to sessile bract (cm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	8.827	0.981	0.85 ^{ns}
Factor A	12	222.876	18.573	16.14 ^{**}
Error	108	124.289	1.151	
Total	129	355.992		

CV = 23.0 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

4.3 Fruit length (cm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	0.154	0.051	1.21 ^{ns}
Factor A	12	255.036	21.253	500.41 ^{**}
Error	36	1.529	0.042	
Total	51	256.719		

CV = 3.2 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 4 (continue)

4.4 Fruit diameter (cm)

Source	Degree of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	0.048	0.016	3.52 *
Factor A	12	21.942	1.828	400.95 **
Error	36	0.164	0.005	
Total	51	22.154		

CV = 2.3 %

^{1/} * = significant at .05 level.

** = significant at .01 level.

4.5 Fruit length/fruit diameter

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	0.004	0.001	0.30 ^{ns}
Factor A	12	9.638	0.803	192.11 **
Error	36	0.151	0.004	
Total	51	9.792		

CV = 3.0 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 4 (continue)

4.6 Fresh thickness (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	0.462	0.154	1.81 ^{ns}
Factor A	12	84.55	7.046	82.68 **
Error	36	3.068	0.085	
Total	51			

CV = 7.2 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 5 Analysis of variance of botanical characteristics of seed of local bitter gourd (Table 6).

5.1 Number of seed/fruit

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	20.623	2.291	0.30 ^{ns}
Factor A	12	7649.523	637.46	84.74 **
Error	108	812.477	7.523	
Total	129	8482.623		

CV = 18.2 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 5 (continue)

5.2 Seed width (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	2.238	0.249	1.47 ^{ns}
Factor A	12	120.248	10.021	59.34 ^{**}
Error	108	18.238	0.169	
Total	129	140.724		

CV = 6.2 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

5.3 Seed length (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	4.982	0.554	1.73 ^{ns}
Factor A	12	279.4	23.283	72.92 ^{**}
Error	108	34.483	0.319	
Total	129	318.865		

CV = 4.7 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 5 (continue)

5.4 Seed thickness (mm)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	9	1.47	0.163	1.92 ^{ns}
Factor A	12	16.14	1.345	15.83 ^{**}
Error	108	9.175	0.085	
Total	129	26.785		

CV = 7.9 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 6 Analysis of variance of fruit yield of local bitter gourd (Table 7).

6.1 Fruit yield (kg/rai)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	1557.999	519.333	1.53 ^{ns}
Factor A	12	123285.068	10273.756	30.29 ^{**}
Error	36	12208.969	339.138	
Total	51	137052.036		

CV = 14.6 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 6 (continue)

6.2 Fruit weight (g)/fruit

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	2.408	0.803	0.26 ^{ns}
Factor A	12	12640.797	1053.4	344.06 **
Error	36	110.221	3.062	
Total	51	12753.426		

CV = 8.7 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

6.3 Number of fruit/plant

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	259.833	86.611	0.52 ^{ns}
Factor A	12	89007.475	7417.29	44.30 **
Error	36	6028.201	167.45	
Total	51	95295.509		

CV = 20.5 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 7 Analysis of variance of horticultural characteristics of local bitter gourd (Table 8).

7.1 Days to 50 % female flower

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	3.154	1.051	0.28 ^{ns}
Factor A	12	741.769	61.814	16.50 ^{**}
Error	36	134.846	3.746	
Total	51	879.769		

CV = 4.2 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

7.2 First pistillate flower node

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	39.26	13.087	1.87 ^{ns}
Factor A	12	820.941	68.412	9.77 ^{**}
Error	36	252.146	7.004	
Total	51	1112.348		

CV = 12.5 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 7 (continue)

7.3 Number of female flower/plant

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	11.506	3.835	0.69 ^{ns}
Factor A	12	2706.433	225.536	40.30 ^{**}
Error	36	201.49	5.597	
Total	51	2919.429		

CV = 26.5 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

7.4 Female/male flower

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	0.061	0.02	1.07 ^{ns}
Factor A	12	4.065	0.339	17.77 ^{**}
Error	36	0.686	0.019	
Total	51	4.812		

CV = 27.2 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 7 (continue)

7.5 Days after anthesis of fresh fruit

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	0.21	0.07	0.14 ^{ns}
Factor A	12	86.69	7.22	14.03 ^{**}
Error	36	18.54	0.52	
Total	51	105.44		

CV = 6.4 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

7.6 Days to first harvest

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	5.90	1.97	0.50 ^{ns}
Factor A	12	658.19	54.85	13.97 ^{**}
Error	36	141.35	3.93	
Total	51	805.44		

CV = 3.3 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 7 (continue)

7.7 Days to last harvest

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	106.212	35.404	12.31 **
Factor A	12	65.077	5.423	1.89 ^{ns}
Error	36	103.538	2.876	
Total	51	274.827		

CV = 1.8 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

7.8 Number of harvesting time

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	10.37	3.46	2.13 ^{ns}
Factor A	12	102.69	8.56	5.28 **
Error	36	58.39	1.62	
Total	51	171.44		

CV = 7.6 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 7 (continue)

7.9 Number of node/plant

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	20.118	6.706	0.18 ^{ns}
Factor A	12	9056.302	754.692	20.57 ^{**}
Error	36	1320.859	36.691	
Total	51	10397.279		

CV = 7.8 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

7.10 Main stem length (m)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	0.105	0.035	0.30 ^{ns}
Factor A	12	14.38	1.198	10.23 ^{**}
Error	36	4.215	0.117	
Total	51	18.701		

CV = 8.6 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

Appendix table 7 (continue)

7.11 Number of lateral vine/plant

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	60.21	20.07	2.12 ^{ns}
Factor A	12	691.502	57.625	6.09 ^{**}
Error	36	340.859	9.468	
Total	51	1092.57		

CV = 10.9 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 8 Analysis of variance ripe fruit yield of local bitter gourd (Table 9).

8.1 Ripe fruit yield (kg/rai)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	18.527	6.176	5.48 ^{**}
Factor A	12	24.165	2.014	1.79 ^{ns}
Error	36	40.576	1.127	
Total	51	83.267		

CV = 27.1 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 8 (continue)

8.2 Number of ripe fruit/rai

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	28564.308	9521.44	2.97 *
Factor A	12	1566570.077	130547.506	40.75 **
Error	36	115334.692	3203.74	
Total	51	1710469.077		

CV = 25.1 %

^{1/} * = significant at .05 level.

** = significant at .01 level.

Appendix table 9 Analysis of variance of seed yield and endosperm yield of local bitter gourd (Table 10).

9.1 Seed yield (kg/rai)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	181062.971	60354.324	6.62 **
Factor A	12	582100.567	48508.381	5.32 **
Error	36	327966.328	9110.176	
Total	51	1091129.866		

CV = 25.3 %

^{1/} ** = significant at .01 level.

Appendix table 9 (continue)

9.2 Endosperm yield (kg/rai)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	2	0.233	0.117	0.10 ^{ns}
Factor A	12	3007.9	250.658	194.81 **
Error	24	30.88	1.287	
Total	38	3039.013		

CV = 3.0 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 10 Analysis of variance of some horticultural characteristics of local bitter gourd (Table 11).

10.1 Days to 50% female flower

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	76.365	25.455	2.17 ^{ns}
Factor A	12	647.731	53.978	4.60 **
Error	36	422.885	11.747	
Total	51	1146.981		

CV = 6.0 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 10 (continue)

10.2 Days to first harvest of ripe fruit

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	33.385	11.128	0.85 ^{ns}
Factor A	12	761.308	63.442	4.86 ^{**}
Error	36	469.615	13.045	
Total	51	1264.308		

CV = 5.4 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

10.3 Days to last harvest of ripe fruit

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	61.135	20.378	5.09 ^{**}
Factor A	12	2249.423	187.452	46.83 ^{**}
Error	36	144.115	4.003	
Total	51	2454.673		

CV = 1.8 %

^{1/} ^{**} = significant at .01 level.

Appendix table 10 (continue)

10.4 Number of times to harvest ripe fruit

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	191.596	63.865	3.56 *
Factor A	12	4485.308	373.776	20.86 **
Error	36	645.154	17.921	
Total	51	5322.058		

CV = 11.6 %

^{1/} * = significant at .05 level.

** = significant at .01 level.

10.5 Days after anthesis of ripe fruit

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	3	4.673	1.558	3.28 *
Factor A	12	154.769	12.897	27.19 **
Error	36	17.077	0.474	
Total	51			

CV = 3.4 %

^{1/} * = significant at .05 level.

** = significant at .01 level.

Appendix table 11 Analysis of variance for partially purified protein, total protein and 30 kDa protein in 5 g of endosperm of inbred seeds of local bitter melon (Figures 15, 16 and 18).

11.1 Weight of partially purified protein (mg) (Figure 15)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	2	4.990	2.495	0.43 ^{ns}
Factor A	12	68.269	5.689	0.98 ^{ns}
Error	24	139.623	5.818	
Total	38	212.883		

CV = 19.9 %

^{1/} ns = nonsignificant.

11.2 Weight of total protein (mg) (Figure 16)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	2	52.487	26.243	22.44 **
Factor A	12	17.377	1.448	1.24 ^{ns}
Error	24	28.073	1.170	
Total	38	97.937		

CV = 39.0 %

^{1/} ns = nonsignificant.

** = significant at .01 level.

Appendix table 11 (continue)

11.3 Weight of 30 kDa protein (μg) (Figure 18)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	2	636.150	318.075	36.58 **
Factor A	12	68.810	5.734	0.66 ^{ns}
Error	24	208.675	8.695	
Total	38	913.635		

CV = 24.6 %

^{1/} ** = significant at .01 level.

ns = nonsignificant.

Appendix table 12 Analysis of variance for seed yield, partially purified protein, total protein and 30 kDa protein in 5 g of endosperm of F₁ hybrid and parental lines of local bitter melon (Table 12).

12.1 Seed yield (g)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	1	1.059	1.059	6.92 *
Factor A	15	18.4	1.227	8.02 **
Error	15	2.293	0.153	
Total	31			

CV = 20.4 %

^{1/} * = significant at .05 level.

** = significant at .01 level.

Appendix table 12 (continue).

12.2 Partially purified protein weight (mg)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	1	1785.031	1785.031	2.27 ^{ns}
Factor A	15	100495.219	6699.681	8.52 ^{**}
Error	15	11793.469	786.231	
Total	31	114073.719		

CV = 20.4 %

^{1/} ns = nonsignificant.^{**} = significant at .01 level.

12.3 Total protein weight (mg)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	1	24.019	24.019	5.02 [*]
Factor A	15	447.443	29.83	6.34 ^{**}
Error	15	70.548	4.703	
Total	31	542.009		

CV = 21.3 %

^{1/} * = significant at .05 level.^{**} = significant at .01 level.

Appendix table 12 (continue)

12.4 30 kDa protein weight (μg)

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
Replication	1	796.544	796.544	1.87 ^{ns}
Factor A	15	17111.74	1140.782	2.68 *
Error	15	6384.911	425.661	
Total	31	24293.19		

CV = 20.9 %

^{1/} ns = nonsignificant.

* = significant at .05 level.

Appendix table 13 Analysis of variance and combining ability for seed yield, partially purified protein, total protein and 30 kDa protein in 5 g endosperm of F₁ hybrid and parental lines of local bitter melon (Table 13).

13.1 Seed yield

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
General combining ability	3	1.04	0.35	47.75 **
Specific combining ability	6	355.15	59.19	7737.25 **
Reciprocal effects	6	2.33	0.39	50.98 **
Error	20	0.153	0.00765	

^{1/} ** = significant at .01 level.

Appendix table 13 (continue)

13.2 Partially purified protein weight

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
General combining ability	3	78.580	26.19	0.67 ^{ns}
Specific combining ability	6	800.930	133.49	3.40 *
Reciprocal effects	6	3.85	0.64	0.02 ^{ns}
Error	20	11793.469	39.312	

^{1/} ns = nonsignificant.

* = significant at .05 level.

13.3 Total protein weight

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
General combining ability	3	0.06	0.02	0.08 ^{ns}
Specific combining ability	6	0.49	0.08	0.34 ^{ns}
Reciprocal effects	6	0.7	0.12	0.51 ^{ns}
Error	20	4.70	0.24	

^{1/} ns = nonsignificant.

Appendix table 13 (continue)

13.4 30 kDa protein weight

Source	Degrees of Freedom	Sum of Squares	Mean Square	F ^{1/} Value
General combining ability	3	5.37	1.79	0.08 ^{ns}
Specific combining ability	6	12.19	2.03	0.10 ^{ns}
Reciprocal effects	6	7.76	1.29	0.06 ^{ns}
Error	20	425.6	21.28	

^{1/} ns = nonsignificant.

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Appendix table 14 Climatological data at Phichit Horticultural Research Center for 2000.

Month	Temperature (°C)			Relative humidity (%)			Rain fall (mm)
	Mean max	Mean min	Mean	Mean max	Mean min	Mean	
January	31.6	19.6	25.6	95.0	47.0	71.0	0.0
February	29.9	18.9	24.4	88.0	44.0	66.0	0.1
March	34.8	22.3	28.5	90.0	41.0	65.0	0.0
April	35.0	25.2	30.1	93.0	55.0	74.0	0.2
May	33.3	24.7	29.0	95.0	63.0	79.0	5.0
June	32.6	25.0	28.8	96.0	66.0	81.0	6.7
July	32.3	24.9	28.6	96.0	65.0	81.0	5.7
August	32.4	25.0	28.7	96.0	66.0	81.0	5.2
September	31.7	24.4	28.0	97.0	68.0	82.0	10.2
October	32.3	24.7	28.5	97.0	66.0	81.0	5.6
November	31.0	21.4	26.2	96.0	52.0	74.0	0.0
December	30.5	25.4	28.0	92.0	46.0	69.0	0.0

Source: Phichit Agro Meteorological Station.

VITA

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