

IGP 85 0011

pl.

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Pigeonpea Breeding

Report of Work

1985-86

Project No.: P-102(85)IC

(Development of short-duration Pigeonpea Cultivars and Superior Breeding Lines for
Grain Production)

Satish C. Gupta, R.K. Kapoor, D.G. Faris, and Laxman Singh



ICRISAT

Legumes Program

Cooperative Research Center, Haryana Agricultural University, Hisar (Haryana)

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P-102(65)IC : DEVELOPMENT OF SHORT DURATION CULTIVARS AND SUPERIOR BREEDING LINES FOR GRAIN PRODUCTION

OBJECTIVE : To develop high yielding short duration cultivars with acceptable grain quality suited to use in pure stands or with short duration companion crops.

A. INTRODUCTION :

The replicated yield trials and breeding materials reported here were grown at ICRISAT Cooperative Research Station, Hisar. The Hisar station is situated at 29°10'N latitude, 75°46'E longitude and at an altitude of 215.2 m. The monthly mean temperatures and rainfall received during 1985 along with long term (1970-84) mean is presented in table 1.1.

Most of the experiments were sown on 12-17 July 1985. P₂O₅ @ 20 kg/ha (single super phosphate) was applied in the soil at the time of land preparation. No other nutrients were added. Seeds were not inoculated with *Rhizobium* culture. The crop received 1-2 insecticidal (mostly Endosulphan) spray to control pod borer.

B. CROSSES :

During 1985 Harif, 77 crosses were made as per details given below:

I. AICFIF National Crossing Program :

During the All India Coordinated Pulses Improvement Project (AICFIF), Harif Pulses Workshop held at TNAU, Coimbatore on 16-19 May 1985, following short duration pigeonpea crosses were allotted to ICRISAT, Hisar.

1.	MS Prabhat	x	ICPL 151
	"	x	H77-216
	"	x	T-21
4.	"	x	ICPL 8309
	"	x	PP (T)83-1

6.	ICPL 151	x	H77-216
7.	"	x	7-21
8.	"	x	ICPL 8309
9.	"	x	PDA(E)83-1

The cross seed of the above listed crosses was supplied to Project Director (Pulses), Patpur.

11. Line x Tester :

Sixteen lines were crossed to 4 testers in line x tester fashion. The lines and testers used and the crosses made are listed below:

Testers (4) : with high stable yields.

ICPL 87 (Determinate)
 ICPL 151 (Determinate)
 ICPL 81 (Indeterminate)
 ICPL 83027 (Indeterminate)

Lines (16) : with different desirable characteristics

ICPL 85012 - High yield
 ICPL 85029 - High yield
 ICPL 85031 - Large white seed with high yield
 ICPL 85022 - Webber tolerant with high yield
 ICPL 85027 - Earliest maturing indeterminate line
 ICPL 85005 - Sterility mosaic resistant
 ICPL 84044 - Sterility mosaic resistant
 ICPL 84019 - Wilt resistant
 ICPL 289 - Wilt resistant
 ICPL 83 - Multiple disease resistant
 ICPL 316 - Multiple disease resistant

ICPL 83024 - Multiple disease resistant

ICPL 269 - Multiple disease resistant

ICPL 288 - Multiple disease and insect resistant

ICF 822 - Large seeded multiple disease resistant (Diverse Source)

ICF 8494 - Large seeded multiple disease resistant (Diverse source)

All the crosses involving disease resistant parents were made at Falancheru utilizing the parents grown in the disease nurseries.

Crosses Made :

Sil.No.	Cross No.	Crosses
1.	850001	ICPL 85012 x ICPL 87
2.	850002	ICPL 85029 x "
3.	850003	ICPL 85031 x "
4.	850004	ICPL 83022 x "
5.	850005	ICPL 85037 x "
6.	850006	ICPL 85012 x ICPL 151
7.	850007	ICPL 83029 x "
8.	850008	ICPL 85031 x "
9.	850009	ICPL 83022 x "
10.	850010	ICPL 85037 x "
11.	850011	ICPL 85012 x ICPL 81
12.	850012	ICPL 83029 x "
13.	850013	ICPL 85031 x "
14.	850014	ICPL 83022 x "
15.	850015	ICPL 85037 x "
16.	850016	ICPL 85012 x ICPL 83027
17.	850017	ICPL 83029 x "
18.	850018	ICPL 85031 x "
19.	850019	ICPL 83022 x "
20.	850020	ICPL 85037 x "
21.	850021	ICPL 85005 x ICPL 87
22.	850022	ICPL 84044 x "
23.	850023	ICPL 84019 x "
24.	850024	ICPL 289 x "
25.	850025	ICPL 83 x "
26.	850026	ICPL 316 x "
27.	850027	ICPL 83024 x "
28.	850028	ICPL 269 x "

29.	850029	ICPL 288	x	"
30.	850030	ICP 8862	x	"
31.	850031	ICP 8094	x	"
32.	850032	ICPL 85005	x	ICPL 151
33.	850033	ICPL 84044	x	"
34.	850034	ICFL 84019	x	"
35.	850035	ICFL 289	x	"
36.	850036	ICFL 83	x	"
37.	850037	ICFL 316	x	"
38.	850038	ICFL 83024	x	"
39.	850039	ICFL 269	x	"
40.	850040	ICFL 288	x	"
41.	850041	ICP 8862	x	"
42.	850042	ICP 8094	x	"
43.	850043	ICPL 85005	x	ICPL 81
44.	850044	ICFL 84044	x	"
45.	850045	ICFL 84019	x	"
46.	850046	ICFL 289	x	"
47.	850047	ICFL 83	x	"
48.	850048	ICFL 316	x	"
49.	850049	ICFL 83024	x	"
50.	850050	ICFL 269	x	"
51.	850051	ICFL 288	x	"
52.	850052	ICP 8862	x	"
53.	850053	ICP 8094	x	"
54.	850054	ICPL 85005	x	ICPL 83027
55.	850055	ICFL 84044	x	"
56.	850056	ICFL 84019	x	"
57.	850057	ICFL 289	x	"
58.	850058	ICFL 83	x	"
59.	850059	ICFL 316	x	"
60.	850060	ICFL 83024	x	"
61.	850061	ICFL 269	x	"
62.	850062	ICFL 288	x	"
63.	850063	ICP 8862	x	"
64.	850064	ICP 8094	x	"

III. To incorporate dwarfness from new source in promising extra early maturing lines :

1.	850065	ICPL 316	x	D ₁ dwarf
2.	850066	ICFL 85037	x	" ₆

IV. To increase seed size of high yielding indeterminate lines :

1.	850067	ICPL 85052	x	ICPL 83024
2.	850068	ICPL 85052	x	ICPL 85031

C. BREEDING MATERIALS

1. BULK POPULATIONS :

F1:

All the 121 F1's made during 1984 were advanced in unreplicated 4 m long one row plots flanked with parents. Rows were spaced 50 cm apart. Seed from each F1 row was bulk harvested for growing F2 populations next year.

F2 :

Twenty-five F2 populations (including one multiple cross from HAU) were ~~sown~~^{grown} in 2 to 40 row plots depending upon the availability of the seed. The populations were sown on 12 July 1985. The selections practiced in these populations is summarized in table 1.2. From these populations 147 determinate (DT) and 271 indeterminate (NDT) plants were selected for evaluation as single plant progenies (SFP) with close check next year. Six promising looking variable populations (ICPK 830012, 830014, 830023, 830024, 830025 and multiple cross) were selected for growing in large plots next year for practising further individual plant selections.

F3:

Two F3 populations (ICPK 820002 and 820009) were grown in large plots for practising individual plant selections. From these 63 DT plants were selected for evaluation as SPPs with close check next year.

F4:

Three DT and 2 NDT F4 populations were grown in unreplicated large plots for making single plant selections. The populations grown and plants selected is summarized in table 1.3. In all 123 DT and 50 NDT plants were selected for evaluating as SPP's next year.

DT Population Trial :

Four F3 and five F4 DT populations were yield tested along with Check, ICPL 151 in a replicated yield trial sown on 4 July, 1985. The test was laid out in RBD with 4 replications. Plot size consisted of 4 meter long 12 rows spaced 45 cm apart. Populations tested and single plant selections made is summarized in table 1.4. Due to water logging the test was abandoned but 137 DT and 10 NDT plants were selected from these populations for evaluating them as SPP's next year. One population bulk (ICPK 810098) was selected for growing next year in a large plot for making single plant selections.

NDT Population Trial :

Two F3 and seven F4 NDT populations were yield tested along with Check, UPAS 120 in a replicated yield trial sown on 4 July, 1985 in RBD with 4 replications. Trial details were same as for DT population trial. Populations tested and selections made is summarized in table 1.5.

The trial was washed out due to prolonged water logging at seedling stage. From these populations 145 NDT plants were selected for evaluating them as SPPs next year. One population bulk (ICPX B20011) was selected for growing next year in a large plot for making single plant selections.

B5 EPDT (MS) and B5 EPNDT (MS) Composites:

B5 EPDT (MS) Composite:

About one hundred seed from each of the following were mixed to constitute the 1985 Early Pigeonpea Determinate (Male Sterile) Composite.

- (a) MS Prabhat (DT)
- (b) All the early maturing DT ICPLs
- (c) B3EH015; 016
- (d) B4EH001, 002, 004, 017, 020, 021 and 022

Seed from all the male sterile determinate plants was harvested and bulked for growing next year. In addition, 20 fertile good looking DT plants were selected for evaluating next year as SPP's.

B5 EPNDT (MS) Composite:

One hundred seed from each of the following were mixed to constitute the 1985 Early Pigeonpea Indeterminate (Male Sterile) Composite:

- a) MS Prabhat (NDT) and MS T-21 (NDT)
- b) All the early maturing NDT ICPLs
- c) B3EH 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 017, 018 and 019.
- d) B4EH003, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 018 and 019.

Seed from all the male sterile indeterminate plants was harvested and bulked for growing next year. In addition, 18 fertile good looking plants were selected for evaluating next year as SPP's.

2. SINGLE PLANT PROGENY EVALUATIONS :

During 1985 kharif, 1220 (582 determinate and 638 indeterminate single plant progenies (SPP's) of different generations (F3 to F9) of 126 crosses were evaluated in unreplicated 9 meter long one row plots. Rows were spaced 50 cm apart. Sowing was done on 12 July. Every fifth plot was planted with Checks. ICPL 4 and ICPL 151 were used alternatively as Checks for determinate progenies and UPAS 120 and H77-216 for indeterminate progenies. Selections made in the single plant progenies is summarized in table 1.6. A total of 1933 (908 determinate and 1025 indeterminate) promising looking individual plants were selected for evaluation as SPP's next year. Ninety-four (47 DT and 47 NDT) promising and uniform progeny bulks were selected for replicated yield testing next year. In addition, 155 (69 DT and 86 NDT) progenies were selected for retesting as progeny bulks with close check.

Composite 1 :

Eleven (5 DT and 6 NDT) SPP's derived from Composite 1 were evaluated in unreplicated 9 m long one row plot with close check. From these eight progenies were selected for retesting as progeny bulks next year. In addition, 46 (19 DT and 27 NDT) plants were selected for evaluation as SPP's next year (table 1.6).

Florida Bulks:

Thirty-one (20 DT and 11 NDT) SPP's derived from five bulks received from Florida, USA, were evaluated in unreplicated 9 m long one row plot with close check. From these promising looking 40 plants were selected for evaluation as SPP's next year (table 1.6). In addition, five progenies were selected for retesting as progeny bulks and 3 determinate promising and uniform progenies were selected for replicated yield testing next year.

D. REPLICATED YIELD TESTS :

1. All India Coordinated Pulses Improvement Project (AICPIP) Tests :

In the AICPIP Kharif Pulses Workshop held at Coimbatore (16-19 May 1985), one of the short duration pigeonpea line ICPL 151 was identified as promising for release in North Plains West and Central Zones. It was given a nickname " JAGRITI ".

Three AICPIP short duration pigeonpea trials were conducted as per details given in table 1.7. The heavy rain on 4-5 August (186 mm) followed by continuous rains for 4-5 days resulted in the water logging of all the three trials. Majority of the plants died resulting in very thin and variable plant stand. The reliable data from the tests was not possible. Therefore, the tests were abandoned.

2. Multilocation Trials :

For 1985 testing, following three multilocation trials were constituted:

- a) Early Pigeonpea Adaptation Yield Trial - 1985 Determinate (EPAY 85DT)
- b) Early Pigeonpea Adaptation Yield Trial - 1985 Indeterminate (EPAY 85NDT)
- c) Early Pigeonpea International Trial - 1985 (EPIT 85)

EPAY 85DT and EPAY 85NDT were constituted for testing in India and EPIT 85 for testing outside India, in addition to three ICRIAT locations (Hisar, Gwalior and Patancheru).

(a) EPAY 85DT : The test consisted of 18 determinate entries laid out in RBD with 3 replications. Each plot consisted of 5 rows spaced 30 cm apart. At Hisar, the test was sown on 16 July. It failed due to prolonged water logging at seedling stage, hence abandoned at Hisar.

In addition to Hisar, the EPAY 85DT was supplied to 22 locations (Berthin, Kasturbagram, Delhi, Kanpur, Gwalior, Poona, Shalimar, Hoshangabad, Argentina, Peru, Mali, Diggi, Kaul, Faridkot, Dehradun, Junagadh, Derol, Khargaon, Indore, Patancheru, Pusa and Sriganaganagar). Like at Hisar, the test also failed due to water logging at Kasturbagram, Delhi, Kanpur and Gwalior and data from only one replication was received from Berthin. It was sown at Diggi and no information is available from Poona, Shalimar, Hoshangabad, Argentina, Peru and Mali. Data was received from 11 locations. Grain yield of the entries at different locations is summarized in table 1.8. Days taken to flower and mature at different locations is presented in table 1.9. Considering mean over all the locations, ICPL 84031 was the top yielding (2090 kg/ha) followed by UPAS 120 (2018 kg/ha), ICPL 83022 (1951 kg/ha) and ICPL 151 (1909 kg/ha). Of 10 locations, ICPL 84031 was among the 5 top yielding lines at 7 and ICPL 83022 at 6 locations, respectively. Both the lines flowered and matured earlier than UPAS 120. Time taken to flower and mature at Dehradun was the maximum and at Patancheru minimum.

(b) EPAY 85 NDT :

As for EPAY 85DT, this test also consisted of 18 indeterminate short duration entries and was laid out in RBD with 3 replications. At Hisar the test failed due to water logging at seedling stage.

In addition to Hisar, the EPAY 85DT was supplied to 21 locations (Kaul, Faridkot, Dehradun, Sriganaganagar, Banswara, Junagadh, Margaop, Indore, Patancheru, Pusa, Pasturbaganr, Berthia, Delhi, Kanpur, Gwalior, Poona, Shalimar, Gulberga, Sehore, Bheemaranagudi and Diggi). The test was not sown at Diggi due to transfer of the Cooperator and failed at 11 locations due to different reasons but mainly water logging at seedling stage. The data is received from 10 locations. Grain yield of the entries at different locations reported is summarized in table 1.10. Days taken to flower and mature at different locations are presented in table 1.11. Based on mean over all the locations, ICPL 84052 was the highest yielding (2082 kg/ha) followed by UPAS 120 (2034 kg/ha), ICPL 292 (2041 kg/ha) and H77-216 (2035 kg/ha). As in case of EPAY 85DT, the entries tested took maximum number of days to flower and mature at Dehradun and minimum at Patancheru (table 1.11). Mean difference in number of days taken to flower and mature at Dehradun and Patancheru was 62 days for flowering and 77 days for maturity.

(c) EPIT 85:

Ten determinate and 10 indeterminate short duration pigeonpea lines were evaluated in EPIT 85. The test was laid out in RBD with 3 replications. Restricted randomization was done by keeping determinate and indeterminate entries in separate blocks in each replication. Plot size consisted of 4 meter long 5 rows spaced 20 cm apart. The test was sown on 16 July, 1985. It failed at Hisar due to prolonged water logging at seedling stage.

In addition to Hisar, the EPIT 85 was supplied to 8 locations (Nepal, Philippines, Ethiopia, Burma, Bangladesh, Zimbabwe, and Patancheru (two locations)). Data was received from Nepal, Philippines and Patancheru. Grain yield (kg/ha) and other characteristics of the lines tested at different locations is summarized in table 1.12. ICPLs 87, 151 and 8301 were among the top 5 yielders at 3 (out of 4) locations and ICPLs 155 and 6 at 2 locations.

3. PRELIMINARY MULTILLOCATION TRIALS :

Promising looking short duration pigeonpea lines from 1984 station advanced lines trials were reevaluated in following two preliminary multilocation trials during 1985 kharif at the three ICRISAT locations (Hisar, Gwalior and Patancheru).

- a) Early Pigeonpea Preliminary Multilocation Trial - 1985
Determinate (EPPMLT 85DT)
- b) Early Pigeonpea Preliminary Multilocation Trial - 1985
Indeterminate (EPPMLT 85NDT)

Both the trials consisted of 36 entries and were conducted in triple lattice. Four meter long 6 rows at Hisar and 4 rows at Gwalior and Patancheru constituted the plot. Rows were spaced 30 cm apart.

a) EPPMLT 85DT:

The test failed both at Hisar and Gwalior. Performance of entries tested at Patancheru is presented in table 1.13. At Patancheru, 9 entries outyielded check UPAS 120 and 12 entries gave more yield than ICPL 151 (table 1.13). Twenty-five entries yielded higher than the third check used (ICPL 4). ICPL 83024 was the largest seeded entry (14 g/100 seeds) yielding higher (3087 kg/ha) than all the three checks (UPAS 120, ICPL 151 and ICPL 4) used. In the disease nurseries it was found to be resistant to sterility mosaic and wilt. ICPL 83016 was the top yielding (3491 kg/ha) line followed by sterility mosaic resistant line ICPL 83008 (3449 kg/ha) as compared to UPAS 120 (3080 kg/ha), ICPL 151 (2937 kg/ha) and ICPL 4 (2555 kg/ha).

b) EPPMLT 85NDT:

This test also failed both at Hisar and Gwalior. Characteristics of the entries tested at Patancheru is summarized in table 1.14. Eight entries (ICPLs 84041, 85043, 85036, 85045, 85035, 84048, 85039 and 85048) outyielded all the three checks (H77-216, Pusa 33 and UPAS 120). Yield levels in general are low. It is mainly because the test was sown in red soil without any irrigation inspite of moisture stress. ICPL 84041 was the top yielding (1380 kg/ha) line followed by ICPL 85043 (1369 kg/ha), ICPL 85036 (1325 kg/ha), ICPL 85045 (1296 kg/ha), ICPL 85035 (1265 kg/ha) as against the check yields of 1233 kg/ha (H77-216), 1227 kg/ha (Pusa 33) and 1086 kg/ha (UPAS 120).

4. ADVANCED LINES STATION TRIALS :

Ten advanced lines replicated station trials (five with determinate and five with indeterminate entries) were sown on 16-17 July, 1985. Because of prolonged waterlogging at seedling stage all the 10 trials were abandoned at Hisar. Of 10, 6 tests, advanced determinate lines test - 5 (ADLT-5) and advanced indeterminate lines test-5 (ANDLT-5) were also grown at Patancheru and Gwalior. At Gwalior also the test failed due to water logging. Data on grain yield and other characters from Patancheru is summarized in table 1.15 for ADLT-5 and in table 1.16 for ANDLT-5, respectively.

In ADLT-5, from two harvests an indeterminate check T-21 was the highest yielding (3577 kg/ha). Five advanced determinate lines yielded higher than both another indeterminate check UPAS 120 and determinate Check ICPL 87. Two of these were allotted new ICPL numbers (ICFL 86012 and 86013) and were selected for preliminary multilocation testing next year.

In ANDLT-5 at Patancheru, 7 indeterminate advanced lines outyielded both the Checks, T-21 and UPAS 120 (table 1.1b). Six of these have larger seed than both the checks. These were selected for retesting next year at Hissar.

Thirteen determinate and 17 indeterminate advanced lines were identified for allotment of new ICPL numbers and preliminary multilocation testing next year. These are listed in table 1.17 along with characteristics.

E. MAINTENANCE AND PURIFICATION OF LINES :

Eleven determinate (ICFLs 4, 87, 87, 146, 151, 155, 179, 312, 315, 316 and 83006) and twelve indeterminate (ICFLs 1, 6, 61, 142, 143, 161, 186, 189, 269, 83025, 84040 and 84043) short duration pigeonpea lines were included in the maintenance and purification program. For this 50 to 100 single plant progenies (250 for ICFLs 87 and 400 for ICFL 151) were grown in unreplicated plots. The lines were sown on 17 July 1985. Row to row spacing of 60 cm was used. From each ICFL, about 150 single plants (300 for ICFLs 87 and 151) in uniform and true to type SPF's were selfed to continue the maintenance. The open pollinated bull seed was collected for supplying to cooperators on request.

Table 1.1: Monthly mean temperature (°C) and rainfall (mm) during 1985 at Meer 22

	Meer (1975-1984)			1985			1984
	Temperature (°C)		Rainfall	Temperature (°C)		Rainfall	Rainfall
	Maximum	Minimum	(mm)	Maximum	Minimum	(mm)	(mm)
January	20.2	4.3	14	19.8	5.5	5.4	1.0
February	22.5	6.7	23.9	25.6	5.3	-	12.8
March	28.6	10.2	14.1	31.7	11.8	6.6	-
April	36.1	16.6	14.9	36.5	18.2	5.5	-
May	40.0	21.1	30.3	41.9	23.6	-	-
June	40.2	24.4	36.2	39.9	27.1	77.0	5.6
-							
July	31.6	24.2	144.8	35.1	26.6	132.6	88.6
August	34.3	21.8	129.2	34.1	25.9	204.9	19.6
September	34.8	19.5	46.8	35.4	22.8	10.7	44.4
October	31.7	13.9	3.4	31.1	15.9	5.3	1.0
November	28.3	9.1	8.0	28.0	10.0	-	-
December	22.1	4.7	4.8	22.4	7.9	7.6	-
Total	-	-	467.9			455.6	305.0

Table 1.3 Summary of selected in the population survey at Kinnelburg 1986

CP#s	Percentage	Sample Size		
		21	27	
KPA 830008	KPA 4	X KPA 820017	24	1
KPA 830009	KPA 82	X KPA 820018	4	-
KPA 830010	KPA 4	X KPA 820018	24	-
KPA 830012*	KPA 4	X 770324-2-2-2-01	19	-
KPA 830013	KPA 82	X 770324-2-2-2-01	12	-
KPA 830014*	KPA 80	X 770324-2-2-2-01	16	-
KPA 830015	KPA 8155	X 770324-2-2-2-01	60	-
KPA 830016	KPA 8	X KPA 8-60-6	1	52
KPA 830017	KPA 81	X 770624-2-2-2-01	-	32
KPA 830022	KPA 4	X 2-4-1	-	4
KPA 830023*	KPA 7-2	X 2-4-1	-	4
KPA 830024*	KPA 161	X 2-4-1	-	13
KPA 830025*	KPA 317	X 2-4-1	-	4
KPA 830026	KPA 81	X KPA 95-WR8	-	17
KPA 830027	KPA 312	X KPA 95-WR8	-	18
KPA 830028	KPA 161	X KPA 95-WR8	-	6
KPA 830029	KPA 6	X KPA 95-WR8	-	8
KPA 830030	KPA 317	X KPA 95-WR8	-	18
KPA 830031	H77-216	X KPA 95-WR8	-	12
KPA 830032	KPL 81	X KPL 142-68-WR8	-	4
KPA 830033	KPL 312	X KPL 142-68-WR8	-	19
KPA 830034	KPL 161	X KPL 142-68-WR8	-	25
KPA 830036	KPL 317	X KPL 142-68-WR8	-	10
KPA 830037	H77-216	X KPL 142-68-WR8	-	6
(((KPA 812-615) X (KPA 815-12)) + ((KPA 22-615) X (H77-216-615)))**			-	13
			127	271

** Populations selected for genotyping in 1986

Table 1.3 Summary of selections made in F_4 populations during 1985 Khaf at Hsao

Cross	Parents	N of plants selected	
		DT	NOT
11FA 811116	11FA 80542 x 77324-2-2-N2	31	—
11FA 810145	11PL 267 x "	5	—
11FA 810152	11PL 179 x 7615 N137-45-83	83	—
11FA 810053	(11PL 8-x-N13922) x 74146-6-23 141-N88 -N8-45	—	24
11FA 810119	11FA 80615 x 11PL 81	—	16
	TOTAL	123	50

Table 14: Summary of *Schistocerca gregaria* produced in P₁/F₁ Population
Bulk Feed during 1985 Abney at H304

Cross/Entom	Favertage	No. of plants selected	
		DT	N'DT
HEA 845551	HEA 214 x 71124 2 - 2A	--	6
HEA 8-5551	76427 H304A HEA 151	12	--
HEA 845523	HEA 261 x 71124 2 - 2A	19	--
HEA 845524	HEA 316 x " "	71	--
HEA 815527	HEA 85592 x 60427 1A	10	--
HEA 815528	HEA 85593 x " "	4	1
HEA 815562	HEA 87 x " "	11	--
HEA 815563	HEA 94 x " "	10	9
HEA 815598*	HEA 179 x 7042 2 21 / H304 85	--	--
HEA 151		--	--
	Total	137	10
			N=

* Selected for growing in 1986 in large plot

Table 15. Summary of selections made in F₂/F₃ NDT Population
Bulk Total during 1985 Harvest at Nisnet.

Cross / Entry	Percentage	No. plants selected		
		DT	NDT	
KFA B2L006	78265-89-N2A	KPL 214	-	18
KFX B2L011*	KPL 212 x	KPL 186	-	12
KFA B10056	80500 x	Ans 83-PS6	-	10
KFA B10061	KPL 81 x	"	-	7
KFA B10064	KPL 142 x	"	-	3
KFX B10065	KPL 156 x	"	-	8
KFA B10087	KPL 156 x	78247-14-1-B-V-8-98Q-83	-	6
KFA B10099	KPL 185 x	78446-8-23-1-41-188-16-85	-	7
KFX B10123	Gargam x	KPL 81	-	74
URAS 120			-	-
Total			-	145

* Selected for growing in 1986 in large plot

Table 16. Summary of submissions in adult olive-crested flycatcher SPP's

Geographical	no. of crosses	1985 RAAS/ at Mass		no. of prot. submitted		no. of crosses/ birds published			
		SPP's submitted		SPP's		For Flycatcher		For Kingbird	
		BT	NOT	BT	NOT	BT	NOT	BT	NOT
F3	15	53	54	42	48	5	4	-	-
F4	61	217	252	67	43	37	31	12	9
F5	27	147	240	231	431	21	99	27	25
F6	6	17	20	24	44	9	2	6	6
F7	15	46	32	52	47	1	6	2	6
F8	1	-	1	-	-	-	-	-	1
F9	1	2	1	1	2	1	-	-	-
Comp 1	3	5	6	19	27	4	4	-	-
Florida birds	5	30	1	37	1	5	-	3	-

Table 17: Short duration figures for AICRP trials conducted during 1985 season at Hissar

Test	Edna Design	Reps	Rows per plot	Row spacing	Date
EXACT	12 RBD	4	8	30	16 July
EACT	19 RBD	4	8	30	4 July
ACT-1	20 RBD	4	8	50	4 July

Table 1.8: Performance of promising short duration pigeonpea lines in EAPVOSTO at different locations during 1965 harvest

Entries	No. of plants	Grain Yield (kg/ha)										Mean
		Kand	Udipi	Madurai	Wizipet	Thiruvananthapuram	Trich	Madurai	Kand	Udipi	Madurai	
HA 90431	62	2292	2404	1555	2289	224	1657	965	1764	310	2640	2070
HA 90432	74	2750	2158	1128	2420	468	1098	1097	1667	2163	2460	2048
HA 9223	80	2263	2190	170	2756	202	1858	1001	1389	2257	3905	1957
HA 157	71	2119	1870	2000	2503	201	821	978	1322	170	2757	1799
HA 90427	64	2675	2797	100	2664	218	855	1365	928	2787	264	1826
HA 90430	79	2123	2025	569	2106	206	925	774	1637	2057	2677	1701
HA 4	58	2667	1925	519	214	275	722	805	105	2903	1888	1705
HA 90423	87	2532	2205	1027	200	262	208	1204	1528	2308	2520	1722
HA 90422	77	2469	2085	193	2173	212	815	576	107	3170	2000	1721
HA 90429	82	2175	2183	513	2181	175	791	1132	1058	104	2166	1679
HA 9041	85	2701	2051	983	2528	257	1005	864	1504	276	2806	1688
HA 90420	69	2058	1790	1011	2263	319	723	101	1379	2778	2204	1588
HA 9046	81	2467	1790	2778	2057	224	266	1132	1708	2477	1720	1576
HA 9047	83	2467	2044	1139	1675	401	818	1811	900	1708	2254	1527
HA 9045	87	2058	1218	888	1871	282	912	936	1008	2056	1631	1406
HA 9048	93	2263	1677	583	1590	379	746	946	1153	2656	2482	1027
HA 9042	94	2726	1232	458	1757	204	373	679	1056	2307	2668	1875
HA 9049	73	1696	1496	1004	1642	207	811	916	778	2427	1006	1285
Σ	83	2574	2152	133	2251	206	877	1035	1221	2875	2204	1758
S.F. = 2	0.27	197	227	31	244	9	233	125	30	220	-	
C.V.	6	13	20	5	20	5	45	21	7	14	-	

^a 100 seed weight at Palanchole

^b The harvest date

Table 1.9: Days taken to flower and mature by BMYDS 27 cotton at different locations during 1985 season

S. No.	DAYS TO FLOWER									DAYS TO MATURE									Rain (mm-24h)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
K1A 0000	83	86	75	67	67	66	75	57	72	140	132	131	145	149	130	116	119	127	155
1003 121	99	141	77	70	75	67	75	63	78	150	164	111	112	107	128	76	103	126	165
K1- B21A	88	78	74	63	74	66	75	57	71	141	140	124	145	128	132	141	142	129	148
111. 51	84	71	77	71	77	67	74	61	74	141	124	111	121	124	111	113	125	146	
K2. 04127	81	74	73	67	72	67	75	58	73	133	175	137	148	118	117	115	92	124	151
K2. 04030	82	94	78	70	73	65	75	63	75	137	172	130	148	128	118	111	103	126	147
K1A 4	81	86	74	72	71	63	75	57	73	131	172	130	115	116	115	107	92	123	140
K1. 04023	84	83	77	66	76	68	77	64	74	132	167	130	148	127	128	115	117	130	156
K2. 04025	83	81	76	70	76	67	76	62	74	139	177	125	118	121	127	120	100	127	148
K2. 04029	84	84	78	71	75	67	76	57	76	141	178	120	119	129	137	119	106	131	150
K2. 0411	83	88	77	67	72	64	74	60	73	140	162	128	118	127	118	110	102	127	150
K2. 04020	76	77	67	64	72	63	72	56	67	131	144	120	105	111	117	112	91	117	147
K1A. 0406	87	81	77	61	78	66	78	62	74	141	181	129	145	137	127	120	115	121	153
K2. 0408	86	80	78	67	63	72	74	53	72	139	132	124	149	112	141	117	90	126	150
K1A. 0405	72	63	67	66	70	61	75	55	66	126	140	125	147	111	116	113	92	118	148
K2. 04040	72	77	63	67	65	67	74	55	68	133	172	115	110	110	130	107	94	121	147
K2. 0402	82	141	75	72	77	65	77	66	77	138	185	127	112	125	120	118	119	129	154
K2. 04019	72	57	64	58	57	60	68	50	61	130	140	116	91	111	110	107	90	112	-
\bar{x}	82	83	74	67	72	65	77	57	138	167	126	147	121	124	114	97	150		
SE \bar{x}	1.9	-	0.7	0.5	1.8	0.6	-	0.5	1.3	-	0.4	0.6	1.5	0.7	-	1.0	-		
CV%	3	-	2	2	4	2	-	1	2	-	1	1	2	1	-	2	-		

Table 10: Performance of processing short duration pigeonpea lines in 2005 and 07 at different locations during 1985 harvest

Entries	No. of plots (7)	GRAIN YIELD (kg/ha)										Mean (kg/ha)
		1	2	3	4	5	6	7	8	9	10	
KAL 84152	86	3395	2616	435	2469	654	506	111	2778	2008	2452	2082
UPB3-130	72	3498	245	526	2677	1400	658	1461	2226	3066	2823	2043
KAL 892	85	3498	2311	247	2619	2340	505	1235	84	343	2512	2044
H77-216	72	3518	2488	613	2830	113	463	1193	1847	2004	2273	2035
ICPL 84659	91	3704	2158	276	2620	1877	499	1399	2044	244	2822	1999
ICPL 186	98	3704	2565	166	2440	1337	530	1422	2183	2086	2857	1988
ICPL 8329	83	2086	2255	168	2156	1826 ^a	411	1348 ^b	2117	2713	2273	1980
ICPL 84654	74	3498	2925	192	2380	2628	581	1461	1756	2310	2892	1962
ICPL 84656	93	2815	2564	350	2086	1757	499	1070	2413	2927	2822	1988
ICPL 8327	82	2283	2362	218	2430	2244	576	1389	1754	2926	2813	1826
ICPL 83028	79	2066	2927	844	2474	2489	473	1401	2111	2126	1535	1817
ICPL 84655	95	2212	2333	748	2444	970	664	1409	1528	2824	2322	1778
KAL 83632	76	2985	1523	263	2445	2668	489	916	1889	1954	2276	1648
ICPL 83626	81	1811	2718	181	2543	146	355	1132	1517	2821	1465	1623
ICPL 314	78	2361	1801	295	1852	2685	422	1121	1215	2483	2781	1645
KL 6462	79	1873	1643	929	2355	849	458	1908	1473	2558	1675	1528
KL 84040	70	1337	1949	441	2153	1629	262	1160	1417	2819	1993	1482
ICPL 269	82	2572	1846	185	2824	1662	840	990	1319	2089	1196	1394
\bar{X}	84	2778	2246	336	2482	1408	489	899	1899	2362	2225	
SEM ^c	618	207	289	19	179	488	11	118	75	192	126	
CV ^d	4	13	23	7	12	53	4	17	12	12	10	

^a Potomac data

^b Not included in the mean, because of very high CV.

^c ICPL 8330

^d Two harvest data

Table 1.11: Days to flower and maturity of BANYANHAT entries at different locations during 1995 Anonij.

ENTRIES	DAYS TO FLOWER								DAYS TO MATURES								CV%		
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8			
100L 0105A	61	70	77	78	70	64	65	79	76	76	79	78	77	76	75	74	73	109	106
100S-120	61	90	81	80	63	68	67	75	77	77	81	84	125	73	71	126	127	121	162
100L 212	63	87	85	78	69	68	67	75	77	77	158	104	125	108	110	121	125	124	159
1077 216	60	84	71	76	69	64	67	76	76	76	79	77	73	76	72	72	74	104	106
107L 04057	62	87	105	80	68	69	66	76	77	77	145	178	120	87	85	121	129	120	159
100L 186	64	95	81	80	63	71	70	79	80	82	83	107	129	88	85	128	140	125	157
100L 03029	65	87	77	80	67	70	67	80	77	77	147	178	120	87	71	115	129	121	159
107L 04050	62	86	85	77	71	67	65	77	77	77	157	105	126	87	102	120	120	122	163
100L 04056	63	92	74	80	69	64	64	80	78	78	150	127	128	86	74	120	129	121	162
100L 04027	61	85	115	77	70	68	66	76	76	76	145	123	122	88	82	123	127	122	161
100L 03028	58	84	85	78	70	70	67	77	76	76	140	175	120	87	108	124	120	127	163
100S 04055	61	89	71	78	68	64	64	77	77	77	141	127	122	87	85	126	125	121	159
100L 03022	75	101	105	76	68	86	78	85	84	119	165	123	87	86	126	129	146	129	163
100L 03026	61	86	77	77	67	66	65	75	74	74	129	120	120	88	82	124	125	129	166
100L 204	64	87	109	79	67	65	66	78	78	78	140	125	127	88	108	121	140	121	159
100L 04052	58	87	77	76	67	65	64	76	74	74	127	175	122	85	102	111	127	127	160
100L 04040	61	86	77	76	70	65	63	75	74	74	140	123	120	86	109	118	125	129	160
100S 209	64	109	111	76	69	72	70	77	77	76	152	120	120	87	82	126	122	121	151
\bar{X}	62	91	104	78	69	69	67	77		64	147	121	127	87	109	123	128		160
SE _m	1.1	3.2	-	0.3	1.1	0.6	0.2	-		1.2	2.9	-	2.4	1.1	0.9	0.3	-		-
CV%	0.6	-	1	3	2	1	-	-		2	3	-	3	2	1	1	-		-

a 100L 03020

PROSIT
 RP 34771

Table 112: Performance of short duration pigeonpea lines tested in INTROS at different locations during 1985 Abay

En. Area	Gr. Abat	100 seed wt (g)	100 B Bunch 20% to 30% Bunch				Plant height (cm)	Grain Yield (T/ha)			
			100 B Bunch		20% to 30% Bunch			Patanakuru		Mysal	Mullumb
			Grain	Stalk	Grain	Stalk		Loc 1 ^a	Loc 2		
KAL 155	DT	80	68	71	87	127	106	2785	1951	779	1232
KAL 87	DT	81	65	79	113	163	97	2347	2070	487	1726
KAL 88/11	DT	83	62	61	103	126	97	2327	2085	1298	1346
K. 151	DT	86	62	59	105	127	99	2041	1950	1248	1271
KAL 106	INT	97	65	67	84	130	121	2182	-	772	1034
KAL 106	DT	96	61	58	115	129	99	2237	1520	876	2000
KAL 6	INT	73	68	72	114	127	115	2651	1970	948	2351
KAL 288	INT	81	75	66	120	130	129	2342	950	396	932
KAL 289	DT	105	59	55	98	125	85	2627	1550	506	913
KAL 292	INT	82	66	59	119	130	117	2506	-	878	1642
KAL 300/7	INT	95	61	63	104	129	111	2477	-	971	1000
KAL 101	INT	84	57	53	98	129	96	2353	1500	1162	1025
KAL 4	DT	62	59	52	95	117	98	2338	1260	996	1158
KAL 88/4	DT	107	67	71	116	128	101	2313	370	147	768
KAL 81	INT	71	61	51	98	87	108	2152	890	1032	1287
KAL 1	INT	74	63	54	107	129	108	2007	820	1208	1296
KAL 312	DT	82	59	71	103	126	96	1895	1785	425	467
KAL 269	INT	106	65	69	107	127	115	1845	1250	984	1022
KAL 269	INT	84	64	61	110	129	110	1399	-	635	1498
KAL 306	DT	87	53	63	93	128	89	1238	1220	901	1180
\bar{x}		95	63	65	107	129	105	2407		831	1242
SEM		0.23	0.6		0.8		2.1	806		199	261
CV%		4	2		1		5	21		41	48

^a Growth habit DT = determinate and INT = indeterminate
^b DT Patanakuru
^c M. Padappan all the entries flowered on 69 days and matured on 140 days.
^d Too harvest data

Table 1-3: Performance of BIFOLTOFOT orders at Antares during 1985 season. 22

Entry	DF	DM	100 Seed wt (g)	Grain Yield (kg/ha)		
				I Harvest	II Harvest	Total
112L 85016 ✓	63	106	6.6	2845	892	3737
112L 8508 ✓	63	105	9.8	2503	953(6)	3456
112L 8510 ✓	65	109	10.6	2473	963(4)	3436
112L 85002	65	113	10.8	2518	709	3227
112L 85019	54	91	8.5	2404	823	3227
112L 85017 ✓	62	105	9.6	2501	602	3103
112L 85061	66	116	10.2	2459	727	3186
112L 85066 ✓	76	131	11.8	2487	638	3125
112L 8324	67	116	14.1	2746	331	3077
U112S-120 (C)	64	104	6.9	2303	794	3097
112L 85020	67	115	10.3	2412	604	3016
112L 85003	61	106	9.5	2408	819	2927
112L 85008	65	113	11.3	2085	883	2968
112L 151 (C)	63	104	10.1	2164	773	2937
112L 85014	55	93	6.4	1855	1016 (3)	2901
112L 85012 ✓	60	95	10.0	1893	1029(2)	2892
112L 84022	59	94	10.3	2009	876	2876
112L 85005 ✓	55	95	9.2	1806	1076 (1)	2871
112L 8312	54	95	7.3	1867	939	2809
112L 85010	53	91	7.5	1971	820	2796
112L 84032	64	103	8.6	2153	583	2751
112L 85015 X	61	102	8.5	2056	655	2726
112L 8323	73	119	10.2	1772	946	2725
112L 84035	65	109	10.7	2178	528	2718
112L 85021	64	106	10.5	2083	537	2626
112L 85011	56	94	7.0	1820	808	2614
112L 85022	64	107	8.0	2024	528	2564
112L 4 (C)	60	92	5.5	1784	741	2555
112L 84037	62	102	10.7	2020	439	2455
112L 85013	60	100	8.4	1940	436	2382
112L 85023	75	122	9.5	2058	212	2271
112L 85009	53	91	8.3	1750	522	2238
112L 8313	65	111	10.6	1561	639	2211
112L 8319	53	91	9.2	1747	457	2196
112L 85004	52	91	7.8	1519	358	1899
112L 85018	63	104	9.5	1420	443	1861
\bar{x}	62	104	9.3	2089	615	2785
SEm-s	0.6	1.0	0.23	202	131	293
CPA	2	2	4	17	33	15

Table 1.14: Characteristics of entries in EPPMLT 85 NDT grown at Patancheru, rainy season 1985.

Entry No.	Name	Days to Flower	Days to Maturity	Plant height (cm)	100-seed weight (g)	Plant stand	Grain yield (kg/ha)
1	ICFL 85 41	57	100	90	7.7	67	1170
2	ICFL 85 42	55	100	91	7.7	71	1164
3	ICFL 85 43	55	101	84	9.1	69	1215
4	ICFL 85 44	56	100	85	9.4	67	1246
5	ICFL 85 45	54	97	85	9.1	68	1265
6	ICFL 84 46	58	100	87	9.2	67	1254
7	ICFL 85 47	55	102	87	7.5	77	1257
8	ICFL 85 48	56	100	84	5.4	71	1275
9	MT72-2 (CH)	56	100	86	7.9	61	1277
10	FUSA-72 (CH)	57	104	84	7.8	77	1277
11	ICFL 85 49	74	117	85	11.8	57	1191
12	ICFL 85 44	57	100	86	7.9	71	1191
13	ICFL 85 40	57	104	87	8.5	68	1150
14	ICFL 84 57	67	117	90	9.1	67	1178
15	ICFL 85 46	56	100	86	8.5	71	1171
16	ICFL 84 44	54	100	85	11.7	71	1171
17	ICFL 85 41	55	96	83	8.5	66	1119
18	ICFL 85 76	57	100	85	7.9	66	1128
19	ICFL 85 77	54	100	82	8.1	67	1127
20	ICFL 84 58	56	100	85	9.8	67	1127
21	ICFL 85 77	56	100	92	10.7	70	1116
22	ICFL 85 77	71	105	82	8.6	62	1112
23	ICFL 85 77	69	116	95	9.0	69	1107
24	ICFL 85 51	61	106	87	12.1	67	1099
25	UFAS 12 (DH)	57	104	90	7.8	77	1086
26	ICFL 84 49	69	111	85	8.1	65	1081
27	ICFL 85 52	59	104	86	9.4	70	1071
28	ICFL 84 45	56	100	88	11.2	67	1052
29	ICFL 85 47	56	107	85	9.4	77	1077
30	ICFL 85 54	58	102	84	9.8	67	1024
31	ICFL 85 47	54	97	85	10.1	70	982
32	ICFL 84 54	60	109	85	9.5	58	910
33	ICFL 85 54	77	120	90	10.8	54	811
34	ICFL 85 55	52	99	83	7.6	52	791
35	ICFL 85 57	78	115	89	11.6	74	717
36	ICFL 85 51	72	117	85	11.6	64	705
	SE	1.4	1.0	2.7	0.17	4.6	116.9
	MEAN	59.1	104.5	86.2	9.27	67.0	1110.3
	CV %	4.0	1.6	3.5	3.26	11.9	17.7

Table 1.15 : Performance of entries in ADLT-5 grown at Fatancheru during 1985 kharif (T-06)

No.	Entries	DF	DM	100 seed wt.(g)	Grain Yield (kg/ha)		
					I	II	Total
					Harvest		
					Harvest	Harvest	
20	T-21 (C)	70	110	7.0	2618	963	3577
17	90C-MB-M6-M6	65	107	12.6	2564	894	3453
20	ICFV 80519-M6-M6-M4-M6	66	108	9.1	2432	803	3227
2	ICFL 79233-M6-M7-M2-M6-M6	63	102	9.1	2187	872	3055
7	ICFL 85932	60	104	11.1	2269	710	2979
6	ICFL 85933	66	112	11.9	2227	623	2949
24	URAB 150 (C)	62	112	6.8	2151	749	2941
7	ICFA 74146-INTTE-M61-5E+-HE	65	107	11.6	2049	566	2815
11	ICFL 67 (C)	66	111	9.8	1878	729	2733
11	ICFA 67-4-HE-H1-H1-HE	71	114	9.6	194	725	2656
14	ICFA 67-5-4-HE-H1-HE-HE	64	104	10.4	2144	517	2645
11	ICFA 76144-HE-H1-H1-HE-HE	61	104	10.1	2151	452	2607
11	ICFL 1c5E-HE-wE+-wE+-wE+-HE	68	115	8.7	1981	588	2569
5	ICFA 75240-HE-H1-H1-HE-HE	64	104	9.9	1965	596	2561
1	ICFA 81000-B-H1-H1-HE-H1	67	117	10.6	1957	572	2541
15	ICFA 79233-HE-H1-H4-M6	75	120	8.8	1971	627	2534
17	ICFA 85929	65	106	8.1	196	516	2468
5	ICFL 85926	62	99	9.5	1911	557	2461
6	ICFL 85927	64	115	10.7	1815	650	2441
7	ICFA 85928-HE-H1-H1-HE-HE	69	121	11.4	181	621	2307
14	ICFA 79233-HE-H1-H1-HE-HE	71	115	8.6	1771	577	2241
4	ICFA 81401-HE-H1-HE-HE	74	116	8.7	1714	456	2227
11	ICFA 81401-HE-H1-HE-HE-HE	72	117	8.6	1857	462	2096
22	ICFA 79233-HE-H1-H1-HE-HE	65	105	10.6	1711	341	1956
15	ICFA 79233-HE-H1-H1-HE-HE	62	111	9.5	1414	547	1837
SE		0.6	1.5	0.7	1.74	1.0	2.07
MEAN		66	108	9.7	2117	614	2631
CV %		1.7	2.4	5.7	14.6	25.7	15.4

Table 1.16 : Characteristics of entries in ANDLT-5 (T-07) grown at Palancheru, rainy season 1985.

Entry		DF	DM	Plant height height (cm)	100-seed weight (g)	Plant stand (kg/ha)	Brain yield (kg/ha)
No.	Name						
11	ICF/ 80517-F-H4-HC-ME	56	104	91	9.0	61	1522
14	ICF/ 80570-ME-H1-H2-ME-ME	58	104	92	9.2	71	1517
10	ICF/ 78221-MR-MR-MC-MR-MR	56	101	85	8.9	63	1468
27	ICF/ 78227-F5B-H7-ME	59	104	97	12.5	67	1416
22	ICF/ 80587-MR-MR-M1-ME	56	102	96	10.2	66	1407
16	ICF/ 80500-M2B-M1-BB-ME-ME	59	104	90	7.9	66	1379
4	ICP/ 80500-M23-ME-ME	59	104	89	9.9	77	1360
25	UPAB 120 (CM)	56	101	92	7.6	77	1346
25	ICF/ 80584-B-M1-M1-M1-MR	60	109	91	10.7	61	1315
26	T 21 (CM)	67	111	91	8.4	66	1280
1	ICF/ 80586-ME-ME-H7-ME-ME	60	107	85	10.7	57	1267
16	ICF/ 80514-ME-ME-H7-ME	60	106	96	9.9	68	1256
7	ICF/ 81061-ME-ME-ME	60	104	98	8.5	58	1234
19	ICF/ 78226-ME-ME	60	105	92	9.2	72	1270
8	ICF/ 80494-ME-ME-ME-ME	56	101	84	8.7	71	1256
22	ICF/ 81067-ME-ME-ME	57	97	85	9.0	71	1226
24	ICF/ 79225-MR-M7-M1-M2-ME	60	100	91	9.0	64	1194
29	ICF/ 81126-ICF2-MR-M16-ME	59	99	89	8.9	71	1191
24	ICF/ 80500-MR-M14-M1-ME	57	100	90	10.0	56	1160
2	ICF/ 78226-ME-M2-M1-ME-ME-ME	58	101	96	9.8	69	1167
18	ICF/ 78224-M4-ME	59	106	98	9.1	75	1152
21	ICF/ 78271-ME-ME	59	103	97	10.7	59	1177
15	ICF/ 80497-ME-ME-ME-ME	60	107	90	8.8	74	1105
6	ICF/ 80535-MR-M6-ME-ME	58	102	92	10.5	71	1100
27	ICF/ 80494-MR-M27-M2-ME	67	112	92	9.1	72	1088
2	ICF/ 80604-ME-ME-ME-ME-ME	60	109	87	10.4	63	1078
27	ICF/ 80584-MR-ME-ME-M1-ME	71	112	95	10.2	69	1064
17	ICF/ 80584-ME-ME-M4-ME-ME	71	116	88	11.1	66	1032
26	ICF/ 80542-B-M1-M2-M2-ME	59	111	89	8.7	72	1027
9	ICFL 85057	76	123	88	10.9	75	1019
20	ICP/ 81126-ICF1-ME-M16-ME	59	106	91	9.1	53	1070
21	ICF/ 80584-ME-M2-M1-ME	77	117	90	11.4	57	1017
17	ICF/ 81126-ME-M23-ME	60	107	88	8.1	66	907
12	ICFL 85058	67	107	91	13.0	63	821
5	ICF/ 76115-M22-ME-M2	68	111	84	10.8	68	800
7	ICF/ 80500-ME-M34-ME-ME	63	101	86	9.9	54	778
	SE	1.1	1.2	2.1	0.18	4.2	116.6
	MEAN	61.4	106.1	90.9	9.70	66.0	1175.5
	CV %	2.0	1.9	4.1	3.26	11.1	17.2

Table 1.17 : Advanced short duration pigeonpea lines selected for preliminary multilocation testing.

ICFL No.	Fedigree	1985# Nos.	DF	DM	PH	S/P	SW	YD
(A) Determinate :								
B6001	81122-ME-M1-ME-ME	85MP-226	68	101	88	8.4	9.2	32.6
B6002	80525-M1-M1-M1-ME-ME	-247	65	127	135	3.0	12.7	27.1
	ICFL 4 (C)		70	123	132	3.4	6.7	26.9
	ICFL 151 (C)		73	127	139	3.9	11.6	33.0
B6003	80542-B-M1-M2-ME-ME-ME	85HT9-11 ^a	47	109	87	3.1	10.2	14.4
	ICFL 4 (C)		49	-	122	3.1	6.3	17.4
	ICFL 151 (C)		56	-	120	2.8	10.5	10.2
B6004	79227-ME-ME-M1-ME-ME-ME	10-2 ^a	54	-	138	4.5	9.0	12.9
B6005	86-ME-M1-ME-ME	1028 ^a	54	-	139	4.2	13.6	12.1
	ICFL 4 (C)		51	-	124	3.8	6.6	9.7
	ICFL 151 (C)		54	-	120	3.7	10.1	3.5
B6006	ICFL 146-M1-ME-ME-ME-ME	11-4 ^a	51	-	100	3.6	13.2	4.9
B6007	ICFL 289-ME-ME-ME-ME-ME-ME	11-11 ^a	47	107	104	3.4	12.6	12.3
	ICFL 4 (C)		51	-	105	3.7	6.6	15.0
	ICFL 151 (C)		54	-	122	3.7	10.9	8.3
B6008	79245-ME-M16-M1-ME-ME-ME	12-4 ^a	53	-	132	3.9	11.6	12.8
B6009	79277-ME-M19-M1-ME-ME-ME	12-12 ^a	50	107	120	3.4	10.3	14.1
B6010	80576-ME-ME-ME-ME-ME	12-17 ^a	50	111	108	4.0	10.0	16.6
B6011	79231-ME-M9-M1-M1-ME-ME	12-25 ^a	57	-	146	3.9	10.9	14.6
	ICFL 4 (C)		51	113	116	3.9	6.2	15.5
	ICFL 151 (C)		56	-	120	4.6	10.6	5.8
B6012	90C-ME-ME-ME-ME	13-17 ^b	65	107	110	-	12.6	25.6
B6013	80519-ME-ME-ME-ME-ME	13-20 ^b	66	108	110	-	9.1	24.3
	UPAS 120 (C)		62	102	117	-	6.8	21.9
(B) Indeterminate :								
B6014	80500-M26-M41-M1-ME-ME-ME	85MP-342	71	115	151	3.3	7.6	35.6
B6015	80545-ME-ME-ME-M1-ME-ME	-353	71	131	178	3.2	10.2	35.0
	M77-216 (C)		77	130	194	3.2	7.8	23.8
	UPAS 120 (C)		80	127	185	3.2	8.1	27.6

ICPL Nos.	Fedtree	1955 ^a Nos.	DF	DM	PH	S/P	SW	YD
6e15b	B1545-H5-H6-H7-H8-H9	B5HT14-1 ^a	55	-	122	3.7	8.9	6.7
6e157	B1497-H5-H7-H8-H9-H9	14-6 ^a	55	-	115	3.7	8.1	5.1
6e158	B1497-H5-H7-H8-H9-H9	14-25 ^a	55	-	98	3.7	7.4	11.1
	UFAS 12 (C)		55	-	124	3.9	7.7	5.1
	UFAS 12 (C)		55	-	125	3.4	7.7	4.4
6e159	B1518-H5-H6-H7-H8-H9	15-1 ^a	55	-	130	3.4	7.2	11.9
6e161	B1545-H5-H6-H7-H8-H9	15-19 ^a	54	-	190	3.0	9.5	10.7
	H77-21a (C)		54	-	135	3.2	5.8	4.6
	UFAS 12 (C)		55	-	120	3.4	7.1	8.7
6e162	B1518-H5-H6-H7-H8-H9	16-6 ^a	56	-	165	4.0	9.3	7.4
6e163	B1121-H5-H7-H8-H9-H9	16-20 ^a	56	-	125	3.4	8.3	8.8
6e167	B1214-H5-H7-H8-H9	16-27 ^a	54	-	125	3.8	13.1	7.8
6e169	B1518-H5-H6-H7-H8-H9	16-71 ^a	55	-	164	3.2	8.7	10.5
	H77-21a (C)		55	-	142	3.7	6.8	9.6
	UFAS 12 (C)		55	-	113	3.4	5.6	5.7
6e175	B1541-H5-H7-H8-H9-H9-H9	17-7 ^a	61	-	143	3.9	8.9	3.7
6e176	B1505-H5-H7-H8-H9	17-8 ^a	50	11 ^b	130	3.0	10.1	8.5
6e177	B1541-H5-H7-H8-H9-H9	17-15 ^a	52	-	152	3.8	9.6	9.3
	H77-21a (C)		52	-	148	3.4	7.0	11.1
	UFAS 12 (C)		50	-	159	3.7	6.7	6.3
6e178	B1513-H5-H7-H8-H9-H9	18-11 ^b	56	104	91	-	9.0	15.3
6e179	B1583-H5-H7-H8-H9-H9	18-25 ^b	56	161	96	-	10.2	14.1
6e181	B1717-F56-H7-H8-H9	18-77 ^b	59	164	97	-	12.5	14.2
	UFAS 12 (C)		56	161	92	-	7.6	13.5

^a = Data from August and sowing at Hissar (Frost in Early December)

^b = Data from Fatahchaki