Pigeonpea Breeding
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1986

Project P-102(85)IC

Development of Short-duration Cultivars and Superior Breeding Lines for Grain Production

Satish C. Gupta, R.K. Kapoor, K.C. Jain, and Laxman Singh

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

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Foreword

Genetic improvement for yield, stability and acceptable grain quality in short-duration pigeonpea was continued at Hisar and intensified at Patancheru in 1986.

Advanced lines were evaluated in three planting dates at Hisar (April, June and July plantings) and in multilocational trials, for relative stability over environments. Screening for resistances to sterility mosaic, fusarium wilt, and less susceptibility to pod boring insects continued.

In 1986, extra-short duration genotypes (of the maturity duration of cultivar 'Prabhat' and earlier), in determinate background were identified at Patancheru having seed size significantly larger than Prabhat and higher yield potential. These genotypes matured in less than 100 days at Patancheru, however, took 105-118 days at Hisar and 110-125 days at Gwalior when planted in normal planting date in 1986. Seed multiplication program, better agronomic management and adaptability to higher latitudes (upto 46°N) were planned for these genotypes to be undertaken in 1987.

One such line ICPL 84023 has been entered in 'Exact' trials of AICPIP.

It appears that determinate types were more stable phenologically than indeterminate types at Hisar over three planting dates. However, yield fluctuations were more for determinate types. The reasons for such fluctuations should be more critically analysed.

Sown on	EPAY trial mean					
	DT			NDT		
	DF	DM	Y	DF	DM	Y
7 April 1986	67	172	3339	110	181	2425
25 June 1986	66	110	2563	81	122	2700
28 July 1986	62	113	2224	64	123	2550

In pipeline more productive genotypes (significantly superior in yield to ICPL 151) with large seed size are available. Their performance in advance lines tests is summarised below:

Advance line tests (ALT's) at Hisar, rainy season 1986

Trial No.	DT				NDT			
	Trial mean (kg/ha)	Entries Sig. superior to ICPL 151 Entry	(kg/ha)	100 seed wt. (g)	Trial mean (kg/ha)	Entries sig. superior to ICPL 151 Entry	(kg/ha)	100 seed wt. (g)
1	2839				2614	ICPL 86019	3525	7.5
						ICPL 87113	3353	13.2
2	2474				2230	ICPL 87115	3210	9.1
3	2490	ICPL 87101	3509	13.8	2097	ICPL 87117	3178	9.9
4	2725	ICPL 87104	3509	13.1	2586	ICPL 86030	3472	12.1
5	2603	ICPL 87108	3419	15.4	-	-	-	-

In multilocation trials (EPPMLT) one line ICPL 86005 had yield of 3.0 t/ha as compared to 2.7 t/ha of ICPL 151.

At Patancheru, 4 lines from germplasm collection were identified which were superior in yield to check cultivar T-21 when averaged over six environments. They were ICP 7457, -3251, -7104, and -7100. Phenologically they were similar to T-21.

60 genotypes were evaluated in rice fallows in coastal Andhra Pradesh (in cooperation with APAU and Pulse Agronomy) in three plantings in November 1986. Five of them (listed below) were chosen for detailed agronomic evaluation in 1987.

Genotypes	Yield (kg/ha)	Days to mature
	mean of 3 plantings	
ICPL 84060	928	125
ICPL 151	810	97
ICPL 87	796	120
ICPL 83006	741	115
ICPL 270	709	123

CONTENTS

P-102(85)IC : DEVELOPMENT OF EARLY MATURING CULTIVARS SUPERIOR BREEDING LINES FOR GRAIN PRODUCTION.

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

A. INTRODUCTION

The experiments reported here were cpnducted mainly at ICRISAT Cooperative Research Center, Hisar, which 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 1986 along with long term (1970-1985) average is presented in table 1.1. Like 1984 and 1985, 1986 was also a dry year and the temperatures during Kharif were higher than long term mean. From July to December, it rained only on 16 days (6 in July; 5 in August; 3 in September and 2 in October).

Most of replicated trials were sown in the last week of June and breeding materials in the first week of July. Single Super Phosphate @ 125 kg/ha was applied in the soil before sowing. No other nutrients were added. Seeds were not inoculated with Rhizobium culture. The crop received one spray of Rogor for hoppers and two of Endosulphan for Heliothis. Inspite of two spray, the borer damage was high in some patches, especially in indeterminate and large poded lines. Crossing block was sprayed more than twice as and when required.

The prolonged dry weather resulted in the terminal moisture stress causing forced maturity in EACT and ACT-1 group lines. Among the replicated yield trials entries ICPL 86012 (3563 Kg/ha) in determinate and ICPL 86016 (3545 kg/ha) in indeterminate group gave the highest yields as against Check (UPAS 120) yield of 2995 and 2259 kg/ha, respectively. In the single plant progenies, a determinate progeny ICPX 810168-HB-H1-H1-HB-HB (86HP-10385) gave the highest yield of 4797 kg/ha as against nearest Check (ICPL 151) yield of 3010 kg/ha.

The mean grain yield of normal sown replicated yield trials (13 trials) ranged from 2097 to 2839 Kg/ha as against Check (UPAS 120) yield of 2150 to 2995 Kg/ha. Of 13 trials, the Check yield was higher than trial mean in 7 trials. The C.V. of trials ranged from 17 to 24 percent.

B. CROSSES MADE

The objectives, main features of the parents and the list of crosses made during 1986 is given below:

1. To generate segregating materials for selections, following 66 crosses were made involving 10 determinate and 11 indeterminate parents of wide genetic base possessing different desirable characteristics. Three of the 11 indeterminate parents used, namely ICP 13707 (a large seeded West Indies line), ICP 7867 and ICP 8861 were of late maturity group. The crosses were made in Line x Tester fashion treating 2 determinate (ICPLs 151 and 83015) and 2 indeterminate (ICPLs 81 and 83027) high yielding, widely adpated lines as testers. Parents used are as follows:

	Determinate	Indeterminate
TESTERS	High yield and widely adopted	
	ICPL 151	ICPL 81
	ICPL 83015	ICPL 83027
LINES	High yield	
	ICPL 85012	ICPL 84052
	ICPL 85021	ICPL 85050
	Large seeds	
	ICPL 85031	ICPL 85058
		ICPL 13707 (a West Indies line)
	Very early maturity	
	ICPL 84019	ICPL 85037
	ICPL 85024	
	PR tolerance	
	ICPL 83009	-
	(SM+W) Resistance	
	ICPL 83024	-
	Disease and Heliothis tolerance	
	-	ICPL 288
	Heliothis tolerance	
	-	ICPL 1 (Ent. selection)
	Water logging tolerance	
	ICPL 83004	
	Multiple resistance (Late maturity)	
	-	ICPL 7867
		ICPL 8861

Crosses:

ICPX	860001	ICPL 85012	×	ICPL 151
	860002	"	×	ICPL 83015
	860003	"	×	ICPL 81
	860004	"	×	ICPL 83027
	860005	85021	×	ICPL 151
	860006	"	×	ICPL 83015
	860007	"	×	ICPL 81
	860008	"	×	ICPL 83027
	860009	84052	×	ICPL 151
	860010	"	×	ICPL 83015
	860011	"	×	ICPL 81
	860012	"	×	ICPL 83027
	860013	85050	×	ICPL 151
	860014	"	×	ICPL 83015
	860015	"	×	ICPL 81
	860016	"	×	ICPL 83027
	860017	85031	×	ICPL 151
	860018	"	×	ICPL 83015
	860019	"	×	ICPL 81
	860020	"	×	ICPL 83027
	860021	85058	×	ICPL 151
	860022	"	×	ICPL 83015
	860023	"	×	ICPL 81
	860024	"	×	ICPL 83027
	860025	84019	×	ICPL 151
	860026	"	×	ICPL 83015
	860027	"	×	ICPL 81
	860028	"	×	ICPL 83027
	860029	85024	×	ICPL 151
	860030	"	×	ICPL 83015
	860031	"	×	ICPL 81
	860032	"	×	ICPL 83027
	860033	85037	×	ICPL 151
	860034	"	×	ICPL 83015
	860035	"	×	ICPL 81
	860036	"	×	ICPL 83027
	860037	83009	×	ICPL 151
	860038	"	×	ICPL 83015
	860039	"	×	ICPL 81
	860040	"	×	ICPL 83027

860041	83024	x	ICPL 151
860042	"	x	ICPL 83015
860043	"	x	ICPL 81
860044	"	x	ICPL 83027
860045	288	x	ICPL 151
860046	"	x	ICPL 83015
860047	"	x	ICPL 81
860048	"	x	ICPL 83027
860049	ICPL 1 (Ent Sel)	x	ICPL 151
860050	"	x	ICPL 83015
860051	"	x	ICPL 81
860052	"	x	ICPL 83027
860053	83004	x	ICPL 151
860054	"	x	ICPL 83015
860055	"	x	ICPL 81
860056	"	x	ICPL 83027
860079	ICP 8861	x	ICPL 151
860080	"	x	ICPL 83015
860081	"	x	ICPL 83027
860082	"	x	ICPL 81
860083	7867	x	ICPL 151
860084	"	x	ICPL 83015
860085	"	x	ICPL 83027
860086	13707	x	ICPL 151
860087	"	x	ICPL 83015
860088	"	x	ICPL 83027

2. In addition to above listed crosses, following 22 crosses were also made for specific purpose:

a) To combine dwarfness with early maturity and large seed size

ICPX 860057	ICPL 85059	x	ICPL 83024
860058	"	x	ICPL 85024
860059	"	x	ICPL 85037

b) For developing DT/NDT Isolines (Backcross)

ICPX 860060	ICPX 850045	(ICPL 84019 x ICPL 81)	x ICPL 84019
860061	"		x ICPL 81
860062	ICPL 850019	(ICPL 83027 x ICPL 83022)	x ICPL 83027
860063	"		x ICPL 83022

c) To incorporate super dwarf character:

ICPX 860064 ICPL 146 (Super dwarf mutant) x ICPL 146
860065 " x ICPL 85037
860066 " x ICPL 85024
860067 " x ICPL 85059

[illegible] with disease resistance,

ICPX [illegible] ICPX 85[illegible] ICPL 85[illegible] D6) x ICPL 83024
860069 " x ICPL 288
860070 " x ICPL 85024

860071 ICPX 85[illegible] ICPL [illegible] D6) x ICPL 83024
860072 " x ICPL 288
860073 " x ICPL 85024

860074 ICPX 84[illegible] ICPL 84[illegible] ICPL 85037) x ICPL 83024
860075 x ICPL 288
860076 x ICPL 85024

860077 ICPX 85[illegible] ICPL 85[illegible] ICPL 83024) x ICPL 85037
860078 x ICPL 85024

C. BREEDING MATERIALS

1. BULK POPULATIONS:

F1 :

[illegible] F1's during 1986 in [illegible] tester design were grown along with [illegible] parents in Randomized Block Design replication [illegible] The test was sown on 5 July, 1986. Plot size consisted [illegible] row, 4m [illegible] spaced 50 cm apart. In addition to the test crosses, all the F1's were grown in the cage to advance under selfing. The characteristics of the F1's and parents is summarized in Table 1.2. In addition, four crosses, two each made for incorporating Dwarf-nets (ICPX 850067 and 850068) and large seed size (ICPX 85[illegible] and 850068) in 1985 were also advanced in cage for growing large populations in 1987.

From [illegible] F1 test, based on yield, maturity and seed size, 29 F1's were selected for growing in 1987. Of these, 21 F1's (ICPX 850001, 850003, 850006, 850007, 850008, 850013, 850016, 850018, 850020, 850021, 850025, 850026, 850035, 850038, 850041, 850042, 850047, 850052, 850053, 850057, and 850064) were selected for further evaluation in replicated yield trials with large plots next year; 4 F1's (ICPX 850001, 850005, 850057 and 850060) for growing large populations for making single plant selections; and 4 F1's (ICPX 850041, 850042, 850052 and 850053) for growing in (SM+W) nursery. The parentage and characteristics of these F1's is given in table 1.2.

F2:

One hundred F2 populations were grown in unreplicated plots of 10 to 40 rows (depending upon the seed availability) spaced 50 cm apart. The populations were sown on 5 July, 1986. Each population was flanked with a 6 row plot of Check (ICPL 151 for determinate and ICPL 87 for indeterminate populations). Single plant selection was practised in these populations. List of F2 [illegible] is presented in table 1.3. Based on variability, yield as compared to check, maturity and seed size, 17 F2 populations (ICF) 840006, 840008, 840012, 840018, 840022, 840027, 840031, 840035, 840036, 840079, 840082, 840087, 840090, 840093, 840084, 840107 and 840108) were selected for growing large population next year. Four F2 populations (ICF) 840012, 840021, 840050 and 840053) were selected for growing in (SM+W) nursery next year. In addition, 485 determinate (300 brown seeded and 185 white seeded) and 371 indeterminate (169 brown seeded and 202 white seeded) promising looking single plants were selected from these populations for evaluation next year as single plant progenies with close check.

F3-F5:

Five F3, one F4 and 6 F5 bulk populations were sown on 4 July, 1986 in an unreplicated large plot of 40 rows spaced 50 cm apart. List of populations and details of selection is summarized in table 1.4. Because of salinity, majority of the plants in 5 F3 and one F4 populations died. From these populations, 174 determinate (123 brown seeded and 51 white seeded) and 60 indeterminate (29 brown seeded and 31 white seeded) plants were selected (table 1.4) for evaluation as single plant progenies with close check [illegible]

Populations for Disruptive Selection:

Three populations (ICF) 830015, 830026 and 830033) were grown both at Hisar and Patancheru in an unreplicated large plots. One set was also sown in September at Patancheru for single pod advance without selection. After rejecting the late maturing and very poor looking plants from each seed was harvested in two bulks. Of two bulks harvested, one for growing at the location of its harvest and the other for interchanging the location between Hisar and Patancheru. After 3 cycles, 250-300 plants from each populations at each location shall be selected for SPP evaluation with close check at both the locations.

MS Composites:

One determinate (85 EF DT-MS) and one indeterminate (85 EF NDT-MS) composites involving male sterile and normal parents and their crosses were grown in 40 row plots. The seeds were harvested in bulk from male sterile plants only separately for determinate and indeterminate composites for growing next year.

Before planting next year, the composites shall be enriched by adding about 100 seeds from each of different hybrids and new male sterile lines.

2. SINGLE PLANT PROGENY EVALUATIONS :

In 1986, 154 determinate (124 brown seeded and 30 white [illegible] seeded) single plant progenies of different crosses of F2 to F6 generations were evaluated in unreplicated one row plots. Rows were spaced 50 cms apart. Progenies were sown on 4-5 July 1986. Every fifth row plot consisted of a check. For determinate SPP's, ICPL 4 and ICPL 151 were used as check, alternatively and for indeterminate SPP's H77-216 (Manak) and UPAS 120 were used as checks. Details of selections made in SPP's is summarized in table 1.5.

From determinate progenies, 37 SPP bulks (31 brown seeded and 6 white seeded) were selected for testing in replicated yield trials and 220 SPP bulks (167 brown seeded and 53 white seeded) were selected for retesting with close checks in observations nursery, replicated twice next year. In addition to SPP bulks 1056 promising looking individual plants (744 brown seeded and 312 white seeded) were selected from promising but segregating progenies. These will be evaluated as SPP's next year.

From indeterminate progenies, 33 SPP bulks (26 brown seeded and 7 white seeded) were selected for testing in replicated station yield trials and 97 SPP bulks (64 brown seeded and 33 white seeded) were selected for retesting with close checks in observation nursery, replicated twice, next year. In addition, 934 promising looking individual plants (486 brown seeded and 448 white seeded) were selected from promising but segregating progenies for evaluation as SPP's next year.

The characteristics of the determinate SPP bulks selected for replicated yield testing is summarized in table 1.6 and of the indeterminate SPP bulks in table 1.7, respectively.

D. REPLICATED YIELD TRIALS

1. All India Coordinated Pulse Improvement Project (AICPIP) Trials:

One of the short duration pigeonpea line, ICPL 87 is released as "PRAGATI" by the Indian Central Sub-committee on Crop Standards Notification and Release of Varieties in 1986, for cultivation in the Peninsular Zone of India. It has also been notified for the whole of India.

Another short duration pigeonpea line, ICPL 151 was identified in 1985 as "JAGRITI" to be promising for North Plains West and Central Zones. It is in the process of getting released. In a one acre farmers field in Village Ludas (Hisar), ICPL 151 has yielded 2360 kg/ha of breeders seed after rigrous rouging. In the same field, in an unstressed patch (1200 m2) it gave the grain yield of 3002 kg/ha. In agronomy trial at H.A.U., ICPL 151 was the top yielder producing 1974 kg/ha as compared to Check yields of 1674 kg/ha for UPAS 120 and [illegible] kg/ha for Manak, respectively.

EXACT :

Fourteen entries were tested in EXACT sown on 6 July, 1986 at Hisar. Each plot consisted of 4 m long 8 rows spaced 30 cm apart. The test was laid out in RBD with 4 replications. Yield and other characteristics of entries tested is summarized in table 1.8. ICPL 151 was the top yielding line. At the AICPIP kharif Pulses workshop held at Bangalore on 6-9 May, 1987, ICPL 83006 was found to be promising in Central and South Zones and ICPL 151 in South Zone. Of 3 ICRISAT entries (ICPL 317, ICPL 83006 and ICPL 83015), in addition to ICPL 151 (included as Check), two (ICPL 83006 and 83015) were retained in the EXACT for retesting and one (ICPL 317) was shifted to EACT.

EACT :

EACT consisting of [illegible] entries was sown on 6 July in RBD with 4 replications. Plot size consisted of 4 m long 6 rows spaced 30 cm apart. Characteristics of the EACT entries at Hisar is presented in table 1.9. ICPL 83022 was the top yielding line followed by H82-1 and ICPL [illegible]. At the AICPIP workshop, ICPL 83022 was reported to be promising for NWP Zone. All the three ICRISAT lines (ICPL [illegible], 83022 and 83027) were retained for further testing.

ACT-1:

ACT-1 consisting of 14 entries was sown on 6 July in RBD with 4 replications. Each plot consisted of 4 m long 8 rows spaced 50 cm apart. Yield and other characteristics of the entries tested is tabulated in table 1.10. At the AICPIP workshop, ICPL 166 was reported to be promising for Central and South zones.

The entries included in EXACT, EACT and ACT-1 were also tested in a replicated yield trial at Patancheru, Gwalior and in summer and late sowings at Hisar. Grain yield data of entries tested at different locations is summarized in table 1.11. Days taken to flower and mature at different locations is presented in table 1.12. Because of very high C.V., Patancheru data is not included in the mean. In general, yield levels at Gwalior were lower than expected. It may be because of terminal stress and/or borer damage. Both, ICPLs 84031 and 83022 were found to be higher yielding than ICPL 151.

New Proposals for AICPIP Tests:

At the AIACPIP Kharif Pulses Workshop held on 6-9 May, 1987 at U.A.S., Bangalore, 4 new ICPL lines were proposed for entering in EXACT (ICPL 84023), EACT (ICPL 84031 and ICPL 84052) and ACT-1 (ICPL [illegible]). These were accepted at the workshop for entering in the AICPIP tests. The performance of the line ICPL 84023, [illegible] in EXACT is presented in tables 1.13, 1.14 [illegible] short statured line yielding more than [illegible] lines, ICPL 84031 (determinate and [illegible]), yielding higher than the checks, at different locations in 1983 to 1986 were proposed for inclusion in EACT. The yield performance is summarized in table 1.16 and 1.17. Yield performance of a determinate line, ICPL 87...4 proposed for inclusion in ACT-1 is given in tables 1.18 and 1.19. ICPL 87029 is a very large seeded [illegible] seeds line resistant to FW and tolerant to wilt.

Multilocation Trials:

During 1986-87, two multilocation trials were constituted, two EXPIT 86 and EP... 86 for testing abroad, outside India and two EPIT 86 or EPIT 86 (NDT) for testing at different locations in India. These were randomized in RBD with 3/4 replications. Each plot consisted of 4 rows long 4 rows spaced 30 cm apart.

EXPIT 86 (Extra early Pigeonpea International Trial:

EXPIT 86 was supplied to 11 locations, namely, Belize, Pakistan, Senegal, Anand, Coimbatore, Kanpur, New Delhi, Sriganganagar, Bhubaneswar, Meerut and Pusa. Data is received from only 7 locations (Sriganganagar, Anand and Pusa). At Pusa, it was sown in rabi. Grain yield and days taken to flower by EXPIT86 entries at three locations is presented in table 1.20. At all the locations, ICPL 87... and ICPL 84020 gave higher yields than all others including 3 checks, ICPL 4 and ICPL 151. In general, lines took about 10 days more to flower at Anand as compared to Sriganganagar.

EPIT 86 (Early Pigeonpea International Trial):

It consisted of 13 entries (ICPLs 81, 161, 269, 288, 312, 87...4, 87...6, 87021, 87024, 87...7, 84...9, 84045 and 85037) and 3 Checks (ICPLs 1, 87... and 151). In addition to 10 sets to Pakistan, 6 sets to Indonesia and 2 sets to Egypt, EPIT86 was supplied to 18 locations in 14 countries viz: Bombay (Senegal), Ilocos Norte (Philippines), Baenotan (Philippines), Niamay (Niger), Zanzibar (Tanzania), Ndaragwa (Kenya), Nepal, Giza, Washington (USA), Somalia, Sierra Leone, Peru, Belize, Burma, Jabalpur, Patancheru, New Delhi and Srinagar.

The data is not yet available. After receipt of the data, the details shall be reported in the report of P-101(85)IC on Pigeonpea International Trials.

EPAY 86 DT (Early Pigeonpea Adaptation Yield Trial of Determinate lines) :

EPAY 86 DT consisted of 12 short duration pigeonpea advanced lines (ICPLs 83019, 84019, 84023, 84032, 84037, 85010, 85012, 85014, 85015, 85016, 85021, and 85033), 2 short duration pigeonpea hybrids (ICPH 9and 10), and 4 Checks (ICPL 4, ICPL 151, H77-216and UPAS 120). The test was laid out in RBD with 3 replications. Each plot consisted of 4 m long 4 rows spaced 30 cm apart. In addition to 3 dates of sowing at Hisar, EPAY86DT was supplied to 31 locations in 3 countries (India, Philippines and Thailand). The locations receiving the EPAY86DT trials were: Ilocas (Philippines), Tapha (Thailand), Khonkaen (Thailand), Dehradun, Pantnagar, Faridkot, Sriganganagar, New Delhi, Faizabad, Junagarh, Indore, Kaul, Berthin, Khargone, Pusa (for kharif and rabi), Navgaon, Berhampore, Orissa (2 sets), Jodhpur, Phulbani, Derol, Bheemarayanagudi, Anand, Anantpur, Badnapur, Coimbatore, Kanpur, Bhubneswar, Patancheru, Gwalior and Hisar (3 sowing dates). Of 34 locations, data is available from 21 locations and test failed at 5 locations (Navgaon, Berhampore, Jodhpur, Coimbatore and Kanpur). From remaining 8 locations, no information is available.

Data on grain yield for EPAY86 DT entries at different locations is summerized in table 1.21 and on days to flower, mature and seed size in table 1.22, respectively. Because of very high cv (44%), Berthin data is not tablulated. Entries ranking among top 6 for grain yield at different locations are listed in table 1.23. Five entries, namely ICPH 9, ICPLs 85015, 151, 85014 and 85012 were in top 6 ranks at more than 50 percent locations. Based on mean over all locations also ICPH 9 was the top yielding followed by ICPLs 85015, 151, 85014 and 8501 Location wise data is tabulated in tables 1.24 to 1.44.

Based on their yield performance over different loctions, maturity and seed size, 8 entries (ICPLs 83019, 84023, 84032, 85010, 85012, 85014, 85015 and 85016) were selected for retesting in EXPAY and EPAY DT next year.

EPAY 86 NDT (Early Pigeonpea Adaptation Yield Trial of Indeterminate Lines):

EPAY 86 NDT consisting of 18 entries, including 2 Checks (H77-216 and UPAS 120) and 2 hybrids (ICPH 11 and ICPH 22) was supplied to 30 locations. The locations are Dehradun, Pantnagar, Faridkot, Sriganganagar, New Delhi, Faizabad, Junagarh, Indore, Kaul, Berthin, Khargaon, Pusa (kharif and rabi), Navgaon, Berhampore, Orissa(2 sets), Jodhpur, Phulbani, Gulbarga, Anand, Varanasi, Coimbatore, Kanpur, Patancheru, Gwalior, Lohati (Karnataka) and Hisar (3 sowings). Test failed at 5 locations (Pantnagar, Navgaon, Berhampore, Jodhpur and Kanpur). Data is available from 16 locations. Data on grain yield of EPAY 86 NDT entries at different locations is summarized in table 1.45 and on days to flower, days to mature and seed size in table 1.46

Because of high cv's (>30%), Berthin, Varanasi and Patancheru data is not included in the table. Based on mean over different locations, ICPL 85049 was the highest yielding followed by ICPL 85036, ICPL 85054 and ICPH 11. Rank of 6 entries from top based on yield for different locations are given in table 1.47. Two entries, ICPL 85036 and ICPH 11 were found to be among top 6 yielding at more than 50 percent locations. Details EPAY86 NDT test data for each location separately is tabulated in tables 1.48 to 1.63.

Based on maturity, seed size and multilocation yield performance 10 entries (ICPLs 85033, 85036, 85043, 85045, 85046, 85049, 85050, 85052, 85054 and 85055) were selected for multilocation testing in EXPAY and EPAY NDT next year.

3. Preliminary Multilocation Trials:

EPPMLT86DT (Early Pigeonpea Preliminary Multilocation Trial of advanced Determinate Lines):

EPPMLT86 DT consisting of 16 entries, including 4 Checks (H77-216, UPAS 120, ICPL 4 and ICPL 151) was conducted at Gwalior, Patancheru and Hisar. At Hisar, it was tested at 3 dates of sowing in April, June and July. Yield performance of entries at different locations is summarized in table 1.64. Entries ranking among top 6 for yield at different locations is indicated in table 1.65. Detailed data for each location is tabulated in tables 1.66 to 1.70.

Considering mean yield, 6 entries out yielded the checks. These are ICPLs 86005, 85017, 86012, 86010, 85031 and 83024 in descending order for their grain yield (table 1.64). Two of these (ICPLs 86005 and 85017) ranked among top 6 for yield at all the locations (table 1.65). Based on earliness, seed size and grain yield 7 entries (ICPLs 83024, 85017, 85030, 85031, 86005, 86007 and 86012) were selected for multilocation testing in EXPAY and EPAY DT next year. In addition, 3 entries (ICPLs 85024, 86003 and 86010) were retained or retesting in EPPMLT DT next year.

EPPMLT 86 NDT (Early Pigeonpea Preliminry Multilocation Trial of advanced Indeterminate Lines):

The EPPMLT 86 NDT consisted of 16 entries including 2 checks (H77-216 and UPAS 120) and was laid out in RBD. The test was sown at Patancheru, Gwalior and Hisar (at 3 sowing dates). The characteristics and yield at different locations and planting dates of entries tested is summarized in table 1.71. Entries ranking among top 6 for yield at each location/planting date is presented in table 1.72. Detailed data for each location is tabulated in tables 1.73 to 1.77. Based on mean yield ICPL 85051 was the top yielding line. Ten entries out yielded both the Checks. ICPL 85051 ranked amont top 6 for yield at all the locations (table 1.72).

Based on earliness, seed size and yield at different locations 6 entries (ICPLs 85048, 85051, 85057, 86020, 86024 and 86029) were selected for multilocation testing in EXPAY and EPAYNDT next year. Three entries (ICPLs 85058, 86016 and 86026 were retained for retesting in EPPMLT NDT next year to confirm their performance.

Fourteen large seeded and large pod early maturing lines, 5 determinate (ICPLs 85004, 85041, 85042, 85121, 85052, 86004, 86005, 86010 and 86012) and 5 indeterminate (ICPLs 85050, 85057, 85058, 86026 and 86029), were suggested for testing in vegetable pigeonpea trial under vegetable project.

4. Advanced Lines Station Trials (ALT's) :

In 1986, 5 Advanced Determinate Lines tests (ADLT86) and 4 Advanced Indeterminate Lines tests (ANDLT86) were constituted for conducting as station replicated yield trials in RBD with 4 replications at Hisar. Each trial consisted of 16 entries including checks. The two T-21 group lines tests (ADLT-5 and ANDLT-4) were also conducted at Patancheru. One of these (ANDLT-4) at Patancheru failed due to water logging. At Hisar, the tests were sown on 25 June, 1986. Each plot consisted of 4 m long 4 rows spaced 30 cm apart.

ADLT's: The yield and other characteristics of the entries tested in 5 ADLT's (ADLT86-1 to 5) at Hisar is summarized in tables 1.78 to 1.82 and for ADLT86-5 at Patancheru in table 1.83.

From ADLT86-1, based on earliness, seed size and grain yield, one extra early maturing line (ICPL 86009) yielding higher than the checks (UPAS 120 and ICPL 4) was selected for multilocation testing in EXPAY next year. In addition, 6 entries yielding higher than the checks were selected for preliminary multilocation testing in EPPMLT-DT next year (table 1.78). These were alloted new ICPL numbers (ICPL 87091 to 87097).

From ADLT86-2, 4 entries yielding higher than the checks were selected for preliminary multilocation testing next year. Three of these are ICPLs 86004, 86006 and 86008 and one with new ICPL number viz: ICPL 87098 (table 1.79).

Four entries from ADLT86-3 were selected for the allotment of new ICPL numbers (ICPLs 87099, 87101, 87102 and 87103) and preliminary multilocation testing next year (table 1.80). In addition, 4 entries (entry numbers 5, 10, 15 and 16) were retained for retesting in ADLT next year to confirm their performance before promotion to EPPMLT-DT.

From ADLT86-4, two entries (entry number 7 and 14) alloted new ICPL numbers (ICPLs 87104 and 87105) and selected along with 2 more entries (ICPLs 84039 and 85027) for preliminary multilocation testing (table 1.81). In addition, 3 entries (6, 10 and 15) were retained for retesting in ADLT next year.

In ADLT86-5, four of the 6 lines ranking among top 6 for yield at Hisar also ranked in top 6 at Patancheru (tables 1.82 and 1.83). Five entries were selected for preliminary multilocation testing next year. These were alloted new ICPL numbers viz: ICPLs 87100, 87106, 87107, 87108 and 87109 (table 1.82).

ANDLT's : The yield and other characteristics of the entries tested in 4 ANDLT (ANDLT86-1 to 4 at Hisar is given in tables ..d to 1.8.. The ANDLT86-4, conducted at Patancheru failed due to water logging.

From ANDLT86-1, 6 entries (3, 4, 7, 8, 15 and 16) were selected for preliminary multilocation testing next year (table 1.84). Two of these are ICPL 86015 and ICPL 86018 and four with new ICPL numbers namely, ICPLs 87110, 87111, 87113 and 87114. In addition, 2 entries (1 and 12) were retained for retesting in ANDLT next year.

Four entries, ICPLs 86033 and 3 with new ICPL numbers (ICPLs 87112, 87115 and 87116) were selected from ANDLT 86-2 for preliminary multilocation testing (table 1.85) next year.

From ANDLT86-3, 3 entries (3, 4 and 6) were selected for preliminary multilocation testing (table 1.86). Two of these are ICPL 86021 and 86027 and one with new ICPL number (ICPL 87117). In addition, one entry (12 was retained for retesting in ANDLT next year.

In ANDLT86-4, two entries (4 and 15) with ICPL numbers 86030 and 87118 (new) were selected for preliminary multilocation testing (table 1.87). In addition, 5 entries (6, 9, 11, 14 and 16) were retained for retesting in ANDLT next year to confirm their yield performance before promoting to EPPMLT NDT.

The detailed characteristics of the entries selected from different station trials (ADLT86-1 to 5 and ANDLT86-1 to 4) for preliminary multilocation testing in EXPPMLT, EPPMLT DTand EPPMLT NDT next year is summarized in table 1.88. These entries have been alloted new ICPL numbers (ICPLs 87092 to 87118).

5. T-21 Group Lines Test:

Two tests, one with determinate (10 entries) and the other with indeterminate (14 entries) lines of the T-21 maturity group were conducted at Patancheru. The tests were laid out in RBD with 3 replications. Plot size consisted of 4 m long 4 ri spaced 30 cm apart.

The yield and other characteristics of the entries tested in determinate lines test is summarized in table 1.89. The very low yields are because of poor plant stand and stunted growth due to water logging and Phytophthora blight. ICPL 83009 was the top yielding line followed by ICPLs 155, 83024 and 87. The indeterminate lines test failed due to water logging.

6. Evaluation of Promising Advanced Lines in Summer and Late Sowings:

Two of the multilocation trials (EPAYB6DT and EPAYB6NDT) were sown in RBD with 4 replications at Hisar on 3 dates of sowing (7 April, 25 June and 28 July) in 1986. Each plot consisted of 4 m long 4 rows. Row spacing of 50 cm in April and 30 cm in June and July were used. Characteristics of the entries [illegible] in April [illegible] July [illegible] are summarized in tables 1.24 to 1.26 for EPAYB6DT and in tables 1.48 to 1.50 for EPAYB6NDT, respectively.

EPAYB6DT: The comparative data for days to flower and mature, plant height, grain and dry stalk yield for EPAYB6DT entries at 3 sowing dates at Hisar is summarized in table 1.90. Days taken to flower was more or less similar for 3 dates. However, April sowing took much longer time for attaining maturity. Because of terminal moisture stress days taken to mature was same for both June and July sowings. As expected with delayed sowings plant height and dry stalk yields got reduced considerably (table 1.90), indicating reduction of vegetative growth with delayed sowing. In general grain yield of 3 sowings was similar. Higher yield of some entries in April sowing is because of two harvests. Three entries (ICPLs 85012, 85015 and 85033) ranked among top 5 for grain yield at all the 3 dates of sowing (table 1.90). This indicates that by testing the advanced lines at different dates of sowing we should be able to isolate the high yielding lines with wide adaptability making them suitable for wide range of sowing time.

EPAYB6 NDT: The data for days to flower and mature, plant height, grain and dry stalk yield for 3 dates of sowing at Hisar is summarized in table 1.91. About 50 per cent of the lines took about 1 month more than the June sowing for flowering indicating their sensitivity to daylength and high temperatures. In general, July sowings took about 20 days less than June sowing for flowering. These observations from EPAYB6DT (table 1.90) and EPAYB6NDT (table 1.91) indicate that determinate entries tested are comparatively insensitive to daylength and high temperatures than indeterminate entries.

April sowing took about 2 months more to mature than June and July sowings. As expected and observed in EPAYB6DT, plant height and dry stalk yield reduced considerably with delayed sowing. There was not much difference between the mean grain yields obtained for 3 sowing dates. Two entries (ICPLs 85036 and 85045) ranked among top 6 for grain yield at all the 3 dates of sowing. This confirms the observation made in EPAYB6DT, that it is possible to isolate high yielding lines with wide adaptability as far as dates of sowing is concerned from April to July in North India.

E. SCREENING FOR DISEASE RESISTANCE:

1. SMR/OP Lines Trial:

In order to have a preliminary idea about the effect of sterility mosaic resistance on yield and other characters, a replicated yield trial was conducted at Hisar. The trial consisted of seed of 7 early maturing ICPLs (ICPLs 83, 87, 151, [illegible]. For each ICPL, seed from 2 sources (sterility mosaic nursery after atleast 2 cycles of seed increase in SM nursery and OP seed from Hisar) was used. The test was sown on 25 June in split plot. Main plot consisted of ICPLs and sub plot, the two seed sources (SMR and OP). Plot size was 4 m long 4 rows spaced 30 cms apart. The data for each main and subplot is tabulated in table 1.92. Except for ICPL 84023. The days to flower, maturity, plant height and dry stalk yield was similar for both SMR and OP seeds of all the ICPLs. It seems that SMR ICPL 84023 is completely different from OP ICPL 84023 (table 1.92). The grain yield of all the OP ICPLs was more than the SMR ICPLs indicating some degree of negative correlation of SM resistance with grain yield. But to conclude this, these observations has to be confirmed specially if possible using near isogenic lines.

2. Screening in Disease Nurseries:

All the multilocation and station trial entries were grown at Patancheru in disease nurseries to monitor their reaction to the three major pigeonpea diseases viz : Sterility Mosaic, Wilt and Phytophthora blight. Multilocation trial entries (all ICPLs) were grown in 2 row plots replicated twice and station trials entries in an unreplicated plots.

Among the multilocation trial entries, ICPLs 83024, 83027, 84032, 85017, 85053, 85059 and 86012 were found to be having 0 to 2% percent SM infection in both the replications, as against more than 90% SM incidence in susceptible check. For wilt, ICPLs 85024, 85031, 85035, 85050, 85056 and 86016 were found to be having tolerance (0-30% wilt). None of the multilocation trial entries showed resistance to Phytophthora blight. However, ICPLs 85030, 85035, 86016 and 86020 had 24-48% Phytophthora.

In the station trial entries, 31 entries had 0-20% SM incidence, 12 entries had 0-33% wilt in both (SM+W) and (PB+W) nurseries. All the entries in MDN got killed by Phytophthora blight. Seven entries in (PB+W) nursery had less than 33% PB.

F. SCREENING FOR PEST TOLERANCE :

All the multilocation trial entries were monitored for their reaction to Helicoverpa and pod fly damage in unsprayed and unreplicated two row plots at Hisar. Nine lines (ICPLs 84048, 85016, 85035, 85051, 85056, 85059, 86014, 86016 and 86026) were found to have less than 20% borer damage as against 22 to 60% for different checks viz:

H77-216 (22%), ICPL 87 (31%), ICPL 151 (55%), T-21 (58%) and UPAS-120 (60%). Six lines (ICPLs 85024, 85030, 85043, 85053, 86005 and 86007) were found to have less than 10% pod fly damage as against 12 to 28% in different checks viz: ICPL 151 (12.2%), T-21 (16.5%), UPAS 120 (20.6%); H77-216 (22.4%) and ICPL 87 (27.7%). One of the lines (ICPL 85059) was found to be promising for both Helicoverpa (6.9%) and pod fly (5.9%).

G. MAINTENANCE AND PURIFICATION OF LINES AND CULTIVARS :

Twenty-four determinate (ICPLs 4, 8, 83, 87, 146, 151, 155, 312, 316, 317, 83006, 83009, 83015, 83016, 83022, 83024, 84019, 84020, 84031, 85012, 85014, 85016, 85024 and 85059) and 16 indeterminate (ICPLs 1, 6, 81, 85, 95, 186, 269, 288, 83027, 84048, 84052, 84059, 85035, 85037, 85045 and 85074) promising early maturing pigeonpea lines were included in the maintenance program. For this 50 to 100 single plant progenies of the ICPLs (250 for ICPL 87 and ICPL 151) were grown in unreplicated one row plots spaced 50 cm apart. For each ICPL, about 150 single plants (300 plants for ICPLs 87 and 151) in uniform and true to type SPP's were selfed to continue the maintenance. The open pollinated bulk seed was collected for supplying to cooperators on request.

B. MISCELLANEOUS OBSERVATIONS/STUDIES:

1. Adaptability of short duration pigeonpea to different environments and cropping systems - (collaboration Pulse Agronomy, APAU, NRP, IARI)

i) Fifty-seven short duration genotypes obtained from Genetic Resources Unit and Hisar were grown in the following six situations at ICRISAT Center, Patancheru.

1. Alfisol irrigated normal sowing (2 July 1986)
2. Alfisol irrigated delayed sowing (2 August 1986)
3. Alfisol unirrigated normal sowing (15 July 1986)
4. Alfisol unirrigated delayed sowing (25 July 1986)
5. Vertisol irrigated normal sowing (28 June 1986)
6. Vertisol irrigated delayed sowing (26 July 1986)

The material was planted in randomized block design with two replications. To avoid the shading effects of indeterminate genotypes on determinates randomization was restricted within each group. Each plot consisted of four meter long two rows. The row to row and within row distance was maintained at 30 and 10 cm respectively. The yield of 57 genotypes at six envi ts is given in Table 1.93. High trial mean was observed in Alfisol irrigated under normal and delayed sowing conditions. The highest yielding genotypes were ICP 3251 in environment 1, ICP 7104 in 2, 3 and 6; ICP 7457 in environment 4 and ICP 7100 in environment 5. On the basis of mean yield of six environments ICP 7104 was the highest yielding entry whereas the yield of ICPL 6 (T21) control cultivar was 982 kg/ha. It was observed that genotypes flowering in 70-80 days and maturing in 110-120 days had higher yield potential both under irrigated and rainfed conditions (Table 1.94). In Vertisols flowering and maturity were delayed for about 10-15

days in general as compared to Alfisols. Out of 57 we have identified 21 genotypes of extra-short duration. These genotypes took upto 60 days for flowering and matured within 97 days. The performance of 21 extra-short duration genotypes is reported in Table 1.95. We plan to test yield potential of these genotypes in 1987 rainy season.

Stability parameters were calculated as per Eberhart and Russell (1966) model. Pooled analysis of variance was done but the error variances were not homogenous. Therefore, much reliance cannot be put on s di values. However on the basis of mean and regression values the following observations can be made:

(i) Fifteen genotypes were significantly higher yielding than the grand mean.

(ii) On the basis of high mean and high bi values (>1) eight genotypes (ICP 7460, -3251, -7014, -8739, -12210, -8812, ICPL 6 and ICPL 87) may be more productive in good t conditions.

(iii) Seven genotypes (ICP 7457, ICP 7638, ICP 7100, ICPL 8306, ICPL 8308, ICPL 155 and ICPL 84052) appeared stable over six growing conditions which had high mean yield and bi=1. (Table 1.93)

b) of short-duration pigeonpea in spring planting

127 short-duration lines (ICPL and QPL lines and selections from Dr. S.P. Singh, IARI, New Delhi) were grown in mid-February 1987 at Patancheru and IARI, New Delhi to observe their phenology, vegetative growth and grain yield. Pulse Agronomy, Pigeonpea Breeding and IARI, New Delhi collaborated.

All the lines tested matured in 110 days at Patancheru indicating their insensitivity to photoperiod and tolerance to relatively high summer temperature.

A detailed report on this trial will be given in Pulse Agronomy Unit's report after data from New Delhi have been received.

Based on these observations, the following genotypes were identified for further testing:

Entries	Plant stand m2	Grain yield t/ha	TDM t/ha	100 seed wt.(g)	Pods/ plant	DF	DM	HI %
ICPL 83006	13.5	0.97	2.86	6.7	53	59	104	33.8
ICPL 84023	21.2	0.97	2.73	6.8	24	59	101	34.9
ICPL 85043	15.6	0.79	2.17	6.4	32	63	102	36.7
ICPL 85012	11.2	0.76	1.33	8.2	41	62	101	59.4
ICPL 86018	13.3	0.75	1.71	7.7	25	66	110	44.5
78-1-113	14.6	0.69	1.89	6.7	54	56	97	38.4
6-16-11-56	11.8	0.60	3.02	7.1	38	68	110	19.6
33-3	13.3	0.78	2.64	7.8	34	68	104	27.1
33-6	12.3	0.75	2.66	7.2	44	67	104	27.3
33-11	12.3	0.72	2.10	6.2	35	73	104	33.8
QPL 321	7.5	0.23	0.95	14.1	32	69	110	28.7
ICPL 151	10.6	0.28	0.36	9.1	18	69	107	63.6
QPL 207	11.2	0.68	1.92	9.5	30	65	107	38.6
ICPL 85010	7.1	0.68	0.61	8.6	45	63	104	137.1
ICPL 85032	2.7	0.11	0.19	7.9	14	67	110	87.7
ICPL 95 x 73-55								
ICPL 1 (Check)	7.3	0.51	1.50	6.1	64	76	110	33.8
ICPL 4 (Check)	22.9	0.62	2.11	5.8	27	58	101	29.4
ICPL 87 (Check)	13.1	0.73	1.99	8.6	31	64	107	38.4
ICPL 316 (Check)	19.1	0.75	2.12	7.6	39	52	104	34.8
ICPL 269 (Check)	15.4	0.71	1.89	7.5	24	62	101	38.3
Overall mean	10.9	0.44	1.47	7.4	26	66	106	34.9
SE								
CV %	29.2	44.0	42.6	14.1	44.9	8.1	[illegible]	[illegible]

) 12 extra short-duration genotypes were planted on 27 June 1986, 15 October 1986 and 10 February 1987. Each planting was done from the seed harvested from the previous planting to determine whether three crops a year are possible using relatively insensitive genotypes.

The days to flower to mature and seed yield in three plantings are given in Table 1.96.

It was obvious that phenologically new extra short-duration genotypes are insensitive to photoperiod and temperature variations as obtainable at Patancheru. They matured in 90-100 days any time they were planted and three crops a year were easily raised. ICPL 85014, -85010 and -312 gave total production of 2 to 3 t/ha in three plantings as estimated from 3-5 row plots of 4 m length. Planting density in each case was 30 x 10 cm.

d) Rice fallows:

60 genotypes of short, medium and long duration were planted after the harvest of rice crop in coastal district of Guntur of Andhra Pradesh to assess the adaptability and production potential of pigeonpea in rice fallows. This trial was in collaboration with Pulse Agronomy and Andhra Pradesh Agricultural University.

Three plantings, 17 November (sole crop), 17 (intercrop with blackgram), and 25 November (sole crop) 1986 were made of each genotype. The mean performance of 5 most promising genotypes is given below:

Entry	Yield kg/ha (3 plantings)	Days to mature
ICPL 84060	928	125
ICPL 151	810	97
ICPL 87	796	120
ICPL 83006	741	115
ICPL 270	709	123

ICPL 87 backcross progenies

In 1984 two crosses with ICPL 87 using ICPL 289 and ICPL 83023 as white seed color donors were made. In the off-season of 1984 backcrosses were made in the greenhouse. BC1F1's were planted in 1985 postrainy season. All the plants with white seed color were selected. In (ICPL 87 x ICPL 289) x ICPL 87 backcross 187 plants and in (ICPL 87 x ICPL 83023) x ICPL 87 backcross 252 plants were selected. These selections (BC1F3) were grown in 1986 rainy season in four meter long single row observation plots. ICPL 87 was planted at every tenth plot as control. On the basis of uniformity, on phenotypic appearance, seed size and white seed color, 23 progenies from (ICPL 87 x ICPL 289) x 87 backcross and 35 from (ICPL 87 x ICPL 83023) x ICPL 87 were selected. The observations on days to 50% flower, days to 75% maturity, no. of seeds/pod, 100-seed weight, plant stand, yield of main and ratoon harvests, and total yield were recorded (Table 1.97).

These selection (BC1F4) will be yield tested in 1987 with both the parents. The second backcross was also made in the rainy season and F1's were multiplied in the off-season. We plan to make four backcrosses to recover ICPL 87 genotype with white seed color.

Table 1.1: Monthly mean temperature (°C) and rainfall (mm) during 1986 at Hisar.

Months	Mean (1970-1985)			1986			1985	1984
	Temperature (°C)		Rainfall (mm)	Temperature (°C)		Rainfall (mm)	Rainfall (mm)	Rainfall (mm)
	Maximum	Minimum		Maximum	Minimum			
January	20.2	4.4	11.0	19.8	3.8	0.8	5.4	1.0
February	22.7	6.6	22.4	21.6	6.7	18.0	—	12.8
March	28.8	10.4	13.6	28.5	11.5	11.5	6.6	—
April	36.1	16.7	14.3	36.2	16.9	—	5.5	—
May	40.1	21.2	28.4	38.5	20.4	33.0	—	—
June	40.2	24.6	38.8	40.0	25.6	125.8	77.0	5.6
July	35.9	24.3	144.0	34.8	24.9	66.4	132.6	88.6
August	34.3	22.0	134.0	35.6	24.3	74.9	204.9	191.6
September	34.8	19.7	33.7	35.5	21.0	32.0	10.7	44.4
October	30.6	14.0	3.5	32.5	17.2	24.6	5.3	1.0
November	28.3	9.2	7.5	29.1	10.6	—	—	—
December	23.0	4.9	5.0	21.3	3.7	—	7.6	—
Total	—	—	467.8			382.0	455.6	345.0

PEDIGREE

55	ICPA [illegible]	73	[illegible]	3.0	115	[illegible]	[illegible]	5	0.148	522	3	[illegible]
75	ICPL 816	72	117	5.0	107	[illegible]	[illegible]	21	0.145	511	12	ICPL 316
63	ICPA 850063	65	104	5.0	103	4.1	[illegible]	8	0.145	508	4	ICPX 850023 (ICPL 89049 X ICPL 87)
89	ICPA 850089	74	119	4.0	111	3.9	[illegible]	6	0.144	797	3	ICPX 850089 (ICPL 89023 X ICPL 89033)
51	ICPA [illegible]	63	2.5	3.0	132	4.1	11.7	4	0.143	792	2	ICPX 850052 (ICP 8882 X ICPL 81)
4	ICPA [illegible]	64	159	5.0	107	4.6	12.6	13	0.138	767	7	ICPX 850008 (ICPL 151 X ICPL 85033)
34	ICPA 850034	67	156	4.0	109	4.2	12.3	7	0.136	758	6	ICPX 850025 (ICPL 209 X ICPL 151)
65	ICPA 850065	75	217	7.0	106	4.2	8.9	12	0.135	750	7	ICPX 850056 (ICPL 89049 X ICPL 89023)
61	ICPA 850061	75	153	5.0	110	4.0	10.9	9	0.130	725	5	ICPX 850021 (ICPL 85003 X ICPL 87)
43	ICPA 850044	75	138	5.0	110	4.1	10.2	5	0.128	708	3	ICPX 850044 (ICPL 89049 X ICPL 81)
75	ICPL 84019	53	117	6.0	102	3.9	7.9	24	0.126	703	14	ICPL 89019
30	ICPA 850030	73	238	5.0	126	4.6	12.8	6	0.115	641	3	ICPX 850020 (ICP 8862 X ICPL 87)
48	ICPA 850048	75	249	6.0	114	3.5	11.8	4	0.112	625	3	ICPL 85049 (ICPL 89023 X ICPL 81)
53	ICPA 850054	75	215	5.0	112	4.0	10.8	9	0.111	616	5	ICPX 850057 (ICPL 85005 X ICPL 89023)
9	ICPA 850009	62	147	5.0	113	4.4	9.2	7	0.109	605	2	ICPX 85009 (ICPL 151 X ICPL 89023)
57	ICPA 850057	75	168	6.0	111	4.0	13.9	5	0.107	594	3	ICPX 850039 (ICPL 89023 X ICPL 151)
31	ICPA 850031	73	154	5.0	108	4.0	10.9	5	0.107	594	2	ICPX 85032 (ICPL 85005 X ICPL 151)
69	ICPL 85069	72	169	3.0	117	4.1	10.2	11	0.105	586	6	ICPL 89029
72	ICPL 85072	65	174	6.0	107	3.8	8.2	22	0.101	561	12	ICPL 85037
67	ICPA 850067	75	161	5.0	115	4.1	12.9	3	0.096	533	2	ICPX 850027 (ICPL 89029 X ICPL 87)
70	ICPL 85031	58	149	5.0	101	3.9	14.4	16	0.094	525	11	ICPL 85031
77	ICPL 83	75	179	4.0	109	4.0	8.8	21	0.088	492	12	ICPL 83
42	ICPA 850042	79	220	4.0	117	4.0	10.1	5	0.085	472	3	ICPX 850032 (ICPL 89049 X ICPL 87)
45	ICPA 850045	75	191	5.0	111	3.8	9.7	41	0.081	453	2	ICPX 850045 (ICPL 209 X ICPL 81)
10	ICPA 850010	75	176	5.0	113	4.0	9.8	5	0.072	400	3	ICPX 850010 (ICPL 151 X ICPL 85033)
33	ICPA 850034	53	141	4.0	108	4.2	9.3	4	0.064	355	3	ICPX 850037 (ICPL 89049 X ICPL 151)
59	ICPA 850060	75	238	4.0	114	4.2	13.1	2	0.064	355	2	ICPX 850060 (ICPL 89029 X ICPL 89023)
50	ICPA 850051	74	198	4.0	110	3.6	9.2	4	0.060	333	2	ICPX 850051 (ICPL 206 X ICPL 81)
54	ICPA 850055	75	218	7.0	109	4.2	11.3	5	0.055	305	3	ICPX 850055 (ICPL 85049 X ICPL 85033)
32	ICPA 850033	75	219	6.0	111	4.2	10.5	3	0.046	258	2	ICPX 850033 (ICPL 89049 X ICPL 151)
36	ICPA 850037	71	162	3.0	109	4.1	9.7	1	0.045	250	1	ICPX 850037 (ICPL 316 X ICPL 151)
74	ICPL 84044	75	189	4.0	111	4.0	11.9	4	0.035	194	2	ICPL 89[illegible]
	SE	1.1	9.3	0.75	1.3	0.19	0.40	2.5	0.07	404.5	1.4	
	Mean	73.7	191.4	4.25	114.2	4.36	10.52	12.6	0.22	1233.5	7.8	
	CV(%)	2.1	6.5	25.11	1.7	6.49	5.33	27.9	46.37	44.4	29.3	

Sown - 5/7/86

1 row plot x 4 m long

50 cm x 20 cm - spacing

Reps - 2

RBD

Table 1.3 : Selection made in F2 population at Akola during 1986

F2 Population	No. of single plants selected						
	Pedigree method			Bulk method			
	Green pod	White pod	Total	Green pod	White pod	Total	Total
ICPX 840002 (ICPL 316 x ICPL 84023)							
ICPX 840003 (ICPL 316 x ICPL 289)	3	1	4				4
ICPX 840004 (" x ICPL 87)	2		2				2
ICPX 840005 (" x ICPL 83046)		3	3				3
ICPX 840006 [b] (" x ICPL 83024)	2	2	4	1		1	5
ICPX 840008 [b] (ICPL 4 x ICPL 289)	3		3				3
ICPX 840009 (" x ICPL 87)	1		1	3		3	4
ICPX 840010 (" x ICPL 83046)		6	6				6
ICPX 840012 [b] (ICPL 83009 x ICPL 289)		9	9				9
ICPX 840013 (" x ICPL 87)							
ICPX 840014 (" x ICPL 83046)		11	11				11
ICPX 840015 (" x ICPL 83024)							
ICPX 840016 (ICPL 289 x ICPL 87)	13		13				13
ICPX 840017 (" x ICPL 83016)		16	16				16
ICPX 840018 [b] (" x ICPL 83024)	27	42	69		1	1	70
ICPX 840019 (ICPL 87 x ICPL 83046)		5	5				5
ICPX 840020 (" x ICPL 83024)	14	1	15				15
ICPX 840021 (ICPL 83016 x ICPL 83024)	4	5	9				9
ICPX 840022 [b] (ICPL 316 x ICPL 84023)	15		15				15
ICPX 840023 (" x ICPL 288)	1	1	2	1	3	4	6
ICPX 840024 (" x ICPL 142)				2	1	3	3
ICPX 840025 (" x ICPL 83025)	1		1	1		1	2
ICPX 840026 (" x ICPL 84043)				2	1	3	3
ICPX 840027 [b] (" x ICPL 84045)				2	2	4	4

Ex Populations	No. of Single Heads Selected						
	2nd round			Double round			
	Green Seed	White Seed	Total	Green Seed	White Seed	Total	Grand Total
ICPX 840028 (ICPL 246 x ICPL 85037)	2		2	3		3	5
ICPX 840029 (ICPL 87 x ICPL 84023)	7		7				7
ICPX 840030 (" x ICPL 288)	1		1	1	1	2	3
ICPX 840031[b] (" x ICPL 443)		1	1	1	1	2	3
ICPX 840032 (" x ICPL 83085)				2		2	2
ICPX 840033 (" x ICPL 84043)				1		1	1
ICPX 840034 (" x ICPL 84045)		1	1	2	5	7	8
ICPX 840035[b] (" x ICPL 85037)	2		2	1		1	3
ICPX 840036[b] (ICPL 289 x ICPL 84023)	8	6	14				14
ICPX 840037 (" x ICPL 288)		2	2		3	3	5
ICPX 840038 (" x ICPL 443)		1	1		19	19	20
ICPX 840039[b] (" x ICPL 83085)		1	1	2	4	6	7
ICPX 840040 (" x ICPL 84043)				2	3	5	5
ICPX 840041 (" x ICPL 84045)	1		1	3		3	4
ICPX 840042[b] (" x ICPL 85037)	1	2	3	1	3	4	7
ICPX 840043[b] (ICPL 83009 x ICPL 84023)	11	3	14				14
ICPX 840044 (" x ICPL 288)							
ICPX 840050[b] (ICPL 83024 x ICPL 84023)	16	2	18				18
ICPX 840051 (" x ICPL 288)		1	1				1
ICPX 840052 (" x ICPL 443)	10	3	13	8	27	35	48
ICPX 840053[b] (" x ICPL 83085)				3		3	3
ICPX 840054 (" x ICPL 84043)	1	1	2	3		3	5
ICPX 840055 (" x ICPL 84045)							
ICPX 840056 (" x ICPL 85037)	1	1	2	1		1	3

F2 Hybridoma	No. of Single Plants Obtained						
	2nd screening			3rd screening			
	Positive	Weak	Total	Positive	Weak	Total	Total
NPX 840057 (NPL 83025 × NPL 288)				2	1	3	3
NPX 840058 (" × NPL 143)		1	1	1	3	4	5
NPX 840059 (" × NPL 83025)				2		2	2
NPX 840060 (" × NPL 84043)				2		2	2
ICPX 840061 (" × NPL 84045)				2		2	2
NPX 840062 (" × NPL 85037)				7		7	7
ICPX 840063 (NPL 288 × ICPL 143)					2	2	2
ICPX 840064 (" × NPL 83025)				1	1	2	2
ICPX 840065 (" × NPL 84043)				1	1	2	2
NPX 840066 (" × NPL 84045)	1		1		7	7	8
NPX 840067 (" × ICPL 85037)				1		1	1
ICPX 840068 (ICPL 143 × NPL 83025)				1	2	3	3
ICPX 840069 (" × NPL 84043)				2		2	2
ICPX 840070 (" × NPL 84045)					7	7	7
ICPX 840071 (" × ICPL 85037)				6	1	7	7
ICPX 840072 (ICPL 83025 × NPL 84043)							
ICPX 840073 (" × ICPL 84045)				5	2	7	7
ICPX 840074 (" × ICPL 85037)	1		1	10		10	11
ICPX 840075 (NPL 84043 × ICPL 84045)				1	2	3	5
ICPX 840076 (" × ICPL 85037)				1		1	1
NPX 840078 (ICPL 316 × PAE-45-2)				2		2	2
ICPX 840079 (ICPL 83009 × ")	2		2	5	1	6	8
ICPX 840080 (ICPL 143 × ")				3	1	4	4
ICPX 840081 (CMMP 1542[a] × ICPL 316)				2		2	2
ICPX 840082 (" × ICPL 288)				2	3	5	5
ICPX 840083 (" × ICPL 83009)				2		2	2
ICPX 840084[b] (" × ICPL 83008)	4		4	5		5	9

F2 Populations	No. of Single Plants Selected						
	Backcrossed			Backcrossed			
	Parent Seed	Hybrid Seed	Total	Parent Seed	Hybrid Seed	Total	TOTAL
ICPX 840085 (ICRL 83008 × ICPL 83024)	33		33				33
ICPX 840086 (" × ICPL 269)	16		16				16
ICPX 840087 (" × ICPL 83032)	2	7	9		3	3	12
ICPX 840088 (" × ICPL 143)	9	8	17	7	2	9	26
ICPX 840089 (" × ICPL 161)							
ICPX 840090 (ICPL 83024 × ICPL 269)	7	3	10	10	16	26	36
ICPX 840091 (" × ICPL 83032)		6	6	1	6	7	13
ICPX 840092 (" × ICPL 161)	6	1	7	9	1	10	17
ICPX 840094 (ICPL 269 × ICPL 143)		2	2		26	26	28
ICPX 840095 (" × ICPL 161)				4		4	4
ICPX 840096 (ICPL 83032 × ICPL 143)	1		1		22	22	23
ICPX 840097 (" × ICPL 161)				4	3	7	7
ICPX 840101 (ICPL 146 × ICPL 289)	23	13	36				36
ICPX 840102 (" × ICPL 83024)	24		24				24
ICPX 840106 (ICRL 83010 × ICPL 316)							
ICPX 840107[b] (" × ICPL 4)	6	2	8				8
ICPX 840108[b] (" × ICPL 289)		10	10				10
ICPX 840109 (" × ICPL 87)	2	1	3				3
ICPX 840110 (" × ICRL 83016)							
ICPX 840111 (" × ICRL 83024)	3	1	4				4
ICPX 840112 (" × ICRL 84023)	4	1	5				5
ICPX 840115 (" × ICPL 84043)	2	1	3	5	3	8	11
ICPX 840116 (" × ICRL 84045)				2	8	10	10
ICPX 840117 (" × ICPL 85037)	6	2	8	12	4	16	24
ICPX 840119 (" × 84NP-1542[a])	1	3	4	3		3	7
	Total	300	189	489	169	202	371	860

[a] 84NP-1542 = ((ICPL 81 × AL 15) × (EE 76 × UNKnown)) × (N77-816 × ICPL 87))

[b] F2 populations selected for growing in 1987

Table 1.4: Selections in F_3-F_5 bulk populations at Nirmal showing 1986

Populations			No. of single plants selected						
			Early maturity			Medium maturity			
KPX No.	Parentage	Gen.	Among bulk	Within bulk	Total	Among bulk	Within bulk	Total	Total
830012	(KPL 44 × KAU 85059)	F_3				1		1	1
830044	(KPL 86 × KPL 85059)	F_3				1		1	1
831023	(ICPL 342 × EMP-1)	F_3					5	5	5
831024	(ICPL 161 × EMP-1)	F_3					6	6	6
831025	(KPL 317 × EMP-1)	F_3							
8200 H	(KPL 342 × KPL 186)	F_4				9	7	16	16
810059	(78333 × 77007) × PVSA3-93	F_5				6	5	11	11
810081	(KPL 87 × 7468) × 73047	F_5	9	17	26		3	3	29
810083	(KPL 87 × 7952) × 73047	F_5							
810091	(ICPL 81 × 78348) × 74146	F_5				7	5	12	12
810096	(KPL 94 × 74146)	F_5	70	11	81	5		5	86
810098	(ICPL 179 × 74146)	F_5	44	23	67				67
	Total		123	51	174	29	31	60	234

1.5 : Summary of selections in single plant progenies at Hisar 1986

Gen.	No. of Crosses	No. of SPPs grown in			No. of SPP bulks selected						No. of single plants selected for SPPs		
					For Test			For Observation Nursery					
		Brown Seeded	White Seeded	Total	Brown Seeded	White Seeded	Total	Brown Seeded	White Seeded	Total	Brown Seeded	White Seeded	Total
DETERMINATE :													
F_3	14	155	3	158	1		1	13		13	142	17	159
F_4	12	117	42	159		1	1	64	12	76	82	69	151
F_5	44	565	106	671	17	2	19	56	21	77	363	111	474
F_6	22	200	45	245	9	2	11	34	7	41	51	42	93
F_7	6	24	4	28				7	3	10	1	1	2
F_8	8	20	31	51				1		1		4	4
Florida & other bulks		161	67	228	4	3	7	8	10	18	105	68	173
Total		1242	298	1540	31	8	39	183	53	236	744	312	1056
INDETERMINATE :													
F_3	19	242	14	256				6		6	166	50	216
F_4	8	76	12	88	3		3	6	1	7	57	26	83
F_5	44	620	89	709	5	3	8	19	12	31	149	209	358
F_6	33	456	91	547	8	3	11	18	11	29	68	76	144
F_7	6	62	3	65	5		5	9	1	10	7	4	11
F_8	7	29	24	53	2		2	3	5	8	3	1	4
Florida & other bulks		120	37	157	3	1	4	5	3	8	36	82	118
Total		1605	270	1875	26	7	33	66	33	99	486	448	934

Table 1.6: Characteristics of [illegible] selected at [illegible] during 198[illegible] for [illegible] yield testing

[illegible] # [illegible]	PEDIGREE	[illegible]	DAYS TO FLOWER			DAYS TO MATURITY			Grain yield (kg/ha)		
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
812	810057-H8-H9-H8-H8-H8	B	57	64	64	93	100	110	2580	3066	2300
10309	820005-H80-H1-H1-H8	W	50	69	67	85	103	104	2857	1500	2565 2268
10346	810066-H8-S80-H1-H8-H8	B	53	64	65	89	105	108	1796	2441	1968
10349	810088-H8-H101-H1-H8	B	53	64	65	103	99	118	2158	2921	1968
10361	810134-H8-H2-H1-H1-H8	B	54	65	64	87	100	104	3318	3083	2125
10379	810152-H8-H35-B1-H1-H8	B	50	65	66	93	100	104	2838	2900	3156 2828
10389	800493-H8-H2-H7-H2-H1-H8	B	48	65	65	85	100	103	2449	2224	3023 2224
10410	800542-H8-H1-H2-H1-H1-H8	B	50	64	65	95	101	110	2463	2486	1833
10442	800555-H8-H3-H1-H1-H1-H8	W	50	64	65	87	101	110	1949	2406	1833
987	810058-H8-H3-H4-H1-H8	B	62	65	64	95	100	100	3261	2594	1138
1228	810134-H8-H11-H8-H1-H8	B	62	65	65	99	102	104	2857	2122	1633
10357	810183-H2-H1-H8-H8-H8	B	64	68	65	120	96	104	2616	1927	1968
10386	810168-H8-H2-H1-H8-H8	W	72	65	65	125	100	104	3324	2500	3204 3040
10394	810088-H8-H2-H1-H1-H8	B	65	65	64	110	100	110	1945	2324	1320
10397	800566-H8-H1-H1-H2-H1-H8	B	52	65	64	86	100	110	2894	2324	1320
10447	ICAL 289-H1-H8-H8	W	64	69	68	105	99	105	2709	2171	3163 2242
10452	24C-H8-H7-H1-H8-H8	B	65	67	71	146	105	109	3417	1361	2333 1998
10472	ESR 8410-H80-H8-H8	B	65	65	65	118	95	105	2491 3699	2579	2269
1188	810120-H3-H1-H8-H8-H8	B	65	65	67	100	100	106	2161	2061	1268 2879
1229	810134-H8-H19-H8-H1-H8	B	65	65	65	104	102	104	2472	2132	1633
1236	810134-H8-H27-H8-H2-H8	B	65	72	66	104	102	106	3189	2511	3137
1248	810134-H8-H1-H1-H1-H8	B	62	66	66	106	102	106	3167	3183	2706 1780
1347	810136-H8-H1-H2-H2-H8	B	57	69	64	90	99	99	2506	2239	2472

[illegible] of lines	PEDIGREE	Seed colour	DAYS TO FLOWER			DAYS TO MATURE			GRAIN YIELD (kg/ha)		
8657	800493-H8-H2-H5-H3-H-H8	B	51	65	65	90	106	106	2572	5406	2795
508	B30013-H3-H1-H8	B	66	64	66	102	102	106	2187	2322	[illegible]
10401	800520-H8-H22-H-H1-H1-H8	W	55	66	64	96	100	110	1732	2819	1320
10411	80056-H8-H1-H2-H3-H1-H8	B	59	64	65	102	101	110	2755	2486	1833
10455	81d-H8-H2-H6-H8-H8	B	72	67	66	146	105	109	2778	1361	1060 / 1008
834	810058-H1-H8-H8-H8-H8	B	67	69	69	95	99	104	2689	1783	1095
1432	810152-H8-H10-H1-H8-H8	B	65	67 / 65	65	99	99	106	3369	4400	2539
[illegible]	810153-H8-H16-H-H3-H8	B	72	66	65	110	104	106	3700	1783	2795
1451	800493-H8-H3-H5-H-H1-H8	B	65	65	65	100	106	106	3578	5406	2795
7577	800519-H8-H8-H2-H8-H1-H8	B	65	68	72	100	104	107	2656	1633	1117
1381	800519-H8-H4-H1-H8-H1-H8	B	68	65	72	107	100	107	2495	2078	1117
1836	84Comp-H1-H8-H8	B	68	65	68	99	106	106	3050	4106	1045
2219	84SADR Comp-H8-H1-H8	W	78	66	72	114	106	106	2750	2322	1628
2223	800576-H8-H1-H2-H8-H1-H8	B	72	69	72	114	106	106	2545	1283	1628
10385	810168-H8-H1-H1-H8-H8	W	74	65	65	125	100	104	4797	2570	3384 / 3890
10478	ESR 84004-S80-H8-H8	W	73	65	65	130	95	105	2695	2579	2269
								$\bar{x}$	2790.2	2536.8	2094.8
								Highest	4797	5406	3963

|1088917|

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Table 17: Characteristics of indigenous and exotic breeds of Nigeria during 1986 [illegible]

NBL #	PARENTAGE	BREED CODE	[illegible]			[illegible]			[illegible]		
3447	[illegible]	B	68	72	79	100	104	110	1528	1089	2451
3440	[illegible]	B	66	72	79	96	102	110	1983	[illegible]	6467
3474	[illegible]	B	68	75	79	98	108	108	2184	1189	2128
	[illegible]	B	72	74	79	102	104	110	2692	1489	1811
	[illegible]	B	69	71	79	97	120	120	2798	1625	1999
3411	[illegible]	B	69	71	79	90	120	123	2318	1237	1510
3437	[illegible]	B	66	71	73	88	120	112	1894	[illegible]	1690
3442	[illegible]	B	63	71	74	95	120	123	1941	[illegible]	2537
3449	[illegible]	W	63	72	74	90	90	123	2746	1542	2537
3448	[illegible]	W	71	72	74	120	90	123	2695	1542	2537
3472	[illegible]	B	61	68	76	95	96	102	1839	[illegible]	1991
3482	[illegible]	B	60	72	74	94	120	140	1941	[illegible]	1966
3492	[illegible]	B	62	74	79	93	109	858	1979	[illegible]	2691
2805	[illegible]	B	75	75	75	109	109	108	2145	1078	[illegible]
3210	[illegible]	B	72	72	72	110	112	115	1985	1411	1089
3237	[illegible]	B	72	71	71	104	104	104	2556	1859	3522
3239	[illegible]	B	68	71	71	96	104	104	2484	1845	[illegible]
3224	[illegible]	B	73	71	78	106	103	110	2784	1378	2606
3085	[illegible]	B	76	71	—	118	118	—	2523	917	
3123	[illegible]	W	72	72	78	120	108	120	1278	1841	[illegible]
3156	[illegible]	B	72	76	77	99	99	99	2144	1304	[illegible]
3180	[illegible]	W	78	72	74	99	130	140	2014	2458	1866
3201	[illegible]	W	72	61	71	115	110	115	1583	1357	[illegible]

Trial-no	PEDIGREE	Type	Days to 50% flower			Days to 75% maturity			Grain yield (kg/plot)		
2057		B	79	75	75	109	108	108	1855	941	
2133		B	75	75	79	103	108	110	2000	1357	
4113		B	85	78	78	118	140	110	2934	628	
4194		W	79	73	73	120	105	105	1859	1183	
4198		W	76	75	77	110	110	112	2075	1317	
10187		B	74	72	79	138	138	140	1430	1556	
10158		B	73	76	77	140	99	99	2017	1904	
10190		B	71	72	79	140	90	109	4335	2329	
10200		B	77	79	79	108	108	115	2287	1551	
10202		B	69	79	79	91	108	115	1671	1551	

Table 1.8 : Performance of DMRT entries during 1986 at Mau

Entries	Days To		Plant Ht. (cm)	Panicle per plant	1000 grain wt. (g)	Panicle length (cm)	Grain Yield (kg/ha)
	50% fl.	Maturity					
KAU 151 (c)	66	111	173	3.9	8.8	173	6272
KAU 83015	57	92	160	3.6	10.1	160	3183
KAU 83006	65	107	165	3.6	6.0	165	2908
KAU 317	65	108	157	3.9	9.8	157	2849
UPR 9126 (c)	70	116	180	3.9	8.2	180	2578
KAU-95	69	107	170	3.6	8.1	170	2560
PB52	72	111	175	3.6	9.8	175	2490
MAU-1	71	123	162	3.9	8.8	162	2338
AL 15	63	96	171	4.0	7.5	171	2298
KAU-22	70	104	165	3.8	9.1	165	2241
P 601	52	98	183	3.7	10.5	183	2157
MAU-2	69	115	157	3.9	8.5	157	2077
KAU-1	67	110	174	3.9	7.6	174	1923
KAU-12	71	113	176	4.0	7.9	176	1882
$\bar{X}$	66	108	169	3.8	9.0	169	2480
SEm ±	0.8	1.5	9.1	0.13	0.22	9.1	152
CV%	2.3	2.8	10.8	6.6	4.8	10.8	12.3

Table 1.9 : Performance of ERCT entries showing 1986 at Akola

Entries	Days To 50% FL	Days To 50% Ht.	Plant Ht. (cm)	Basal Stem Girth (cm)	No. of Basal Br.	Plant Spread E-W (cm)	Grain Yield (q/ha)
ICH 83022	68	112	162	4.3	9.9	NJ	2721
N82-26	74	113	207	3.6	7.4	172	2507
ICH 83027	71	123	217	3.9	10.7	NJ	2869
Phule 853	75	123	219	3.6	8.9	139	2240
Phule 854	69	113	180	3.8	9.1	150	2209
UPAS-120 (C)	72	111	199	3.8	8.0	179	2192
Phule A1-1	75	114	215	3.7	8.3	155	2086
Phule A-10	74	112	201	3.8	8.5	145	2063
H80-110	75	126	208	3.5	7.4	175	2012
AL 57	73	112	205	3.8	7.2	142	2041
TAT 11	75	120	234	3.8	10.6	150	1986
ICPH 8	77	115	239	3.6	8.8	169	1939
N80-50	74	122	198	3.8	8.8	148	1878
ICPL 269	74	122	189	4.0	11.3	137	1855
ATH 14	76	123	217	3.8	7.7	141	1851
H 83-31	74	112	223	3.7	8.0	178	1798
P 869	71	113	209	3.4	8.5	143	1765
P 602	71	115	198	3.9	10.5	159	1764
Monark (C)	71	109	196	3.8	7.7	133	1722
ATH-10	73	121	206	4.0	8.1	142	1707
$\bar{x}$	73	116	206	3.8	8.8	154	2035
SEm ±	0.9	1.4	7.6	0.12	0.21	10.2	219
CV%	2.7	2.4	7.4	6.5	4.7	13.2	21.5

Table 1.10 : Performance of NET-1 entries showing 100% at Akola

Entries	DAYS TO FL	DAYS TO MAT.	Plant ht. (cm)	Stalk per plant	Ear head ht. (cm)	Plant lodged	Grain yield (kg/ha)
Pant A-8509	78	120	208	3.6	87	135	2787
KM 8904B	71	115	171	4.3	101	145	2644
Pant A-103	77	115	194	3.7	8.6	131	2546
T 21 (c)	75	117	196	3.8	8.4	160	2510
Phule 855	80	117	196	3.8	10.7	165	2484
TTS	80	121	206	3.7	10.5	160	2463
Pant A-8505	80	119	216	3.7	8.5	145	2451
Pant A-8508	78	118	200	3.8	8.9	146	2383 ±
Phule 85	76	118	198	3.9	8.9	153	2349
DA 21	89	124	221	3.8	9.3	148	2222
Pant A-8514	78	116	208	3.9	8.2	171	2175
P 603	72	114	181	3.9	8.7	144	2075
Pant A-8507	76	115	195	4.0	7.9	141	1858
PDA 85-1	NOT MATURED TILL DECEMBER END						
$\bar{x}$	78	117	199	3.8	9.0	149	2381
SEm ±	1.3	1.5	7.3	0.12	0.19	7.6	138
CV%	3.3	2.6	7.4	6.2	4.2	10.2	11.6

Table 1.11: Performance of short duration pigeonpea entries included in AICPIP trials at Patancheru, Gwalior and in summer and late sowings at Hisar during 1986 kharif.

Entries	Gr. Hab.	Stalk yield (Tons/ha) Hisar: Green fodder	Stalk yield (Tons/ha) Hisar: Dry	Grain yield (kg/ha) Patancheru: I harvest	Patancheru: II harvest	Patancheru: Total	Gwalior: I harvest	Gwalior: II harvest	Gwalior: Total	Hisar: April sown	Hisar: July sown	Mean (7 locs)
ICPL 84031	DT	20.1	5.7	989	311	1300	2250	1069	3319	5469	3426	3715
ICPL 83022	DT	18.7	6.2	1193	375	1568	2106	472	2578	5039	3764	3636
ICPL 151(C)	DT	13.2	6.3	887	120	1007	1730	140	1870	5487	3195	3517
ICPL 217	DT	15.6	5.7	857	163	1020	1547	310	1857	5705	2869	3440
ICPL 84008	NDT	27.0	5.6	1255	228	1483	1364	814	2178	5647	2667	3226
ICPL 87(C)	DT	25.7	7.7	1521	710	2231	1846	322	2168	4461	3022	3217
ICPL 146	NDT	31.6	5.9	1593	414	2006	1805	1094	2899	4747	2759	3097
H77-216(C)	NDT	25.6	5.0	1254	262	1517	1312	877	2189	4509	2492	2771
ICPL 84020	DT	7.6	5.5	972	215	1187	747	219	966	4956	2472	2725
ICPL 83006	DT	10.5	4.7	1349	772	2121	1438	642	2080	3658	2565	2554
ICPL 83027	NDT	27.8	7.9	855	146	1001	1410	439	1849	3131	2363	2501
UPAS 120(C)	NDT	26.4	5.3	986	187	1173	1270	823	2093	3654	2515	2480
ICPL 83015	DT	6.9	5.2	848	177	1024	1098	293	1391	2353	2616	2022
ICPL 4(C)	DT	6.7	4.0	972	362	1333	1321	373	1694	2835	2469	2208
ICPL 269	NDT	25.0	5.0	982	122	1104	1247	67	1314	2399	2236	1961
T 21(C)	NDT	29.0	8.1	-	-	-	-	-	-	2898	2447	1782
KAN 8	NDT	-	-	1690	561	2251	2147	661	2808	-	-	2147 *
Gwalior 3	NDT	-	-	-	-	-	-	-	3191	-	-	3191
SE		1.5		262	127	372	203	148		249		
Mean		20.0		1153	325	1478	1540	694	2234	4197		
CV%		15		45	78	50	26	43		12		

* One location data

Table 1.12: Days taken to flower and mature by short duration fingermillet varieties included in AICRP trials, at Bangalore, Gandhi, and in Hanamsagar and late sowings at Hiriyur during 1986 kharif.

Entries	Gr habit	DAYS TO FLOWER				DAYS TO MATURITY			
		Bangalore	Gandhi	Hiriyur		Bangalore	Gandhi	Hiriyur	
				April Sown	July Sown			April Sown	July Sown
ICPL 84031	DT	75	78	65	60	115	131	186	125
ICPL 83032	DT	75	81	67	61	115	134	181	123
ICPL 151(c)	DT	75	84	65	63	109	136	185	115
ICPL 317	DT	77	79	67	63	111	134	180	117
ICPL 84048	NDT	74	89	70	63	113	135	177	123
ICPL 87(c)	DT	75	88	70	63	111	139	187	130
ICPL 186	NDT	73	88	69	63	114	138	200	121
N77-216(c)	NDT	69	79	68	60	111	115	190	121
ICPL 84020	DT	69	68	63	60	104	106	181	117
ICPL 83006	DT	68	74	63	60	108	122	178	117
ICPL 83027	NDT	74	84	68	65	115	132	190	126
UAS-128(c)	NDT	72	81	68	59	111	125	190	119
KPL 83015	DT	69	71	69	57	107	112	186	108
KPL 4(c)	DT	70	72	65	61	103	117	178	108
ICPL 269	NDT	75	90	71	66	114	139	193	117
T-21 (c)	NDT	–	–	159	73	–	–	195	127
ICPH 8	NDT	78	99	–	–	119	139	–	–
Gandhi -3	NDT	–	–	–	–	–	–	–	–
SE		1·8	2·1	0·6	1·0	2·1	2·4	0·8	0·9
Mean		73	81	73	62	112	128	186	120
CV %		5	5	2	3	4	4	1	1

Table 1.13: New Extra short duration pigeonpea lines proposed for inclusion in 1987 AICPIP at Kharif Pulses Workshop to be held at Bangalore.

Line	Days to Fl.	Days to Mat.	Plant Height (cm)	100seed Wt.(g)	Grain Yield (Kg/ha) 1986 Winter	1986 Summer (14Loc)	1985 Summer 8Loc.	1985 Summer 1Loc. (Patancheru)	1986 Summer 2Loc.	1986 Summer 1Loc. (Hisar)	1987 Hisar	Parentage
ICPL 84023	55	101	130	8.2	2438	1487*	2047	-	2674	-	3014	Cross No. 78356
ICPL 4	67	100	188	6.6	2129	1492	1710	2555	2114	2562	-	
ICPL 151	63	112	187	11.2	2595	1873	2253	2937	-	-	(2295)	
H77-216	76	117	227	8.0	2535	1667	-	-	-	-		
UPAS 120	77	112	240	8.4	2431	1597	-	-	-	-		
SE	0.6	0.6	5.7	0.2	258			243		145	180	
CV %	2	1	6	4	20			15		10	11	

* Low mean because of very low yields at Gwalior (706) and Pusa (359) as against test mean yields of 1509 (Gwalior) and 873 (Pusa), respectively.

XII/A Data of 14 locations from which mean for 1986 of ICPLs 84023 and 86006 have been derived.

Entry	Grain Yield (kg/ha)														
	Faridkot	Sriganga-nagar	Delhi	Hisar			Gwalior	Patancheru	Derol	Jona-garh	Pusa	Dehra-dun	Thailand		Mean
				April	June	July							Tapha	Shem-kham	
ICPL 84023	1438	1010	1038	2971	2438	2299	786	2903	1265	1287	359	868	946	1213	1487
ICPL 4	937	1097	956	2503	2129	1721	1263	3291	810	1082	645	1528	1322	1611	1492
ICPL 151	1584	1489	1575	4323	2595	2433	1454	3081	910	892	1075	2014	1139	1165	1873
H77-216	1813	1250	1256	3613	2535	2086	-	2785	1049	1162	932	1528	1287	1493	1667
UPAS 120	1771	1146	1444	3203	2431	2093	1491	2331	1250	673	896	1887	1316	1301	1997
SE	101	96	101	-	258	180	134	274	172	66	99	36	82	97	
CV %	8	13	16	-	20	16	18	19	25	15	20	4	13	12	

Locations not considered :

High CV - Berthin (44%)

Very low test yields - Phulbani, Anantpur and Bheemarayanagudi

Plant stand at Karl was very poor. Data reported may not be reliable, hence not considered.

Table 15: Data of 8 locations for 1985 from which mean yields of ICPL 84023 have been derived.

Entry	Grain yield (kg/ha)								
	Kaul	Faridkot	Dehradun	BCW	Kharyone	Indore	Patancheru	Pusa	Mean
ICPL 84023	3572	2205	1027	2410	1204	1520	2848	2580	2047
ICPL 4	2469	1925	574	2111	885	1125	2753	1838	1710
ICPL 151	3519	1670	2000	2523	990	1388	3170	2757	2253
ē	2594	2052	1033	2251	1035	1321	2895	2204	-
SE	197	237	31	264	125	30	230	-	-
CV %	13	20	5	20	21	7	14	-	-

Table 1 / 16: New short duration pigeonpea lines proposed for inclusion in 1987 ERCT at Kharif Pulses Workshop to be held at Bangalore.

Line	Days to Fl.	Days to Mat.	100seed wt.(g)	Grain Yield (kg/ha) 1986 Mean (3Loc)	1986 Mean (3Loc)	1985 Mean 7 Loc.	1984 Mean 2 Loc.	1983 Mean	Parentage
DETERMINATE:									
ICPL 84031*	60	125	10.1	3426	3715	2481	2053	3225	ICPL 87 x 74065 proj.
ICPL 4	61	108	5.9	2469	2208	1872	1960	-	
ICPL 151	63	115	10.8	3195	3470	2289	-	-	
H77-216	60	121	7.1	2492	2771	-	-	-	
UPAS 120	59	119	7.1	2515	2480	2505	-	2866	
SE	1.0	0.9	0.4	205				193	
CV %	3	1	9	13				17	
INDETERMINATE :					(8Loc)				
ICPL 84052	81	123	9.7	2527	2001	2532	2357	3009	ICPL 2 x 75080 proj.
H77-216	76	124	8.4	2291	1791	2462	1937	-	
UPAS 120	80	125	8.4	2259	1734	2458	-	2597	
SE	0.5	1.0	0.7	306				179	
CV %	1	2	13	23				13	

* ICPL 84031 was approved for entering in ERCT last year but because of non-availability of enough seed it was not entered, hence proposed for entering this year.

Table 17

Data of 3, 7 and 2 locations from which means of ICPL 84031 have been derived for 1986, 1985 and 1984.

(A) 1986 (3 locations + an extra location) :

Entry	Grain yield (kg/ha)				
	Hisar (April)	Hisar (July)	Gwalior	Mean	Hisar (ADLT*)
ICPL 84031	5469	3426	2250	3715	2982
ICPL 4	2835	2469	1321	2208	-
ICPL 151	5487	3195	1730	3470	2599
H77-216	4509	2492	1312	2771	-
UPAS 120	3654	2515	1270	2480	2446
SE	249	205	204	-	237
CV %	12	13	26	-	15

* Additional data not included earlier

(B) 1985 (7 locations) - Grain yield (Kg/ha)

Entry	Kaul	Faridkot	Sriganga-nagar	Khargone	Indore	Patancheru	Pusa	Mean
ICPL 84031	3292	2444	3239	905	1764	3110	2610	2481
ICPL 4	2469	1925	2111	885	1125	2753	1838	1872
ICPL 151	3519	1670	2523	998	1388	3170	2757	2289
UPAS 120	3550	3258	2420	1019	1667	3163	2460	2505
SE	197	237	264	125	30	230	-	-
CV %	13	20	20	21	7	14	-	-

(C) 1984 (2 locations) - Grain yield (kg/ha)

Entry	Hisar	Patancheru	Mean
ICPL 84031	2805	1301	2053
ICPL 4	2604	1316	1960
SE	159	127	-
CV %	12	17	-

Table 19: New short duration pigeonpea lines proposed for inclusion in 1987 ACT-1 at Kharif Pulses Workshop to be held at Bangalore.

Line	Days to Fl.	Days to Mat.	100seed wt.(g)	Grain yield (kg/ha) 1986 Hisar June	1986 Hisar July	1986 Pat.	1986 Mean (9Loc)	1985 Pat.	1984 Pat.	1983 Hisar	1982 Hisar	Parentage
ICPL 83024*	73	129	17.6	2448	3052	2928	2413	3087	1901	1680**	2894	Prabhat x ICP 7035
ICPL 151	67	101	11.8	2674	2942	2780	2396	2937	1301	-	2971 (ICPL 87)	
UPAS 120	67	111	7.9	2995	2817	2224	2179	3080	1798 (ICPL 87)	2532	2731	
SE	0.6	0.5	0.15	184	226	230	-	243	169	125	100	
CV %	2	1	3	14	11	18	-	15	24	13	9	

* ICPL 83024 may also be considered for entering in ECT for Peninsular, southern and Southeastern Zones.

** By mistake it was tested in an indeterminate lines trial, hence may have got suppressed.

Table 19: Data of 9 locations from which means of ICPL 83024 have been derived for 1986

Entry	Grain yield (kg/ha)									
	Hisar				Patancheru				Gwalior	Mean
	April	June	July	ADLT	EPPHLT	ADLT	FS-I*	FS-II*		
ICPL 83024	3525	2248	3052	2656	2928	3170	1067	1220	1655	2413
ICPL 4	1878	2405	2278	-	2626	-	-	-	1088	-
ICPL 151	3714	2674	2942	2807	2780	3351	760	1068	1467	2396
ICPL 87	-	-	-	2665	-	3092	-	-	-	-
UPAS 120	3017	2995	2817	2679	2224	2666	747	971	1497	2179
SE	415	184	226	222	230	207	106	110	192	-
CV %	22	14	11	17	18	15	26	19	29	-

FS-I and FS-II - trials were conducted by Dr. Faujdar Singh, Training

Table 1.30: Performance of some extra short duration pigeonpea lines in EXPIT 86 at different locations in India during 1986 kharif.

Lines	Gr Habit	Days to flower				Grain yield (kg/ha)			
		Sri-ganga-nagar	Anand	Pune (Rahuri)	Mean	Sriganga-nagar	Anand	Pune (Rahuri)	Mean
ICPL 83006	DT	65	78	71	71	2222	1365	1609	1699
ICPL 84020	DT	61	69	70	67	1889	1352	1832	1691
ICPL 85037	NDT	58	68	71	66	1618	1159	1586	1454
ICPL 84019	DT	56	65	60	60	1681	1031	1312	1341
ICPL 179	DT	54	68	65	62	1333	1155	1461	1316
ICPL 84018	DT	56	65	68	63	1625	1162	1080	1289
ICPL 4(C)	DT	66	75	69	70	1715	1060	1040	1272
ICPL 316	DT	54	65	61	60	1875	994	774	1214
ICPL 83004	DT	55	70	62	62	1534	709	1015	1086
ICPL 85012	DT	67	78	73	73	1785	662	371	939
ICPL 85024	DT	57	65	64	62	1517	625	594	912
ICPL 151(C)	DT	69	78	71	73	1702	742	223*	889
SE		0.9	1.7	-		188	143	127	
Mean		60	70	-		1708	993	1075	1259
CV%		3	4	-		19	25	19	

* Low yield due to severe leaf blight

Table 1.21: Yield performance of EPAY RE 27 entries at different locations during 1986.

Entries	AT HISAR: Days to Fl	Days to Mat	Plant ht (cm)		100 seed wt (g)	GRAIN YIELD (Kg/ha): Hisar Summer	Hisar June	Hisar July	[illegible]	[illegible] (Hisar)	[illegible]	[illegible]	[illegible]	[illegible]	Pune July	Pune Sept	[illegible]	[illegible]	[illegible]	Thandal I	Thandal II	[illegible]	[illegible]	[illegible]	Mean (16 locations)
KPH 9	67	123	197	B	9.0	–	2980	2611	2268	3458	1782	90	2034	1308	1254	2082	926	–	252	–	–	250	–	–	(2042)
KPL 85015	61	105	183	W	9.8	4779	2246	2601	1448	3137	1433	[illegible]	2012	1619	1039	675	1467	[illegible]	1875	1376	1221	–	–	605	1909
KPL 151	63	112	187	C	[illegible]	4323	2595	2033	1654	[illegible]	[illegible]	1409	1589	1575	1075	2153	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPL 85014	65	106	187	B	[illegible]	[illegible]	2339	2049	1541	3203	1333	1385	2436	1329	[illegible]	2133	[illegible]	[illegible]	2396	[illegible]	[illegible]	[illegible]	770	[illegible]	[illegible]
KPL 85012	62	[illegible]	179	W	[illegible]	[illegible]	2381	[illegible]	[illegible]	[illegible]	1517	[illegible]	[illegible]	913	883	1585	[illegible]	[illegible]	1977	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1778
KPL 85016	60	107	[illegible]	W	[illegible]	[illegible]	3230	2415	[illegible]	3112	[illegible]	[illegible]	[illegible]	677	[illegible]	[illegible]	796	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPH 12	70	[illegible]	194	B	[illegible]	–	[illegible]	[illegible]	1274	2755	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2303	579	[illegible]	[illegible]	–	–	[illegible]	–	[illegible]	(1707)
KPL 85010	58	[illegible]	159	L	[illegible]	3757	2560	[illegible]	1270	2730	[illegible]	1542	[illegible]	[illegible]	950	1457	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPL 85033	64	[illegible]	175	B	[illegible]	3972	2244	2023	1710	[illegible]	983	[illegible]	1071	[illegible]	932	[illegible]	577	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
H77-216 (C)	76	117	227	B	[illegible]	[illegible]	2535	[illegible]	–	–	1017	[illegible]	[illegible]	[illegible]	932	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPL 84032	71	[illegible]	199	L	[illegible]	2722	[illegible]	[illegible]	1746	3625	1303	[illegible]	1329	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPL 83019	58	[illegible]	161	B	[illegible]	2408	[illegible]	[illegible]	[illegible]	2622	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
UPMS-120 (C)	77	[illegible]	[illegible]	B	8.4	3208	2481	[illegible]	[illegible]	[illegible]	1758	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	673	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPL 4 (C)	67	[illegible]	188	B	6.6	[illegible]	2129	1321	[illegible]	[illegible]	1219	[illegible]	937	[illegible]	645	1790	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPL 85021	75	[illegible]	178	W	12.3	[illegible]	[illegible]	[illegible]	1622	2221	[illegible]	1757	[illegible]	[illegible]	[illegible]	[illegible]	336	–	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–	[illegible]
KPL 84023	55	[illegible]	130	B	8.2	2771	2438	2279	796	2903	867	[illegible]	[illegible]	[illegible]	359	1495	1707	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
KPL 84037	75	107	201	W	13.0	2037	1970	[illegible]	1791	1917	[illegible]	[illegible]	1625	250	579	[illegible]	[illegible]	–	770	1279	1707	[illegible]	–	–	[illegible]
KPL 84019	[illegible]	[illegible]	190	B	[illegible]	2495	2054	1958	1710	2083	550	[illegible]	1250	1327	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1299
SE	0.6	0.6	5.7		0.2	182	258	[illegible]	134	274	[illegible]	96	[illegible]	[illegible]	99	120	[illegible]	[illegible]	36	[illegible]	97	[illegible]	[illegible]	[illegible]	
MEAN	66	[illegible]	189		10.3	[illegible]	2561	[illegible]	1509	[illegible]	1357	[illegible]	[illegible]	[illegible]	873	[illegible]	[illegible]	[illegible]	1516	[illegible]	[illegible]	[illegible]	[illegible]	437	
CV (%)	2	1	6		4	8	20	16	18	19	15	13	8	16	20	12	15	25	4	13	[illegible]	10	17	8	

* Not included in mean due to very low yield

C = Mean of [illegible] 16 locations

Table 122. Characteristics of EMY 86 DT entries at different locations during 1986.

Days taken to flower

Entries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Mean
[illegible] 9	73	75	67	73	67	-	71	-	-	97	80
[illegible]	80	71	61	80	65	63	72	57	60	76	77
[illegible] 151	[illegible]	75	61	81	61	65	70	69	68	76	79
[illegible]	70	76	65	83	63	60	73	77	61	77	73
[illegible]	76	77	60	78	69	[illegible]	[illegible]	[illegible]	63	[illegible]	74
[illegible]	62	[illegible]	60	81	61	69	61	60	65	83	74
[illegible]	77	76	70	[illegible]	[illegible]	[illegible]	76	-	-	86	77
[illegible]	57	86	57	76	60	[illegible]	70	56	57	86	68
[illegible]	[illegible]	72	69	86	71	70	75	62	65	[illegible]	78
[illegible]	[illegible]	[illegible]	76	-	71	63	77	62	67	86	77
[illegible]	71	[illegible]	77	70	68	[illegible]	72	63	60	77	73
[illegible]	66	73	[illegible]	61	[illegible]	57	65	66	66	73	65
[illegible]	[illegible]	75	77	[illegible]	67	63	70	69	68	[illegible]	[illegible]
[illegible]	67	71	67	75	65	[illegible]	71	61	66	75	73
[illegible]	[illegible]	[illegible]	75	[illegible]	61	-	77	67	[illegible]	83	79
[illegible]	71	83	55	63	57	59	[illegible]	[illegible]	56	75	62
[illegible]	71	71	75	70	71	-	67	[illegible]	[illegible]	83	83
[illegible]	71	[illegible]	[illegible]	[illegible]	[illegible]	59	57	62	[illegible]	[illegible]	64
SE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MEAN	71	73	[illegible]	[illegible]	[illegible]	[illegible]	71	[illegible]	[illegible]	[illegible]	72
CV(%)	3	4	3	5	2	2	1	1	1	[illegible]	

Days taken to mature

Entries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Mean
[illegible] 9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-	-	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 151	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CV(%)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

[illegible] seed [illegible] (g)

Entries	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Mean
[illegible] 9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-	-	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 151	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MEAN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CV(%)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

Table 12B: EPAY 86 DT entries ranking among top 6 for grain yield at different locations during 1986

Entries	Niger									Asia					Thailand					No. of 13 locations studied ranking among top 6
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
ICPH 9	3	4	3	1	2	3	1	1	3	1	1	-	-	3	-	-	4	-	-	13
ICPL 85015	1	1	4	-	6	-	-	4	2	5	-	-	-	6	3	6	-	-	-	10
ICPL 151	2	-	5	-	-	1	6	-	3	4	3	-	-	4	-	5	-	4	-	10
ICPL 85014	-	-	-	-	4	-	-	2	-	3	4	4	4	2	6	-	5	5	-	10
ICPL 85012	4	5	2	-	5	5	-	-	-	2	-	-	3	5	-	4	-	-	1	10
ICPL 85016	-	3	6	3	-	6	-	-	-	-	-	-	2	-	2	-	-	-	-	6
ICPH 10	-	6	-	-	-	-	4	3	1	6	2	-	-	-	-	-	-	-	-	6
ICPL 85010	5	-	-	-	-	-	5	-	-	-	5	-	5	-	-	-	-	-	3	5
ICPL 85083	-	2	1	5	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	5
H 77-216(c)	6	-	-	-	-	2	-	8	-	-	-	3	-	-	-	-	2	1	-	6
ICPL 84032	-	-	-	4	1	-	-	-	-	-	6	-	-	-	-	3	-	3	-	5
ICPL 83019	-	-	-	-	-	-	2	-	-	-	-	5	-	1	-	-	-	6	5	5
UPAS-120(c)	-	-	-	-	-	4	-	6	4	-	-	-	-	-	5	-	1	2	4	7
ICPL 4(c)	-	-	-	-	3	-	-	-	-	-	-	6	-	-	4	-	3	-	-	4
ICPL 85021	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	1
ICPL 84023	-	-	-	-	-	-	-	-	-	-	-	2	6	-	-	-	-	-	-	2
ICPL 84037	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	6	-	-	3
ICPL 84019	-	-	-	6	-	-	-	-	6	-	-	1	1	-	-	-	-	-	6	5

Table 2: Characteristics of entries in EPAY-DT (T 07) grown at Hisar, rainy season 1986.

Entry No.	Name	Days to Flower	Plant height (cm)	Heliothis damage	Days to mature	Seeds per pod	100 seed weight	Plant stand	Grain yield /plot	~~Grain~~ ~~weight~~ /plot	Grain yield (kg/ha)	~~Grain~~ ~~weight~~ (T/ha)	Plant stand age
13	ICPL 85015	61	183	4	105	4.0	9.8	50	0.701	2.58	3246	11.92	23
16	ICPL 85033	64	195	5	105	4.0	11.1	36	0.701	2.81	3244	13.00	17
14	ICPL 85016	60	192	6	107	4.0	10.8	56	0.696	3.27	3220	15.11	26
17	ICPH 9	67	177	5	123	4.5	9.8	52	0.622	3.35	2880	15.49	24
11	ICPL 85012	62	174	6	118	3.8	12.1	46	0.609	2.61	2821	12.06	22
18	ICPH 10	70	194	4	108	4.1	10.1	47	0.585	3.25	2708	15.03	22
4	ICPL 151 (Ch)	63	137	4	112	4.0	12.2	57	0.560	2.29	2595	10.58	26
10	ICPL 85010	58	154	5	104	3.9	10.6	56	0.553	1.82	2560	8.41	26
1	H77-216 (Ch)	74	227	4	117	3.6	8.0	52	0.548	2.83	2535	13.10	24
7	ICPL 84023	55	150	6	101	3.3	8.2	53	0.527	1.19	2438	5.50	25
2	UPAS-120 (Ch)	77	240	3	112	3.5	8.4	49	0.525	3.11	2431	14.40	23
15	ICPL 85021	75	198	6	112	4.9	12.3	51	0.518	3.23	2398	14.94	24
12	ICPL 85014	65	187	5	106	3.8	10.0	57	0.505	2.19	2339	10.13	26
8	ICPL 84032	71	190	3	113	4.2	10.8	52	0.494	3.30	2287	15.28	24
5	ICPL 83019	58	161	7	105	3.4	11.7	49	0.493	1.86	2281	8.62	23
3	ICPL 4 (Ch)	67	169	4	100	3.0	6.6	69	0.460	1.44	2129	6.68	23
6	ICPL 84019	68	193	6	113	3.2	10.7	53	0.444	2.15	2054	9.94	23
9	ICPL 84037	75	201	5	107	4.0	13.0	50	0.427	2.99	1978	13.85	24
	SE	0.6	5.7	0.7	0.6	0.19	0.20	2.6	0.056	0.154	238.5	0.719	1.1
	MEAN	66.1	188.7	4.6	109.7	3.84	10.35	50.7	0.554	2.569	2563.4	11.892	23.5
	CV(%)	1.9	6.0	29.8	1.2	9.89	3.94	9.6	20.170	12.019	20.2	12.023	9.4

Irrigations: 2
Date of sowing 25-6-1986
Date of harvested 15-10-1986
Spacing 30 x 10 cm, Net plot area : 2 rows x 3.6 m x .30 m
Fertilizer: 100 kg DAP/hectare

ICRISAT : Performance of pigeonpea (extra-short duration) genotypes at Patancheru, summer, 1986.

Entry No.	Name	Days to flower	Days to maturity	Plant height (cm)	Seeds per pod	100 seed wt. (g)	Plant yield per plot	Grain yield (kg/ha)	Dry stalk yield (t/ha)
13	ICPL 85015	66	168	227	4.2	9.1	62	4779	17.9
4	ICPL 151(c)	67	168	246	4.1	11.0	32	4823	17.6
16	ICPL 85033	70	171	245	4.7	10.6	23	3972	23.8
11	ICPL 85012	67	163	210	3.8	11.1	31	3820	10.3
10	ICPL 85010	65	169	210	3.8	10.1	30	3759	8.5
1	NP2-86(c)	68	174	340	3.6	7.1	29	3613	22.8
12	ICPL 85014	67	166	242	4.2	9.2	32	3565	15.5
14	ICPL 85016	68	168	256	3.9	8.6	34	3207	14.9
2	DPMS-120(c)	68	175	314	3.6	7.5	33	3203	25.8
15	ICPL 85021	70	170	250	4.6	11.3	28	2981	18.2
7	ICPL 84023	64	150	153	3.2	8.2	35	2971	7.4
8	ICPL 84032	69	175	282	3.8	10.3	31	2922	25.5
9	ICPL 84037	69	173	235	4.9	11.7	29	2827	18.4
3	ICPL 4 (c)	66	170	217	3.6	6.9	33	2503	9.6
6	ICPL 84019	69	180	227	3.3	9.5	32	2475	11.0
5	ICPL 83019	61	170	241	3.2	10.2	29	2488	7.9
SE		0.45	1.16	6.98	0.15	0.23	1.19	182.2	0.79
MEAN		67	172	243	3.9	9.5	31	3339	15.9
CV(%)		1.5	1.6	5.9	7.9	4.9	8.6	10.9	9.9

Date of sowing 7 April, 1986.

Spacing : 50 cm x 20 cm ; Plot Size - 4 rows - 4 meter long

Table(x): Characteristics of entries in EPAY-86 OT (T 98) in late sowing at Hisar, rainy season 1986.

Entry No.	Name	Days to Flower	Plant height (cm)	Days to mature	Seeds per pod	100 seed weight	Plant stand	Grain yield /plot	Stover weight /plot	Grain yield (kg/ha)	Stover weight (T/ha)	Plant stand sem
16	ICPL 85033	66	120	122	5.9	9.8	67	0.610	1.12	2823	5.19	31
11	ICPL 85012	60	91	116	4.1	10.5	65	0.575	0.85	2660	3.91	31
17	~~ICPL 85063~~ KIM 9	61	113	118	4.1	8.2	73	0.564	0.84	2611	3.89	34
13	ICPL 85015	63	122	116	4.4	8.9	84	0.562	0.95	2601	4.40	39
4	ICPL 151 (Check)	64	100	111	4.4	9.4	74	0.526	0.58	2433	2.67	34
14	ICPL 85016	65	107	118	3.7	8.3	76	0.521	0.64	2413	2.95	35
7	ICPL 84023	56	91	109	3.3	7.2	84	0.497	0.45	2299	2.07	39
10	ICPL 85010	57	79	106	3.5	8.1	80	0.457	0.36	2116	1.67	37
9	ICPL 85037	65	107	119	4.8	11.0	70	0.455	0.74	2107	3.40	32
2	UPAS 120 (Check)	63	142	117	3.5	6.4	66	0.452	0.72	2093	3.31	31
1	H77 216 (Check)	62	136	117	3.9	6.2	72	0.451	0.58	2086	2.71	33
18	ICPH 10	63	110	118	3.7	8.1	62	0.451	0.78	2086	3.59	29
12	ICPL 85014	62	97	112	3.5	8.3	76	0.443	0.57	2049	2.62	35
15	ICPL 85021	66	108	114	4.5	10.3	66	0.439	0.67	2033	3.09	31
5	ICPL 83019	56	84	108	3.5	9.7	67	0.429	0.40	1984	1.83	31
8	ICPL 84032	67	112	114	3.8	8.6	76	0.425	0.67	1969	3.08	35
6	ICPL 84019	56	73	99	3.2	7.0	89	0.423	0.41	1958	1.90	42
3	ICPL 4 (Check)	62	95	101	3.9	5.2	77	0.372	0.48	1721	2.23	36
	SE	0.8	6.0	1.2	0.16	0.26	4.1	0.039	0.046	179.7	0.214	1.9
	MEAN	61.7	104.2	112.9	3.97	8.40	73.5	0.480	0.654	2224.4	3.028	36.1
	CV(%)	2.6	7.7	2.1	7.91	6.29	11.3	16.158	14.173	16.2	14.144	11.4

Irrigations : 2
Date of sowing : 28-7-1986
Date of harvesting : 9-12-1986
Spacing : 30 x 5 cm, Net plot area : 2 row x 3.6 m x .30 m
Fertilizer applied : 100 kg DAP/ha

Table 12: Performance of entries in EPAT 86-DT(T-86GT02) grown at Gwalior, rainy season 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)	IInd Harvest (kg/ha)	Total Yield (Kg/ha)
16	ICPH 9	83	123	129	4.2	8.4	91	2208	1014	3222
8	ICPL 84037	90	133	131	4.9	11.6	73	1991	233	2224
13	ICPL 85016	89	136	120	3.4	8.8	97	1828	272	2100
7	ICPL 84032	92	135	128	4.2	8.7	88	1746	173	1919
15	ICPL 85033	86	136	128	4.8	9.7	46	1710	171	1881
5	ICPL 84019	80	128	104	3.0	9.3	94	1710	1002	2712
14	ICPL 85021	85	151	133	4.8	10.5	56	1622	288	1910
11	ICPL 85014	93	123	119	4.1	9.0	98	1541	798	2339
1	UPAS 120(Check)	82	119	133	3.3	7.7	80	1491	1067	2558
3	ICPL 151(Check)	97	157	113	3.7	8.9	97	1454	252	1706
12	ICPL 85015	80	120	108	3.9	9.4	74	1448	584	2032
17	ICPH 10	81	127	136	4.1	8.9	107	1274	850	2124
9	ICPL 85010	76	122	99	4.0	10.0	106	1270	299	1569
2	ICPL 4(Check)	75	114	115	3.5	5.8	76	1263	433	1696
10	ICPL 85012	78	118	101	3.9	10.1	84	1243	422	1665
4	ICPL 83019	67	110	104	3.9	9.7	91	1075	337	1412
6	ICPL 84023	63	109	91	3.5	7.9	109	786	280	1066
	Sc	1.9	1.8	4.8	0.16	0.34	5.9	134.4	196.8	~~334.2~~
	McAN	91.1	-124.5	117.0	3.96	9.08	86.1	1509.4	658.4	2167.8
	CV(%)	4.7	2.9	8.3	8.9	7.6	13.6	17.8	59.8	~~22.6~~
Gwalior-3										3377

Table 28 : Performance of entries in Extra-Early (I-C2) group at Patancheru, rainy season 1986.

Entry No.	Name	Days to Flower	Days to Maturity	Plant height (cm)	Seeds 100-seed weight (g)		1st harvest Plant stand	1st harvest Yield (kg/ha)	2nd harvest Plant stand	2nd harvest Yield (kg/ha)	Total Yield (kg/ha)
8	ICPL [illegible]	[illegible]	[illegible]	[illegible]	4.4	[illegible]	111	2215	112	1410 (3)	3625 (1)
17	ICPH 9	[illegible]	[illegible]	[illegible]	4.2	[illegible]	109	2147	109	1292 (9)	3458 (2)
11	ICPL 85012	[illegible]	[illegible]	[illegible]	4.4	10.4	110	1923	110	1223 (9)	3146 (5)
15	ICPL [illegible]033	[illegible]	[illegible]	[illegible]	4.2	10.4	112	1837	111	1219 (10)	3056 (6)
12	ICPL 85014	[illegible]	[illegible]	[illegible]	4.2	[illegible]	112	1836	109	1367 (6)	3203 (4)
3	ICPL 4 (CM)	[illegible]	[illegible]	[illegible]	4.4	[illegible]	110	1792	124	1509 (1)	3291 (3)
1	ICPL 87 (CM)	[illegible]	[illegible]	[illegible]	4.2	[illegible]	123	1777	127	1008 (13)	2785 (11)
10	ICPL 85010	[illegible]	[illegible]	[illegible]	4.1	[illegible]	105	1761	103	969 (14)	2730 (13)
13	ICPL 85015	[illegible]	107	101	4.5	[illegible]	103	1749	105	1398 (5)	3137 (6)
14	ICPL 85016	[illegible]	[illegible]	[illegible]	4.1	[illegible]	112	1710	110	1392 (4)	3102 (7)
2	UPAS 120 (CM)	[illegible]	[illegible]	[illegible]	4.0	[illegible]	117	1669	102	682 (17)	2351 (15)
4	ICPL 151 (CM)	[illegible]	[illegible]	[illegible]	4.5	10.4	111	1628	109	1453 (2)	3081 (8)
7	ICPL [illegible]023	[illegible]	[illegible]	[illegible]	3.9	[illegible]	113	1599	114	1316 (7)	2903 (10)
18	ICPH 10	[illegible]	[illegible]	[illegible]	4.4	[illegible]	[illegible]	1550	[illegible]	1205 (11)	2755 (12)
16	ICPL 85041	[illegible]	[illegible]	[illegible]	4.3	10.4	110	1519	104	713 (16)	2231 (16)
5	ICPL 85013	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	104	1452	104	1170 (12)	2622 (14)
6	ICPL [illegible]019	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	122	1353	100	730 (15)	2083 (17)
9	ICPL [illegible]037	[illegible]	[illegible]	[illegible]	4.5	[illegible]	114	1323	112	597 (18)	1919 (18)
SE		[illegible]	[illegible]	[illegible]	0.11	0.27	4.1	169.9	4.8	160.0	274.2
Mean		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	112.6	1712.1	108.3	1146.6	2858.6
CV(%)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.3	19.9	8.9	26.6	19.2

Rainfall (mm): Jun [illegible], Jul 151.2, Aug [illegible], Sept 37.3
Irrigation : [illegible] 3.7.[illegible], 30.8.[illegible], 21.9.[illegible] & 9.10.86, 1.11.86, 20.11.86
Herbicide applied : [illegible] Pendimethalin 2 Lit/ha + Basalin 2.25 Lit/ha
Insecticide applied : [illegible] Thiodan 1%
[illegible] Thiodan 35%
1 kg/ha. Thiodan 35%
Net plot size : 4.5[illegible] rows of [illegible]m)
Spacing : 30 x 10 cm
Date Sown: 27.6.86
Harvesting: 25.9.86, 23.9.86

Table 4.29 : Performance of entries in EPAT-3T green at Berthing, H.P., during 19[illegible].

Entry No.	Name	Days to Flower	Days to Mature	Plant Height (cm)	100-seed weight (g)	Grain Yield (kg/plot)	Grain Yield (kg/ha)
17	ICPH 9	73	159	142	8.0	874	2159
18	ICPH 10	77	155	146	8.0	697	1720
4	ICPL 151 (C)	69	154	132	10.0	569	1405
8	ICPL 8-032	71	151	135	7.6	535	1322
2	UPAS 1[illegible]	[illegible]	1[illegible]	1[illegible]	7.1	514	1269
5	ICPL 83019	[illegible]	[illegible]	[illegible]	10.3	497	1227
12	ICPL 87014	[illegible]	[illegible]	138	[illegible]	[illegible]	1191
1	H 77 219 (C)	[illegible]	[illegible]	[illegible]	[illegible]	477	1178
3	ICPL 4 (C)	69	157	144	9.5	432	1066
10	ICPL 87010	[illegible]	[illegible]	[illegible]	9.2	422	1042
13	ICPL 87015	67	150	130	11.0	341	841
16	ICPL 87037	[illegible]	156	142	12.7	357	882
11	ICPL 87012	72	156	135	12.3	357	881
6	ICPL 8-019	[illegible]	[illegible]	[illegible]	8.0	326	879
15	ICPL 87034	[illegible]	158	145	10.6	340	839
7	ICPL 8-03[illegible]	[illegible]	[illegible]	[illegible]	7.0	322	796
14	ICPL 87016	64	154	128	9.0	295	727
9	ICPL 8-037	59	155	147	12.0	238	587
SE		1.4	3.0	3.9	-	114.2	282.3
Mean		71.1	151.8	139.1	-	451.2	1113.5
CV(%)		3.4	3.4	5.0	-	43.8	43.9

Cooperator and address : Dr S.C. Sood
Pulse Breeder
HPKVV Crop Research Station
Berthing, Dist. Bilaspur
H.P. - 174209

Net plot size : 4.05 sqm.
Date of planting : 2[illegible].6.[illegible] ; Harvest : 1[illegible].12.[illegible]
Fertilizer applied : 2[illegible].6.[illegible] N 1[illegible] kg/ha, P 45 kg/ha
Weeding : [illegible] manual

Table A3e : Performance of entries in SPAT-ST green at Sriganga Nagar, Rajasthan, during 1988.

Entry No.	Name	Days to flower	Grain yield (g/plot)	Grain yield (kg/ha)
17	ICPH 9	73	917	1910
5	ICPL 85019	69	942	1959
15	ICPL 85041	75	844	1757
14	ICPH 10	72	817	1701
10	ICPL 85010	68	760	1582
4	ICPL 151 (C)	72	715	1489
12	ICPL 85014	74	667	1389
1	M 77 219 (C)	71	6[illegible]	1[illegible]
8	ICPL 85033	[illegible]	[illegible]	[illegible]
11	ICPL 85012	70	5[illegible]	11[illegible]
2	UPAS 120 (C)	73	55[illegible]	11[illegible]
13	ICPL 85015	69	53[illegible]	1111
3	ICPL 6 (C)	74	52[illegible]	10[illegible]
9	ICPL 85037	74	[illegible]	1054
16	ICPL 85043	69	49[illegible]	1031
7	ICPL 85035	69	48[illegible]	1011
6	ICPL 85019	69	[illegible]	10[illegible]
18	ICPL 85016	67	46[illegible]	96[illegible]
	S.	0.3	[illegible]	[illegible]
	Mean	69.9	632.7	1319.1
	CV(%)	0.[illegible]	12.7	12.7

Cooperator and address : Dr. S.V. Maheshwari
Plant Breeder
Sukhadia University
Agric. Research Station
Sriganga Nagar 335 001
Rajasthan.

Lat. 29.5 N, Long. 73.8 E, alt. 17[illegible] m
Soil type : Sandy loam
Net plot size : 4.5 sqm.
Date of planting : 7.7.88 , Harvesting : 30.10.88
Fertilizer applied : [illegible] kg/ha, [illegible] kg/ha
Weeding : By hand
Irrigations : 2
Insecticide applied : 2 sprays, Endosulfan

Table 1.2V :Performance of entries in EPAY-DT '86 gr
at Faridkot, Punjab during 1986.

Entry No.	Name	Days to Flower	Days to Mature	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)
17	ICPH 9	95	147	9.4	5v	2e34
12	ICPL 85014	9e	137	8.1	4v	2433
18	ICPH 10	v8	145	9.2	50	219e
13	ICPL 85015	84	14e	8.7	51	2042
1	[illegible] (C-)	v1	14.	7.-	--	1e1.
2	[illegible] (C-)	8-	1[illegible]	.4	5.	1771
8	ICPL [illegible]	10	14v	10.7	55	172-
9	ICPL 8[illegible]	v-	14e	11.[illegible]	4-	1e25
5	ICPL 85019	8[illegible]	137	10.4	4-	1e25
15	ICPL 85041	10.	14e	11.9	54	1584
4	ICPL 151 (C-)	v5	145	10.7	4e	158-
14	ICPL 85016	100	15e	9.2	52	1479
7	ICPL [illegible]3	e3	127	7.E	57	1433
10	ICPL 85010	e-	135	8.6	4e	1435
11	ICPL 85012	e8	14e	10.6	52	143e
16	ICPL 85003	v-	14e	10.7	41	1271
6	ICPL [illegible]019	e-	127	7.4	5v	1250
3	ICPL 4 (C-)	91	127	5.[illegible]	4e	937
	Se	2.4	e.7	0.e2	4.1	101.3
	Mean	97.5	142.4	9.51	50.1	1693.3
	CV(%)	4.2	2.7	5.27	11.5	6.5

Cooperator and address : Dr. T.S. Sandhu
Senior Pulses Breeder
PAU Regional Research Station
Faridkot - 151 203
Punjab

Soil type : Heavy loam
Net plot size : 2.- 5m
Date of planting : 1[illegible].e.e6 Harvesting : 5.12.86
Fertilizer applied : Nil
Weedings : 2
Irrigations : -
Insecticide applied : Thiodan were sprayed twice at an interval of 15 days at 4[illegible]ml/acre against pod borer

Table [illegible] Performance of entries in EPAY-DT grown at Kaul, Haryana during 1990.

Entry		Days to Mature	Plant height (cm)	100-Seed weight (g)	Grain Yield (g/plot)	(kg/ha)
No.	Name					
4	ICPL 151 (Check)	11[illegible]	[illegible]	12.9	900	2000
1	H77 216 (Check)	127	11[illegible]	[illegible].4	872	1817
17	ICPm V	11[illegible]	90	10.0	860	1792
2	UPAS 12U (Check)	13[illegible]	13[illegible]	[illegible].0	[illegible]03	1758
11	ICPL e5u1[illegible]	10[illegible]	97	13.[illegible]	728	1517
14	ICPL e5u1[illegible]	12[illegible]	97	12.4	720	1500
[illegible]	ICPL e4u37	11[illegible]	10[illegible]	12.[illegible]	7[illegible]8	1697
16	ICPL e5u1[illegible]	127	[illegible]2	10.[illegible]	69[illegible]	1433
15	ICPL e5u21	12[illegible]	[illegible]2	12.[illegible]	672	1400
8	ICPL e4u[illegible]4	12[illegible]	11[illegible]	11.4	6[illegible]3	1783
12	ICPL e5u1[illegible]	12[illegible]	[illegible]6	11.1	640	1333
3	ICPL [illegible] (Check)	127	[illegible]7	[illegible].[illegible]	583	1217
5	ICPL e3u1[illegible]	12[illegible]	[illegible]2	10.[illegible]	5[illegible]7	1183
18	ICPm 10	117	[illegible]7	10.4	55[illegible]	1150
10	ICPL e5u1[illegible]	12[illegible]	[illegible]7	11.2	[illegible]37	1117
16	ICPL e5u3[illegible]	12[illegible]	107	12.1	472	[illegible]83
7	ICPL e4u23	12[illegible]	[illegible]2	[illegible].[illegible]	415	867
6	ICPL e4u1[illegible]	12[illegible]	7[illegible]	[illegible].[illegible]	2[illegible]5	550
	SE	1.2	5.0	0.11	[illegible]2.7	10[illegible].6
	Mean	11[illegible].7	[illegible]3.[illegible]	1[illegible].[illegible]4	[illegible]52.5	1330.[illegible]
	CV(%)	[illegible].1	10.7	[illegible].[illegible]2	15.2	15.2

Cooperator and address : Dr. S.P.S. Malik
Breeder (Pulse & Oil Seeds)
HAU, Regional Research Station
Kaul 132[illegible]1
Kurukshetra, Haryana

Lat. 2[illegible] 5'N, Long. 7[illegible] [illegible]1'E, Alt. 241 m
Soil type :-Clay loam
No. rows/plot: [illegible] Row length : 4 m, spacing between rows 30 x 10 cm
Net plot size : [illegible].[illegible] sqm.
Date of planting 7-7-1[illegible]9
Date of thinning 2[illegible]-7-19[illegible]
Date of harvest November
Fertilizer applied : [illegible]-7-1[illegible] [illegible]60 1[illegible]0 kg/ha
Seedings : Kasola sowing 1-[illegible]-199[illegible]

Table 33 : Performance of entries in SPAT-DT grown at IARI, New Delhi, during 1995.

Entry No.	Name	Days to Flower	Days to Mature	Grain yield (kg/plot)	Grain yield (kg/ha)
3	ICPH 10	96	136	1440	1800
9	ICPL 85015	98	134	1295	1619
4	ICPL 151	96	140	1260	1575
16	UPAS 120	100	144	1155	1444
10	ICPH 8	97	139	1111	1389
8	ICPL 84015	96	138	1070	1337
11	ICPL 85034	99	140	1031	1289
1	ICPL 87119	96	136	1010	1263
14	H 77 2[illegible]	100	140	1005	1256
2	ICPL 84023	97	139	860	1075
6	ICPL 84027	98	138	826	1033
18	ICPL 85010	96	139	803	1004
13	ICPL 4	95	130	765	956
15	ICPL 85012	94	135	732	915
12	ICPL 85016	100	144	543	679
7	ICPL 85033	110	144	394	493
17	ICPL 84027	103	140	200	250
5	ICPL 85021	103	144	142	178
	SE	2.0	1.1	80.4	100.4
	MEAN	97.4	139.7	872.9	1091.1
	CV(%)	13.5	1.4	16.0	16.0

Cooperator and address: Dr. S.P. Singh
Sr. Scientist (Freezer)
Division of Genetics
IARI, New Delhi - 110012

Date of sowing : 25.6.1995
Reps : 3
Plot size(net): 2m x 4m
No. of irrigations : 3
Remarks : The crop was severely affected by drought at seedling stage
No incidence of any disease was noticed.

Table 1.3: Characteristics of entries in SPAY-DT grown at G.A.U.Derol, rainy season 1986.

Entry No.	Name	Days to 50% flower	Days to maturity	Plant height (cm)	100-seed weight (g)	Plant stand	Branches per plant	Pods per plant	Seeds per pod	Pod length (cms)	Grain Yield (kg/ha)
6	ICPL 84014	54	91	65	4.8	55	5	52	3.7	4.2	1636
13	ICPL 85015	54	97	81	3.9	54	5	52	4.2	4.6	1481
10	ICPL 85012	57	93	85	3.9	54	4	46	4.5	5.4	1327
11	ICPL 85014	57	91	85	3.9	54	5	64	4.0	4.6	1296
9	ICPL 85010	57	95	70	3.4	54	4	46	3.9	4.6	1296
7	ICPL 84023	54	105	70	4.0	54	4	50	3.6	4.4	1265
2	UPAS 120(Check)	57	93	93	5.9	57	5	57	3.7	4.3	1256
16	Local check	72	103	93	9.4	53	4	73	3.8	4.6	1188
5	ICPL 83014	57	92	76	3.0	49	4	61	3.7	4.6	1173
12	ICPL 85015	57	96	97	3.0	55	5	61	4.1	4.8	1111
1	H 77-216(Check)	57	99	107	4.0	46	5	53	3.7	4.3	1049
8	ICPL 84032	55	95	93	3.7	49	4	58	4.5	5.0	1019
14	ICPL 85035	57	98	96	3.9	49	4	61	4.8	5.9	1003
15	ICPH 10	64	92	100	7.5	49	5	53	4.3	4.6	926
4	ICPL 151(Check)	55	95	93	11.0	49	5	46	4.3	5.4	910
3	ICPL 4(Check)	57	93	93	5.7	50	4	50	4.0	4.3	810
	SE	0.3	0.3	4.4	0.38	4.1	0.5	7.1	0.23	0.31	172.3
	MEAN	61.4	96.4	87.7	4.27	49.4	4.5	52.0	4.04	4.72	1171.4
	CV(%)	2.3	0.7	9.7	7.92	14.4	18.1	23.5	10.03	11.23	25.5

Cooperator and address: Dr. M.S. Patel
Research Scientist
NARP, Gujarat Agril. Univ.
Derol - 389 320
Gujarat.

Lat 22 N, Lat 72 E, Alt 55 M
Rainfall (mm) : Jun 231.0, Jul 199.8, Aug 135.6
Plot size(net) : 2.10 sqm.
Date of planting : 25.7.1985, Harvesting : 17.12.1985
Fertilizer : 25.7.1985, Nitrogen 20 kg/ha, Phosphorus 40 kg/ha
Hand weeding : 14.8.85, 3.9.85
Irrigation : Nil
Insecticide applied : 13.8.85, Dessecron 10ml/10liters of water
7.10.85 & 24.10.85 Nuvacron 30ml.10ml/10 lit. of water

Table 35 : Performance of entries in SPAT-DT 86 green at Junagadh, Gujarat 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain Yield (g/plot)	Yield (kg/ha)
6	ICPL 84019	59	100	99	7.0	75	295	1294
7	ICPL 84023	58	99	93	7.2	90	293	1287
1	H77 216 (check)	7v	112	1p1	6.5	6:	265	1162
12	ICPL 85014	72	10?	119	7.0	7b	263	1155
5	ICPL 83019	69	105	101	9.0	74	252	1103
3	ICPL - (Check)	7-	10?	1-3	8.4	7.	247	1082
15	ICPL 85019	7?	1??	1??	7.?	4?	243	1067
10	ICPL 85016	7.	101	1.	-..	7.	230	1009
11	ICPL 85014	69	104	109	8.5	63	227	994
4	ICPL 151 (Check)	70	101	114	9.2	6?	203	892
17	ICPM -	67	105	129	7.8	4?	188	826
14	ICPL 85016	69	103	114	9.2	71	170	745
9	ICPL 84034	74	111	123	8.4	69	165	724
2	UPAS 120 (Check)	69	119	174	6.3	66	153	673
18	ICPM 10	76	108	131	8.0	6?	137	599
16	ICPL 85076	73	109	113	7.9	70	137	599
8	ICPL 84027	67	113	112	7.4	61	97	424
13	ICPL 85021	79	111	134	9.0	63	77	336
SE		2.2	0.4	0.2	0.13	3.-	15.2	66.5
Mean		72.7	106.?	121.9	7.77	70.1	202.3	887.4
CV(%)		6.0	0.5	0.-	3.45	9.8	15.0	15.0

Cooperator and address : Dr. J.P. Yadavendra
Pulse Breeder
Gujarat Agriculture University Campus
Junagadh 3?2001
Gujarat

Lat. 21.30 N, Long. 70.31 E, Alt. 60 M
No. Rows/plot: 4 ; Row length :4 m: Spacing between rows 30 x 10 cm
Date of planting 2?-?-19??
Date of thinning ?-?-19??
Date of harvest ?0-10-19??, ?-11-19??
Fertilizer applied : ??-?-19?? by hand ?0-?0-0 CAP
Weedings : By hand weeding 7-?-19?6, ?8-7-19?6
Insecticides applied : 11-7-??, ?6-7-??, 15-?-?? By hand spray
monocrotophos 0.07%

Table 1.26 : Performance of entries in EFAT-DT grown at Pusa, Bihar, during 1986.

Entry No.	Entry Name	Days to flower	100-seed weight (g)	Grain yield (g/plot)	Grain yield (kg/ha)
1	ICPH 8	[illegible]	11.0	5[illegible]	125[illegible]
11	ICPL 85012	[illegible]	12.5	55[illegible]	116[illegible]
12	ICPL 85014	7[illegible]	10.0	[illegible]17	1111
4	ICPL 151 (C)	[illegible]	11.5	[illegible]	107[illegible]
13	ICPL 85010	[illegible]	10.5	[illegible]	10[illegible]
[illegible]	ICPH [illegible]	[illegible]	1[illegible]	[illegible]	10[illegible]
[illegible]	[illegible]	7[illegible]	1[illegible]	[illegible]	[illegible]
[illegible]	ICPL 85[illegible]	[illegible]	11.[illegible]	[illegible]	[illegible]
[illegible]	ICPL [illegible]	[illegible]	11.[illegible]	[illegible]	[illegible]
10	ICPL 850[illegible]	[illegible]	1[illegible]	4[illegible]	[illegible]
17	H 77216 (C)	7[illegible]	[illegible]	4[illegible]3	[illegible]32
1[illegible]	UPAS 120 (C)	[illegible]	9.[illegible]	41[illegible]	[illegible]
5	ICPL 83[illegible]	71	10.[illegible]	[illegible]	[illegible]
15	ICPL 85021	[illegible]	1[illegible]	[illegible]	[illegible]
3	ICPL [illegible] (C)	[illegible]	[illegible]	3[illegible]	[illegible]5
9	ICPL [illegible]	[illegible]	12.[illegible]	[illegible]	[illegible]74
7	ICPL [illegible]	[illegible]	[illegible]	1[illegible]7	3[illegible]
[illegible]	ICPL [illegible]	[illegible]	7.[illegible]	[illegible]	126
SE		-	-	[illegible].1	[illegible].2
MEAN		-	-	[illegible]	[illegible].1
CV(%)		-	-	1[illegible].7	1[illegible]

Cooperator and address : Dr. [illegible]
[illegible]
[illegible] Regional Station
Pusa (Bihar) [illegible] 125
Date of sowing : [illegible] , Harvesting : 1[illegible].12.8[illegible]
Net plot size : 4.[illegible] sq.m.

Table 1.27 : Performance of entries in EPAY-ST to green at Phulbani, Orissa during 19..6.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)
2	UPAS 120 (CM)	7.	12.	14.	7.7	133	1046
1	H 77-21. (CM)	77	1..	143	5.7	126	434
3	ICPL - (CM)	..	1..	105	3.7	122	253
17	ICPM -	..	1.1	11.	7..	127	250
12	ICPL .5.1.	7.	1..	10.	6.7	134	232
9	ICPL .4.37	..	131	11.	7.7	107	219
1.	ICPM 1.	..	1..	13.	.7	113	2..
1.	ICPL .5.1.	..	11.	91	.7	111	19.
14	ICPL .5.1.	..	1..	10.	.7	110	197
15	ICPL .5.21	..	1..	113	.7	10.	194
16	ICPL .5.3.	.1	1.5	111	.7	116	1..
4	ICPL 151 (CM)	7.	1..	11.	.7	120	19.
13	Local Check	9.	1..	12.	..	93	14.
11	ICPL .501.	7.	1..	9.	7..	100	139
7	ICPL .4.2.	..	1..	7.	.7	117	139
8	ICPL .4.3.	..	131	121	7.7	140	132
5	ICPL .1.1.	..	1..	97	7..	..	132
6	ICPL .4.1.	..	113	7.	7.7	100	115
	SE	..	..	3..	..7	9.3	14.8
	Mean	77.7	1..7	11..5	..31	115.4	243.2
	CV(%)	1.7	1.2	..3	7.45	13.9	10.5

Cooperator and address: Dr. K.C. Das
Associate Director Research, NARP
AES, Phulbani - 76. 100
Orissa

Lat. 2. 75 N, Long. .4 33 E, Alt. .4. M
Rainfall (mm): Jul 15..., Jul 231.., Aug 40..., Sept 236.1, Oct 6.5, Nov ..., Dec 1.1

Net plot size : ... Sqm
Date of planting : 5.7.., Harvesting 2..11..
Hand weeding : 2..7.. & 2..8..
No insecticide was applied

Table 37 :Performance of entries in RRAT-3T Be grown at Anantapur, A.P. during 1986.

Entry		Days to		Plant height	100-seed weight	Plant stand	Grain Yield
No.	Name	Flower	Mature	(cm)	(g)		(kg/ha)
1	H 77-216 (CH)	59	91	109	6.8	33	903
2	UPAS 120 (CH)	61	94	111	7.3	40	859
8	ICPL 84038	51	84	84	7.0	36	847
4	ICPL 151 (CH)	56	91	80	9.5	45	818
11	ICPL 85014	60	94	76	7.4	37	798
5	ICPL 85019	61	96	91	8.4	31	765
10	ICPL 85010	56	94	84	8.1	33	750
3	ICPL 87119	57	91	81	7.7	41	650
7	ICPL 84023	56	94	84	4.9	50	575
13	ICPL 85034	61	96	93	10.5	31	565
14	LOCAL CH.CK (LR)	60	96	101	8.7	57	517
3	ICPL 4 (CH)	57	96	72	6.0	36	515
12	ICPL 85015	61	91	86	8.4	39	486
9	ICPL 85012	54	96	83	9.2	34	414
SE		0.4	0.7	1.3	0.39	4.5	66.2
MEAN		55.5	95.3	92.5	7.49	37.7	676.2
CV(%)		1.2	1.5	2.7	8.59	21.2	17.0

Cooperator and address: Mr. A.G. Venkateramana Reddy
Training Officer
Krishi Vigyan Kendra
ICRISAT Buildings, Kamla Nagar
Anantapur - 515 001, A.P.

Lat 14 41 N; Long 77 40 E; Alt 114 m
Soil Type : Red Sandy Loam
Rainfall (mm): Jan 0.0, Feb 0.0, May [illegible], Jun 104.0, Jul 8.0, Aug 39.6,
Sept 1[illegible], Oct 66.3, Nov 30.0, Dec 1.0, No. of rainy days 21
Net plot size : 6.0 sq
Date of planting : [illegible], harvesting 13.11.86
Fertilizer Applied : 18.8.86 Urea 20kg N/ha, Superphosphate 40 Kg P/ha
Weeding : 12.8.86 by hand, 10.9.86 by hand
Irrigation : 16.8.86 [illegible], 10.9.86 Flood irrigation
Insecticide applied : 21.8.86 Methyl Parathion 20kg/ha
20.10.86 Endosulfan 1000ml/ha

Table /39 :Performance of entries in EPAY-DT grown at Bheemrayangudi, Karnataka, during 1986.

Entry No.	Name	Grain Yield (kg/plot)	(kg/ha)
10	ICPL e5u1c	0.1u7	449
17	ICPL e7	0.257	792
9	ICPL e5u1u	0.2c4	e41
2	Ur4u 12u	0.22?	e97
5	ICPL e3u1v	0.2cc	c7e
e	ICPL e4c1v	0.21e	c7e
1	M 77-1cc	c.21	e4c
15	ICPn 1?	0.1v?	e1c
13	ICPL e5u1e	0.1v1	e0e
12	ICPL e5u1?	0.1v?	e0e
7	ICPL e4c??	0.1v?	e02
16	ICPL e4u5u	0.1e4	575
11	ICPL e5u1v	0.17e	554
14	ICPL e5u?e	0.1e5	50v
4	ICPL 151	0.1e?	51c
3	ICPL 4	0.1cc	4e5
8	ICPL c4u?c	0.1ee	4?c
	S=	c.u1??	39.e
	MEAN	c.c032	e??.c
	CV(%)	1u.79e0	1u.e

Cooperator and address: Dr. T.S. Kullaiswamy
Plant Scientist
The University of Agril. Sciences
Dept. Agriculture, Complex
Bheemrayangudi, Dist. Gulbarga
Karnataka

Date of planting : 2.5.e? ; Harvesting : 1e.12.'86
Rainfall for 1?5e-e7 : 4y? mm
Plot size : 1.e m x 4 m (Gross); .9 m x 3.e m (net)
Spacing : 3? cm x 1? cm ; reps : 3
Fertilizer : 2u-4e-e kgN kg/ha

Table :Performance of entries in EPAYO-DT as grown at Tapha, Khon Kaen, Thailand, during 1986.

Entry		Days to		Plant height (cm)	Seeds per pod*	100-seed weight (g)	Plant stand	Grain yield (kg/ha)
No.	Name	Flower	Mature					
16	ICPL 85063	[illegible]	117	100	3.3	11.2	75	1619
14	ICPL 85016	[illegible]	113	9[illegible]	3.9	9.6	72	1515
13	ICPL 85015	5[illegible]	1[illegible]7	[illegible]	3.9	9.7	73	1376
3	ICPL 4	61	110	97	3.4	6.2	71	1322
2	UPAS 120	[illegible]	113	111	[illegible].5	[illegible].1	74	1316
12	ICPL 85014	[illegible]	[illegible]	97	[illegible]	[illegible]	73	1292
1	[illegible] 77-[illegible]	[illegible]	[illegible]	11[illegible]	[illegible]	7.[illegible]	73	1287
9	ICPL 84027	6[illegible]	11[illegible]	9[illegible]	4.7	11.3	71	1279
11	ICPL 85012	[illegible]	11[illegible]	[illegible]	4.[illegible]	11.3	72	1203
10	ICPL 85010	58	1[illegible]	[illegible]	3.7	9.0	74	1195
8	ICPL 84052	63	107	10[illegible]	3.9	9.1	74	1183
15	ICPL 85041	[illegible]7	11[illegible]	102	4.[illegible]	11.1	73	1164
4	ICPL 151	[illegible]	110	9[illegible]	[illegible].7	9.5	74	1139
5	ICPL 85019	[illegible]	1[illegible]	[illegible]	3.3	[illegible]	72	1095
7	ICPL 84060	51	[illegible]	[illegible]	3.4	6.7	72	964
6	ICPL 84019	[illegible]	1[illegible]	[illegible]	3.7	6.7	70	913
	SE	[illegible]	0.3	3.5	-	0.07	1.2	82.5
	MEAN	[illegible]	10[illegible]	91.7	-	[illegible]	73.4	1240.6
	CV(%)	1.2	[illegible]	7.5	-	1.[illegible]	3.3	13.3

* averaged from 10 plants

Cooperator and Address: Mr. Aimonrat Sukarin
Khon Kaen
Field Crops Research Center
Thailand

Lat. 16 20 N, Long. 102 49 E, Alt. 170 m
Soil Type : Oxic Paleustult
Rainfall (mm): Mar [illegible], Apr 1[illegible]5.[illegible], May 1[illegible], Jun 151.1, Jul 77.5, Aug 164.3, Sep 1[illegible], Oct 117.2, (Negligible in Jan, Feb, Nov & Dec 1986)
Plot size (net): 2.4 m^2.
Date of planting: [illegible].1986, Thinning: 2[illegible].86, Harvesting: 5 Nov - 4 Dec 1986.
Fertilizer : [illegible], N P K 1[illegible]-75 kg/ha
Weeding by hand : [illegible]
Rainfed
Insecticide applied : [illegible] & 1.11.86 Lannate 90% wd 10 g/2[illegible]
litre of water

Table 44/ :Performance of entries in EPAT-87 Pb grown at Khon Kaen Field Crops Research Center, Thailand during 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)
10	ICPL 85010	61	111	97	3.2	11.1	74	2070
9	ICPL 84037	63	111	84	4.4	11.3	76	1767
8	ICPL 84032	61	111	85	3.5	9.5	74	1765
11	ICPL 85012	62	111	71	4.0	12.1	73	1672
4	ICPL 151	58	111	86	3.7	9.7	77	1665
13	ICPL 87019	61	110	92	4.1	9.7	73	1621
3	ICPL -	61	111	77	3.9	10.-	76	1611
15	ICPL 85021	61	111	85	4.1	11.0	72	1576
14	ICPL 85016	60	111	91	4.2	9.2	74	1569
12	ICPL 85014	61	111	78	3.2	9.6	73	1553
10	ICPL 85010	58	110	77	3.2	9.6	75	1523
1	M 77-216	58	110	84	3.2	7.5	75	1493
5	ICPL 85019	58	109	88	3.2	9.1	72	1352
2	UPAS 120	61	111	95	3.7	9.-	73	1301
7	ICPL 84022	60	96	83	3.7	6.-	73	1213
6	ICPL 84019	60	109	88	3.0	8.3	71	1049
	Sx	0.7	0.6	2.7	-	0.1	1.4	96.6
	MEAN	62.1	108.3	81.1	-	9.2	73.8	1550.6
	CV(%)	1.3	0.6	6.7	-	2.5	3.7	12.5

* Averaged from 10 plants

Cooperator and Address: Mr. Kamonrat Sukerin
Khoen Kaen Field Crops Research Center
Thailand

Lat. 16 26 N, Long. 102 50 E, Alt 198 m
Soil type : Chic palaeustuls
Rainfall (mm): Mar 27.0, Apr 101.7, May 154.7, Jun 156.5, Jul 44.2, Aug, 1986, Sep 172.1, Oct 80.1, Dec 0.0 (Negligible in Jan, Feb and Nov 1986
Plot size (net): 2.- Sqm.
Date of planting: 11.8.19Pb, Thinning 2-.8.8b, Harvesting 11 Nov - 6 Dec 1986
Fertilizer applied: 26.8.Pb, Mix 16-20-0 Kg/ha
Weeding by hand : 26.8.Pb & 30 8.Pb
Rainfed
Insecticide applied : 30.8.Pb, 6.10.Pb, 21.10.86 & 3.11.86 Lannate 90% WP 129/Rai/water, 21.10.86, Azodrin 20cc/20 litres of water

Table 44: Performance of entries in [illegible] grown at Dehradun, U.P., during [illegible].

Entry No.	Name	Days to flower	Days to mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain Yield (g/plot)	Grain Yield (kg/ha)
5	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1183	2665
12	ICPL [illegible]	[illegible]	[illegible]	147	[illegible]	[illegible]	1150	2586
17	ICPM [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1033	2152
4	ICPL 151 (C)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	947	2014
11	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1979
13	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1875
10	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	ICPM [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	[illegible] (C)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	UPAS [illegible] (C)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sc		-	-	-	-	[illegible]	17.3	36.0
MSE		-	-	-	-	[illegible]	727.8	1516.1
CV(%)		-	-	-	-	[illegible]	4.1	4.1

Cooperator and address : Dr. [illegible] Tyagi
Plant breeder
Central Soil and Water Conservation
Research and Training, Institute
Dehradun - [illegible], U.P.

Soil type : Silty clay loam
Rainfall(mm) : June [illegible], July [illegible], Aug, [illegible], Sept. 100.6, Oct 44.8,
Net plot size : 4. [illegible] Sq.m.
Date of planting : [illegible] Harvesting : 7.11.[illegible] to 4.12.[illegible]
Fertilizer applied : [illegible] kg/ha
Weeding : By hand, [illegible]
Insecticide applied : [illegible] Nuvan 1 lit/ha, [illegible] Metasystox 2 lit/ha,
[illegible] Metacin-5 1 lit/ha, [illegible] Thiodan 2 lit/ha

Table 45 : Performance of entries in EPAT-DT grown at Khargone, M.P. during 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain yield (g/plot)	Grain yield (kg/ha)
2	UPAS 120 (C)	83	129	131	8.9	64	473	1352
1	M 77 246 (C)	71	113	124	7.5	41	390	1114
4	ICPL 151 (C)	78	128	110	9.6	47	350	1000
5	ICPL 83019	59	113	97	8.5	57	280	800
7	ICPL 84023	58	113	85	6.6	59	275	786
6	ICPL 84019	57	113	93	7.8	54	262	748
3	ICPL [illegible] (C)	75	116	113	8.5	54	250	714
16	ICPL 85035	69	129	110	10.2	58	248	709
12	ICPL 85014	66	113	108	9.8	70	232	662
14	ICPL 85016	64	129	110	10.2	56	173	495
11	ICPL 85012	70	113	105	10.7	49	152	433
13	ICPL 85015	77	129	107	8.8	55	150	429
15	ICPL 85021	82	130	113	10.3	51	142	405
10	ICPL 85010	57	113	103	9.5	63	135	386
18	ICPH 10	81	122	118	10.1	59	132	376
8	ICPL 84036	78	130	117	10.2	59	125	357
9	ICPL 84037	80	130	120	10.7	43	123	353
17	ICPH 9	84	123	116	9.3	62	108	310
	SE	0.3	2.0	3.6	0.40	5.8	33.8	96.5
	MEAN	73.9	121.6	110.1	9.40	55.6	222.2	634.9
	CV(%)	0.8	2.9	5.6	7.3o	18.2	26.3	26.3

Cooperator and address : Mr. Ashok K. Saxena
Research Associate (PB)
JNKVV, RARS
Khargone - 451 001
M.P.

Lat. 20 N, Long. 75 E, Alt 357 M
Soil type : Loam
Rainfall(mm) : Jun 104.5, Jul 205.0, Aug 284.5
Net Plot size : 3.5 Sqm, Spacing : 30 x 10 cm
Date of planting : 2.7.86, Harvesting : 6.12.86
Fertilizer applied : 2.7.86, DAP 100 kg/ha
Weedings : 17.7.86 & 4.o.86

Table A44: Performance of entries in [illegible] grown at Pusa, Bihar during [illegible] 198[illegible].

Entry		Days to		100-seed weight	Grain Yield	
No.	Name	Flower	Maturity	(g)	(g/plot)	(kg/ha)
15	ICPH [illegible]	77	131	[illegible]	1393	2392
21	PUSA [illegible]	[illegible]	1[illegible]	-	1317	236[illegible]
16	ICPH 1[illegible]	7[illegible]	131	[illegible]	12[illegible]	2373
20	PUSA [illegible]	[illegible]	13[illegible]	8.[illegible]	1[illegible]	23[illegible]
2	ICPL 151	[illegible]	1[illegible]	1[illegible]	1[illegible]	2193
19	PUSA [illegible]	[illegible]	[illegible]	11.[illegible]	[illegible]	21[illegible]
10	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	1[illegible]	[illegible]
[illegible]	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	ICPL [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17[illegible]
11	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	1[illegible]
5	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	[illegible]17	1[illegible]
12	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	[illegible]17	1[illegible]
9	ICPL [illegible]	[illegible]	1[illegible]	11.[illegible]	[illegible]	15[illegible]
3	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	1[illegible]
17	H 77 [illegible]	[illegible]	[illegible]	7.[illegible]	717	1[illegible]
13	ICPL [illegible]	[illegible]	[illegible]	11.[illegible]	[illegible]	12[illegible]
18	[illegible] 1[illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	12[illegible]
7	ICPL [illegible]	[illegible]	[illegible]	11.[illegible]	[illegible]	12[illegible]
14	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	12[illegible]
4	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	1[illegible]
	SE	-	-	-	[illegible]	11[illegible]
	Mean	-	-	-	[illegible]7.5	173[illegible].7
	CV(%)	-	-	-	12.[illegible]	12.[illegible]

Cooperator and address: [illegible]

[illegible]

[illegible] Station

Pusa, [illegible]

Date of planting: [illegible] Date of harvesting: [illegible] to [illegible]

Net plot size: [illegible]

Reps: [illegible]

Previous crop of the plot: [illegible]

Remarks: The [illegible] high degree of susceptibility to the [illegible] the disease intensity varied from replication to replication, yield was affected accordingly.

Table 1.18 : Yield performance of EPAY 86 NDT entries at different locations during 1986

Entries	AT HISAR				GRAIN YIELD (Kg/ha)												
	DAYS TO		100 Seed wt (g)	Seed Colour	HISAR												
	FLOWER	MATURE			Summer	June	July	August	September	October	November	December	January	February	March	April	MEAN (10 Loc.)
HPL 85049	85	128	12.3	W	2223	2496	2642	1879	1066	2604	–	954	526	–	635	–	–	(1869)*
HPL 85036	81	120	10.9	C	2644	3059	2089	1462	889	2442	2033	1292	738	746	365	752	907	1589
HPL 85054	82	128	10.4	B	2437	3304	2778	1832	764	2825	1450	1188	840	473	465	532	–	(1519)
HPH 11	85	125	8.1	B	–	2993	2669	1933	653	2917	1817	1429	548	833	828	394	791	(1506)
ICPL 84052	81	123	9.1	B	3003	2527	2453	1516	1021	2688	1377	1479	658	698	833	509	759	1497
HPL 85046	81	122	8.5	B	2421	3017	2890	1359	625	2209	1483	1400	842	766	771	657	768	1498
HPL 85035	76	111	9.8	B	2215	1947	2631	1691	1222	2480	1350	1434	870	631	677	958	1000	1469
ICPL 87059	82	121	10.2	B	2502	2816	2473	1724	951	2250	1350	1238	746	721	986	686	898	1468
HPL 85055	79	119	10.9	B	2811	3129	2459	1389	1274	2292	1350	1189	897	721	504	389	597	1468
HT7-216 (c)	76	124	8.4	B	2210	2291	1974	–	875	1771	1800	1417	797	793	1278	1135	870	(1496)
UPAS-120 (c)	80	125	8.4	B	2217	2259	2191	1597	979	1938	1583	1117	585	743	1317	1362	879	1494
ICPL 84045	81	121	10.1	C	2538	2661	2639	1754	701	1750	1650	1392	760	586	563	744	870	1489
HPL 85045	80	124	10.4	W	2760	2947	2935	1371	729	1792	1650	942	548	608	535	529	893	1398
KAN 22	85	130	9.0	B	–	2550	2948	1708	986	1818	1967	1181	482	631	1271	440	–	(1570)
HPL 85050	84	128	14.4	B	2304	2985	2486	1702	1073	1750	1467	975	344	586	368	781	846	1574
HPL 85052	81	125	11.0	W	1933	2930	2351	1551	729	1504	1900	950	417	496	479	806	985	1270
HPL 85043	76	111	8.6	B	2597	2929	2325	1379	835	1825	1193	1192	826	473	319	409	990	1275
HPL 85053	85	126	12.5	W	2150	2819	2298	1896	1096	1809	1908	1172	453	631	317	400	–	(1436)
SE	0.5	1.0	0.7		270	306	348	151	76	134	121	91	41	51	37	51	68	
MEAN	81	122	10.0		2405	2700	2550	1618	925	2039	1533	1223	672	651	712	683	885	–
CV(%)	1	2	13		22	23	27	19	14	9	17	13	12	14	9	13	14	

* ( ) Mean of less than 13 locations

Table 1.46: Characteristics of EARLY 86 NOT entries at different locations during 1986

Entries	DAYS TAKEN TO FLOWER							DAYS TAKEN TO MATURE							100 SEED WT. (gms)						
							MEAN							MEAN							MEAN
KAL 85049	–	99	72	85	91	79	82	85	–	149	–	126	142	121	116	131	–	10.2	–	12.3	9.9	9.9	7.8	10.0
KAL 85036	84	101	75	81	86	70	82	83	156	155	121	120	133	109	113	130	11.0	9.3	10.6	10.9	8.4	7.6	8.0	9.4
KAL 85054	92	108	71	82	90	76	87	87	176	151	121	128	138	121	111	135	10.9	9.6	10.8	10.4	7.9	7.2	7.8	9.1
KAL 11	102	108	75	85	96	80	88	91	181	164	129	125	141	118	118	137	7.5	7.9	9.1	8.1	6.3	6.4	6.9	7.3
KAL 84062	87	97	68	81	85	71	86	82	141	155	134	123	135	110	115	133	11.2	9.4	8.8	9.1	8.0	7.4	7.9	8.7
KAL 85046	89	98	73	81	86	72	81	83	142	153	118	132	133	113	111	130	8.3	7.5	9.0	8.5	7.2	6.9	6.5	7.9
KAL 85035	84	94	75	76	79	68	78	79	160	150	125	111	131	111	108	128	7.8	8.8	9.9	9.0	8.4	8.0	7.4	8.4
KAL 84057	89	100	74	82	89	73	81	84	159	141	132	121	133	113	116	130	9.4	9.4	12.0	10.2	7.8	7.3	8.3	9.1
KAL 85055	88	96	74	79	84	71	77	81	160	142	125	109	131	114	113	128	9.2	8.8	11.3	10.7	8.2	8.0	7.9	9.2
IC 77-246 (K)	81	99	74	76	–	–	81	82	158	155	120	104	–	–	111	135	8.6	7.4	8.0	8.4	–	–	5.8	7.6
UPAS-120 (C)	92	107	74	80	84	69	86	85	176	154	134	125	137	112	119	137	8.0	7.6	9.4	10.4	6.8	6.4	6.6	7.6
KAL 84045	90	103	73	81	85	73	80	83	172	154	120	121	131	112	120	133	10.0	8.4	9.9	10.1	8.1	6.7	7.3	8.6
KAL 85045	83	100	71	80	75	73	80	80	159	142	120	124	130	118	109	129	10.0	8.7	9.9	10.4	8.0	7.1	7.5	8.8
KAN 22	99	114	76	85	107	83	92	94	184	160	127	130	146	124	120	142	7.9	7.9	8.4	9.0	6.5	7.6	7.2	7.8
KAL 85050	100	104	76	84	95	75	91	89	184	158	138	128	140	113	115	139	15.0	11.0	12.1	11.4	9.8	8.6	8.6	11.3
KAL 85052	93	102	72	81	85	70	80	83	170	147	119	123	133	107	109	130	13.2	9.2	12.1	11.0	8.8	8.5	9.8	10.2
KAL 85043	89	92	73	76	90	69	76	78	162	141	117	110	128	107	107	125	8.7	7.8	9.3	8.6	7.3	7.0	6.9	7.8
KAL 85053	99	108	79	85	92	78	87	87	176	159	124	128	144	116	114	137	10.3	11.4	13.9	12.5	9.9	9.0	9.2	10.9
SE	22	1.6	0.4	0.5	1.6	1.5	0.6		4.9	4.2	1.3	3.0	1.6	1.9	0.8		–	0.1	0.1	0.7	0.2	0.3	0.1	
MEAN	90	101	73	81	87	73	83	84	167	151	126	122	136	114	113	133		8.9	10.1	10.0	8.1	7.6	7.9	8.7
CV(%)	3	2	1	1	4	4	2		4	1	2	2	2	3	1		–	2	2	13	6	7	3	

Table 1.47: Ranking of top 6 EARLY OS NDT entries for grain yield at different locations during 1986

Entries	NISAR														No. of times ranked among top 6
ICAL 85049	-	-	-	2	5	3	-	-	-	-	-	-	-	-	3
ICAL 85036	4	4	3	-	-	-	1	-	-	3	-	6	4		7
ICAL 85064	-	1	6	3	-	-	-	-	4	-	-	-	-		4
ICAH N	-	-	6	1	-	1	3	4	-	1	4	-	-		7
ICAL 84052	1	-	-	-	6	2	-	2	-	-	6	-	-		5
ICAL 85046	-	5	2	-	-	-	-	5	3	2	-	-	-		5
ICAL 85035	-	-	-	-	3	4	-	3	2	-	-	3	1		6
ICAL 84057	-	-	-	5	-	6	-	-	-	-	5	-	-		3
ICAL 85055	2	2	-	-	1	5	-	-	1	6	-	-	-		6
H77-208(C)	-	-	-	-	-	-	4	1	6	5	2	2	-		6
DWRS-124(C)	-	-	-	-	-	-	-	-	-	4	1	1	5		4
ICAL 84045	6	-	-	4	-	-	6	6	-	-	-	-	6		5
ICAL 85045	3	6	1	-	-	-	5	-	-	-	-	-	-		4
ICAH 22	-	-	4	6	-	-	-	-	-	-	3	-	-		3
ICAL 85050	-	3	-	-	4	-	-	-	-	-	-	5	-		3
ICAL 85052	-	-	-	-	-	-	2	-	-	-	-	4	-		2
ICAL 85043	5	-	-	-	-	-	-	-	5	-	-	-	2		3
ICAL 85053	-	-	-	-	2	-	-	-	-	-	-	-	-		1

Table 1.48: Characteristics of EPAY86 NDT entries in summer sowing at Misar during 1988.

Entry No.	Pedigree		Days to 50% flowering	Plant height (cm)	Peduncle length (cm)	Days to 95% maturity	1000 grain wt. (g)	Test wt. (kg/hl)	Plant stand per m² at harvest	Yield (kg/ha)	Grain yield (t/ha)
EIMOT-4	ICPL	84052	138	301	1.5	184	2.5	9.1	30	3003	19.1
-16	ICPL	85055	71	253	1.5	203	3.7	10.6	26	2811	18.1
-9	ICPL	85045	71	265	1.5	187	3.9	9.1	27	2760	17.5
-7	ICPL	85026	72	296	1.5	183	3.9	9.3	32	2674	20.7
-8	ICPL	85043	70	262	1.5	190	3.9	9.0	34	2577	17.6
-3	ICPL	84045	143	299	1.5	192	3.3	10.5	27	2538	21.0
-15	ICPL	85054	71	303	1.5	194	3.8	9.6	29	2437	21.9
-10	ICPL	85046	140	272	1.5	171	3.6	9.1	31	2421	14.2
-12	ICPL	85050	158	278	1.5	219	3.7	13.7	29	2384	19.8
-5	ICPL	84059	143	281	1.5	190	3.6	9.5	34	2302	17.5
-11	ICPL	85047	154	311	1.5	196	3.9	13.3	20	2223	21.9
-2	UPAS-120 (C)		72	275	1.0	174	3.2	8.3	34	2217	16.5
-6	KAL	85036	71	264	1.0	171	3.5	9.5	31	2215	13.5
-1	H. 77-216 (C)		71	273	1.5	182	3.3	9.2	29	2210	17.3
-14	ICPL	85053	159	246	1.5	201	3.9	12.5	33	2150	12.2
-13	ICPL	85052	148	271	1.5	198	3.9	12.0	25	1933	10.2
SE			1.44	10.24	0.59	349	0.11	0.38	1.91	226.14	1.48
MEAN			110	277	1.4	191	3.7	10.4	30 0	2405	17.3
CV%			3.17	7.71	69.04	3.45	6.19	7.65	12.25	22.28	17.9
Date of sowing		-	7 April, 1988								
Spacing		-	50 cm x 20 cm								
Plot size		-	4 rows — 4 m long.								

Table 14 Characteristics of entries in EPAY 86 NDT (T 10) grown at Hisar rabi season 1986.

Entry No.	Name	Days to Flower	Wilting this disease	Days to mature	Seeds per pod	100 seed weight	Plant stand	Grain yield /plot	[illegible] /plot	Grain yield (kg/ha)	[illegible] (T/ha)	Plant stand (nos)
15	ICPL 85054	82	1	128	3.9	10.4	47	0.714	3.57	3304	16.32	22
16	ICPL 85055 —	79	4	109	3.8	10.9	50	0.676	2.71	3129	12.18	23
12	ICPL 85050	84	4	128	3.6	14.4	57	0.666	3.33	3085	15.41	27
7	ICPL 85036	81	4	120	4.3	10.2	44	0.661	2.44	3059	11.31	21
10	ICPL 85046	81	2	122	3.6	8.5	52	0.403	2.86	3019	13.24	24
9	ICPL 85045	80	4	124	4.0	10.4	39	0.636	2.66	2947	12.33	18
17	ICPH 11	83	2	125	3.6	8.1	46	0.636	3.91	2943	18.08	22
13	ICPL 85052	81	4	123	3.8	11.0	45	0.633	2.53	2930	11.81	21
5	ICPL 84059	82	4	121	4.1	10.2	49	0.608	3.03	2816	14.12	23
3	ICPL 84045	81	4	121	3.5	10.1	47	0.575	2.50	2661	11.57	22
18	ICPH 22	83	2	130	3.7	9.0	58	0.551	4.35	2550	20.15	27
4	ICPL 84052	81	4	123	3.6	9.1	42	0.546	2.60	2527	12.04	20
11	ICPL 85049	83	5	126	3.8	12.3	33	0.539	3.01	2496	14.01	15
8	ICPL 85043 —	76	4	111	3.9	8.6	53	0.523	3.18	2424	14.71	25
1	H77 216 (Check)	76	4	124	3.7	8.4	46	0.495	2.71	2291	12.65	21
2	UPAS 120 (Check)	80	4	125	3.3	8.4	57	0.488	3.00	2259	13.89	26
14	ICPL 85053	85	4	126	4.3	12.5	55	0.479	2.57	2219	11.89	25
6	ICPL 85035 —	76	5	111	3.8	7.3	51	0.420	2.80	1947	12.96	24
	SE	0.5	0.7	1.0	0.20	0.67	3.1	0.0682	0.[illegible]	306.5	1.101	1.4
	MEAN	80.9	3.7	121.9	3.82	10.03	48.3	0.5832	2.980	2700.1	13.797	22.4
	CV(%)	1.3	39.9	1.7	10.46	13.34	12.6	23.3980	15.964	23.0	15.964	12.5

Irrigations : 2
Date of sowing : 25-6-1986
Date of harvesting : 4-11-1986
Spacing : 30 x 10 cm. Net plot area : 2 rows x 3.6 m x 0.30 m
Fertilizer : 100 kg DAP/ha

Table 10: Characteristics of entries in SPAY 86 NDT (T 11)) ~~sown~~ in late sowing at Hisar, rainy season 1986.

Entry No.	Name	Days to Flower	Plant height (cm)	Helio-this damage	Days to mature	Seeds per pod	100-seed weight	Plant stand	Grain yield /plot	~~Seed yield~~ /plot	Grain yield (kg/ha)	~~Seed yield~~ (T/ha)
9	ICPL 85045	61	142	3	132	3.9	9.3	67	0.634	0.90	2933	4.17
10	ICPL 85046	65	145	3	120	3.9	7.4	64	0.624	0.88	2890	4.07
7	ICPL 85036	61	137	3	113	4.4	9.6	70	0.624	0.91	2889	4.19
18	ICPH 22	71	179	2	134	4.2	8.3	76	0.615	1.68	2848	7.75
15	ICPL 85054	64	137	3	119	4.2	9.1	57	0.600	0.96	2778	4.34
17	ICPH 11	70	179	3	131	4.3	7.4	60	0.576	1.26	2669	5.84
11	ICPL 85049	70	155	4	132	4.3	11.4	56	0.571	1.13	2642	5.23
3	ICPL 84045	65	147	3	132	3.9	9.5	68	0.570	0.91	2639	4.19
6	ICPL 85035	62	149	3	127	4.2	9.3	73	0.568	0.89	2631	4.13
12	ICPL 85050	67	137	3	127	4.1	10.9	62	0.695	0.82	2486	3.79
5	ICPL 84059	68	167	3	120	4.0	9.4	70	0.534	1.01	2473	4.66
4	ICPL 84052	63	156	3	119	4.2	9.1	67	0.530	0.83	2453	3.86
16	ICPL 85055	62	139	4	119	4.2	9.4	60	0.527	0.84	2439	3.89
13	ICPL 85052	63	134	3	119	4.2	10.8	68	0.509	0.79	2351	3.68
8	ICPL 85043	60	136	3	116	3.9	7.7	75	0.502	0.82	2325	3.81
14	ICPL 85053	71	140	3	129	4.5	11.6	64	0.629	0.98	2293	4.54
2	UPAS 120 (Check)	61	138	4	119	4.1	7.7	78	0.473	0.80	2191	3.69
1	H77 216 (Check)	61	142	4	116	4.1	7.2	76	0.426	0.65	1974	3.00
	SE	0.6	5.3	0.6	0.8	0.10	0.42	4.4	0.060	0.075	347.9	0.369
	MEAN	64.4	147.6	2.9	123.1	4.14	9.13	66.0	0.567	0.966	2550.3	4.379
	CV(%)	1.9	7.2	39.9	1.3	4.99	9.12	13.4	21.017	15.955	27.3	15.952

Irrigations : 2
Date of sowing : 28-7-1986
Date of harvesting : 16,17-12-1986
Spacing : 30 x 5 cm, Net plot area : 2 rows x 3.6 m x 0.30 m
Fertilizer : 100 kg DAP/ha.

Table/5/:Performance of entries in EPAY 86-NDT (T-86GT03) grown at Gwalior, rainy season 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)	IInd Harvest (kg/ha)	Total Yield (kg/ha)
16	ICPH 11	96	141	169	3.8	6.3	64	1933	574	2507
10	ICPL 85049	91	142	154	3.7	9.9	60	1879	583	2462
14	ICPL 85054	90	138	155	4.4	7.9	75	1832	402	2234
2	ICPL 84045	85	131	131	3.5	8.1	64	1754	578	2332
4	ICPL 84059	89	133	153	3.7	7.8	64	1724	346	2070
17	ICPH 22	107	146	183	3.4	6.5	86	1708	536	2244
11	ICPL 85050	95	140	160	3.7	9.8	89	1702	283	1985
5	ICPL 85035	79	131	135	4.0	8.4	85	1691	880	2571
6	ICPL 85036	80	133	145	3.7	8.4	63	1662	390	2052
1	UPAS 120(Check)	84	137	149	3.9	6.8	82	1587	497	2084
9	ICPL 85046	86	133	128	3.7	7.2	70	1559	872	2431
12	ICPL 85052	85	133	136	3.7	8.8	50	1551	178	1729
3	ICPL 84052	85	135	140	3.6	8.0	71	1516	594	2110
15	ICPL 85055	84	131	124	3.4	8.2	83	1389	602	1991
7	ICPL 85043	70	128	123	3.5	7.3	75	1379	653	2032
8	ICPL 85045	75	134	118	3.6	8.0	61	1371	349	1720
13	ICPL 85053	92	144	140	3.6	9.9	73	1276	496	1772
	SE	1.6	1.6	5.9	0.14	0.22	6.6	151.4	106.6	~~380.0~~
	MEAN	86.8	135.7	143.7	3.71	8.08	71.9	1618.4	644.8	2263.2
	CV(%)	3.6	2.4	8.2	7.42	5.51	18.5	18.7	33.1	~~34.0~~
Gwalior-3										2796

Table 152 : Performance of entries in [illegible] grown at Patancheru, rainy season 1986.

Entry No.	Entry Name	Days to Flowering	Days to Maturity	Plant height (cm)	Seeds per pod	100-seed weight (g)	Ist harvest Plant stand	Ist harvest Yield (kg/ha)	IInd Harvest Plant stand	IInd Harvest Yield (kg/ha)	Total Yield (kg/ha)
1	ICPL 1[illegible]1 (CH)	[illegible]	11[illegible]	1[illegible]	4.[illegible]	[illegible]	1[illegible]1	1762	157	457 (1)	2405 (1)
13	ICPM [illegible]		1[illegible]	1[illegible]	[illegible]	[illegible]	1[illegible]	1283	107	318 (2)	1601 (2)
17	ICPM 11	[illegible]	11[illegible]	11[illegible]	[illegible]	[illegible].1	[illegible]	1290	89	256 (4)	1536 (3)
12	ICPL [illegible]	[illegible]	11[illegible]	11[illegible]	[illegible]	[illegible]	11[illegible]	1271	115	197 (7)	1458 (5)
10	ICPL [illegible]	7[illegible]	11[illegible]	1[illegible]1	[illegible]	6.6	11[illegible]	1229	105	173 (9)	1401 (6)
2	UPAS 120 (CH)	[illegible]	11[illegible]	104	[illegible].90	5.4	11[illegible]	1217	113	253 (3)	1480 (4)
3	ICPL 84[illegible]	7[illegible]	11[illegible]	1[illegible]1	4.[illegible]7	[illegible].7	111	1212	107	121 (13)	1332 (7)
5	ICPL [illegible]	[illegible]	11[illegible]	10[illegible]	4.[illegible]1	7.2	1[illegible]	1076	120	125 (11)	1206 (9)
6	ICPL [illegible]	[illegible]	111	[illegible]7	[illegible].27	[illegible]	11[illegible]	1027	113	195 (6)	1221 (8)
4	ICPL 84052	71	11[illegible]	[illegible]	[illegible]	7.1	114	986	111	151 (10)	1137 (11)
11	ICPL 85[illegible]	7[illegible]	1[illegible]1	[illegible]	4.10	[illegible]	79	936	79	272 (5)	1166 (10)
15	ICPL [illegible]	[illegible]	1[illegible]1	[illegible]	[illegible]	[illegible]	1[illegible]5	919	95	95 (15)	1016 (13)
8	ICPL [illegible]	[illegible]	1[illegible]	[illegible]	[illegible].47	7.0	11[illegible]	891	103	156 (9)	1049 (12)
9	ICPL [illegible]	7[illegible]	11[illegible]	[illegible]	4.10	7.1	1[illegible]7	855	98	125 (12)	979 (14)
13	ICPL [illegible]	70	1[illegible]7	[illegible]	4.17	[illegible].2	115	833	101	53 (17)	895 (15)
7	ICPL [illegible]	70	1[illegible]	[illegible]	[illegible].97	7.5	11[illegible]	783	113	95 (16)	868 (16)
16	ICPL [illegible]	[illegible]	11[illegible]	[illegible]	[illegible]	[illegible].3	1[illegible]	751	101	53 (18)	304 (17)
15	ICPL [illegible]	71	11[illegible]	[illegible]	4.11	[illegible].0	1[illegible]5	692	95	119 (14)	811 (18)
	SE	1.[illegible]	1.9	5.[illegible]	0.17[illegible]	0.27	[illegible].9	155.6	4.6	64.3	194.1
	MEAN	7[illegible].[illegible]	11[illegible].2	[illegible]	4.[illegible]07	7.57	111.9	1055.9	106.9	176.6	1262.3
	CV(%)	[illegible]	[illegible]	12.[illegible]	[illegible].707	7.12	7.1	31.1	8.6	53.1	31.3

Rainfall (mm): Jun 113.2, Jul 1[illegible]1.2, Aug 230.9, Sept 37.3
Irrigation : 25.6.[illegible], [illegible], 1.11.86, 20.11.86
Herbicide applied : [illegible] 2 Lit/ha + Basalin 2.25 Lit/ha
Insecticide applied : 27.[illegible] Thiodan 17%
[illegible] 17.11.86, 22.12.86
1 lit/ha. Thiodan 35%
Net plot size : 4.[illegible] Sq.m.(4 rows of [illegible]m)
Spacing : 30 x 10 cm
Sowing : 27.6.86
Harvesting : 18.[illegible].86 , 21.9.86.

High CV is due to differential and poor [illegible] caused by Heavy spray.

Table 1.53: Performance of entries in at Berthin, H.P. during 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-Seed weight (g)	Grain Yield (g/plot)	Grain Yield (kg/ha)
6	ICPL 85035	84	160	206	7.8	1593	3034
10	ICPL 85046	89	162	199	10.3	1439	2741
9	ICPL 85045	83	159	175	10.0	1340	2552
16	ICPL 85055	88	160	168	9.7	1140	2171
8	ICPL 85043	89	162	193	8.7	1128	2149
17	ICPH 11	102	181	208	7.5	1059	2017
5	ICPL 84059	89	159	177	9.4	1039	1979
3	ICPL 84045	90	172	186	10.0	824	1570
13	ICPL 85052	93	170	203	13.2	806	1535
2	UPAS 120 (C)	92	176	186	8.0	760	1448
1	H 77 216 (C)	81	158	186	8.6	676	1287
4	ICPL 84052	87	161	181	11.2	665	1267
11	ICPL 81	83	156	170	8.5	652	1242
18	ICPH 22	99	184	193	7.9	625	1190
12	ICPL 85050	100	184	187	15.0	502	957
7	ICPL 85036	84	156	193	11.0	483	921
15	ICPL 85054	92	176	181	10.7	478	911
14	ICPL 85053	99	176	188	10.3	148	282
	SE	2.2	4.4	10.9	-	243.8	464.2
	MEAN	90.0	167.1	187.5	-	853.1	1624.8
	CV(%)	3.4	3.7	8.2	-	40.4	40.4

Cooperator and address: Dr. B. C. Sood
Pulse Breeder
HPKVV Crop research Station
Berthin, Dist. Bilaspur
H.P. - 174 029

Alt : 540 m ; Soil type : Loam
Net plot size : 5.25 Sqm
spacing 30 x 10 cm
Date of planting : 26.6.1986, Harvesting : 30.12.86
Fertilizer applied : N:P 15:45 Kg/ha
Weeding : Manual , 27.7.86, 20.8.86

Table 1.54:Perfor[illegible] of entries in ZRAT-HDT groun at Sriganga Nagar, Rajasthan during 1986.

Entry No.	Name	Days to Flower	Grain yield (g/plot)	Grain yield (kg/ha)
16	ICPL 85035	74	610	1271
14	ICPL 85053	74	593	1236
6	ICPL 85035	75	587	1222
12	ICPL 85050	76	515	1073
11	ICPL 85049	72	512	1066
4	ICPL 84052	68	490	1021
18	ICPH 22	76	473	986
2	UPAS 120 (C)	74	470	979
5	ICPL 84059	74	457	951
7	ICPL 85036	75	427	889
8	ICPL 85043	73	425	885
1	H 77 216 (C)	74	420	875
15	ICPL 85054	71	367	764
9	ICPL 85045	71	350	729
13	ICPL 85052	72	350	729
3	ICPL 84045	73	337	701
17	ICPH 11	75	313	653
10	ICPL 85046	73	300	625
	SE	0.4	36.7	76.4
	MEAN	73.4	444.2	925.2
	CV(%)	1.0	14.3	14.3

Cooperator and address : Dr. R.V. Maheshwari
Senior Pulses Breeder
Sukhadia University
Agril. Research Station
Sri Ganga Nagar 335 001
Rajasthan.

Lat. 29.5 N. Long. 73.8 E. Alt 176 m
Soil type : Sandy Loam
Net Plot size : 4.8 sqm
Date of planting : 7.7.86. Harvesting : 30.10.86
Fertilizer applied : N 20kg/ha. P 40kg/ha
Weeding : By hand
Irrigations :2
Insecticide applied : Endosulfan 2 sprays

Table 1.35: Performance of entries in EPAT-MDT groups at Faridkot, Punjab during 1986.

Entry No.	Name	Days to Flower	Days to Mature	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)
17	ICPH 11	108	164	7.4	46	2917
4	ICPL 84052	97	155	9.4	57	2688
11	ICPL 85049	99	149	10.2	48	2604
6	ICPL 85035	94	150	8.8	48	2480
16	ICPL 85055	96	142	8.8	60	2292
5	ICPL 84059	100	141	9.4	60	2250
10	ICPL 85046	98	153	7.5	53	2209
15	ICPL 85054	108	151	9.6	61	2125
7	ICPL 85036	101	155	9.3	57	2042
2	UPAS 120 (C)	107	154	7.6	62	1938
18	ICPH 22	114	160	7.9	66	1813
9	ICPL 85045	100	142	8.9	48	1792
1	H 77 216 (C)	99	155	7.4	54	1771
3	ICPL 84045	103	154	8.4	53	1750
12	ICPL 85050	104	158	11.0	64	1750
8	ICPL 85043	92	141	7.8	43	1625
13	ICPL 85052	102	147	9.2	56	1584
14	ICPL 85053	108	157	11.4	49	1084
	SE	1.6	1.2	0.11	3.5	134.0
	MEAN	101.5	151.3	8.88	54.5	2039.4
	CV(%)	2.3	1.1	1.77	9.0	9.3

Cooperator and address : Dr. T.S. Sandhu
Senior Pulses Breeder
PAU Regional Research Station
Faridkot - 151 203
Punjab

Soil type : Heavy loam
Net plot size : 2.4 Sqm
Date of planting : 18.6.86, Harvesting : 8.12.86
Fertilized applied : Nil
Weedings : 2
Irrigations : 2
Insecticide applied : Thiodan was sprayed twice at an interval of 15 days at 400ml/acre against pod borer

Table [illegible] :Performance of entries in EPAT-KDT grown at Kaul, Haryana during 1990.

Entry no.	Name	Days to mature	Plant Height (cm)	100-seed weight (g)	Grain yield (kg/plot)	Grain yield (kg/ha)
7	ICPL 85036	142	117	10.8	977	2933
13	ICPL 85054	119	129	12.1	933	1900
17	ICPH 11	128	146	10.1	870	1917
1	H77 210 (Check)	127	114	9.0	857	1900
9	ICPL 85063	143	117	8.9	767	1650
3	ICPL 84060	131	113	9.7	767	1400
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14	ICPL 85073	128	124	13.5	760	1583
10	ICPL 85060	111	117	8.0	712	1483
18	ICPH 42	127	137	9.4	703	1467
12	ICPL 85056	128	140	12.1	705	1467
15	ICPL 85064	141	131	10.8	694	1450
8	ICPL 85070	141	111	8.9	648	1350
16	ICPL 85059	142	113	11.3	643	1350
5	ICPL 84058	137	117	12.0	643	1350
4	ICPL 84054	136	121	9.1	631	1317
11	ICPL 81	141	105	7.4	583	1217
6	ICPL 85062	117	115	6.3	567	1183
SE		1.7	4.7	0.10	63.9	131.5
Mean		141.1	122.6	10.09	735.6	1533.3
CV(%)		2.0	6.6	1.91	17.1	17.2

Cooperator and address: Dr. S.P.S. Malik
Breeder (Pulse & Oil seeds)
Kaul Regional Research Station
Kaul 132021
Kurukshetra, Haryana

Lat. 29 [illegible] Long. 7[illegible] 41 241
Soil type : Clay loam
No. rows/plot: 4 ; Row length : m; Spacing between rows 30 x 10 c
Net plot size : [illegible] sq.
Date of planting : 7-7-1990
Date of thinning : 25-7-1990
Date of harvest : November
Fertilizer applied : 5-7-1990 DAP 100 kg/ha
Weedings : 1-8-1990, by Weedle

Table 1.57 : Performance of entries in EPAT-EDT grown at IARI, New Delhi, during 1986.

Entry No.	Name	Days to Mature	Grain Yield (g/plot)	Grain Yield (kg/ha)
7	B 77 216 (C)	141	1293	1617
15	ICPL 84052	141	1183	1479
2	ICPL 85035	143	1147	1434
11	ICPH 11	143	1143	1429
8	ICPL 85046	142	1120	1400
14	ICPL 84045	140	1113	1392
6	ICPL 85036	137	1033	1292
4	ICPL 84059	140	990	1238
9	ICPL 85053	143	953	1192
3	ICPL 85043	135	953	1192
17	ICPL 85054	143	950	1188
18	ICPH 22	148	897	1121
16	UPAS 120 (C)	144	893	1117
1	ICPL 85055	140	887	1109
13	ICPL 85050	144	780	975
5	ICPL 85049	144	763	954
10	ICPL 85052	137	760	950
12	ICPL 85045	139	753	942
	SE	1.0	72.6	90.7
	MEAN	141.2	978.5	1223.4
	CV(%)	1.2	12.8	12.8

Cooperator and address : Dr. S.P. Singh
Sr. Scientist (Pigeonpea)
Division of Genetics
IARI, New Delhi - 110 012

Date of sowing : 27.6.1986
Reps : 3
Plot size (net) : 2m x 4m
Row to row distance : 50cm

Table 1.58 : Performance of entries in EPAT-EVT grown at B.H.U. Varanasi, U.P., during 1986.

Entry No.	Name	Days to Mature	Plant stand	Grain Yield (g/plot)	Grain Yield (kg/ha)
8	ICPL 85046	126	81	139	2903
1	H 77 216 (C)	119	105	127	2643
7	ICPL 85043	127	91	114	2366
2	UPAS 120 (C)	120	78	104	2160
6	ICPL 85035	126	69	91	1899
4	ICPL 84052	126	73	68	1416
5	ICPL 84059	128	83	68	1415
9	ICPL 85050	129	55	55	1148
3	ICPL 84045	123	76	54	1120
11	ICPL 85055	123	64	47	976
10	ICPL 85052	127	67	29	610
	SE	0.9	11.0	15.51	323.1
	MEAN	124.9	76.8	81.42	1695.9
	CV(%)	1.3	24.8	33.00	33.0

Cooperator and address : Dr. R.M. Singh
Dept. of Plant Breeding
Institute of Agril.
B.H.U. Varanasi 221 005, U.P.

Date of planting : 16.8.86. Harvesting : 24.12.86
Fertiliser applied : NPK 18-46-0
Weeding : by hand 24.8.86 & 5.9.86
No irrigation

Table1.99 : Performance of entries in EPAT-MDT 86 grown at Junagadh, Gujarat 1986

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain Yield (g/plot)	Grain Yield (kg/ha)
16	ICPL 85055	77	113	147	7.4	65	250	1087
6	ICPL 85035	78	108	150	7.4	74	198	870
10	ICPL 85046	81	111	146	6.5	58	197	862
15	ICPL 85054	87	111	179	7.3	61	192	840
5	ICPL 85043	76	107	127	5.9	62	188	826
1	H 77 216 (C)	81	111	153	5.8	73	182	797
3	ICPL 84045	80	120	137	7.3	61	173	760
8	ICPL 84059	81	108	149	8.3	64	170	746
7	ICPL 85036	82	113	158	8.0	59	168	738
4	ICPL 84052	86	115	155	7.9	64	150	658
2	UPAS 120 (C)	86	119	168	6.6	62	133	585
9	ICPL 85045	80	109	145	7.5	68	125	548
17	ICPH 11	88	118	164	6.4	71	125	548
11	ICPL 85049	82	116	156	7.8	61	120	526
18	ICPH 22	92	120	176	7.2	67	110	482
14	ICPL 85053	89	114	159	8.2	62	103	453
13	ICPL 85052	80	109	154	9.8	67	95	417
12	ICPL 85050	91	115	145	8.6	75	78	344
	SE	0.6	0.8	1.4	0.11	1.3	9.4	41.1
	Mean	83.2	113.2	153.8	7.43	65.2	153.2	672.0
	CV(%)	1.6	1.4	1.9	3.05	4.0	12.2	12.2

Cooperator and address : Dr. J.P. Yadavendra
Pulse Breeder
Gujarat Agriculture University Campus
Junagadh - 362 001
Gujarat

Lat. 21.30 N, Long. 70.31 E, Alt. 60 M
Soil type : Medium black soil
Rainfall : May 30.50,Jun 536.00,July 30.00,Aug 155.80,Sept 19.40
No. Rows/plot : 4 ; Row length : 4 m; Spacing between rows 30 x 10 cm
Net plot size : 2 rows, Row length 3.80 m (7.6 sqm)
Date of planting 26.6.1986, Harvest 13.11.1986
Fertilizer applied : 26.6.1986 by hand 20-40-0 DAP
Weedings : By hand weeding 5.7.1986,28.7.1986,2.9.1986
Insecticides applied : 1.9.86,11.9.86,19.9.86,24.9.86,3.10.86,10.10.86
Thiodan + dimecron 0.03 %

Table 1.60 : Performance of entries in EPAT-EDT grown at Pusa, Bihar during 1986.

Entry No.	Name	Days to Flower	100-seed weight (g)	Grain yield (g/plot)	Grain yield (kg/ha)
1	ICPH 11	95	9.0	417	883
10	ICPL 85046	90	9.0	367	706
7	ICPL 85036	89	10.0	367	706
17	UPAS 120 (C)	93	9.0	350*	743
18	H 77 216 (C)	92	12.5	350	743
15	ICPL 85055	90	10.5	333	721
5	ICPL 84059	95	10.0	333	721
4	ICPL 84052	82	9.5	317	690
6	ICPL 85035	88	9.0	467	631
2	ICPH 22	100	7.5	467	631
13	ICPL 85053	98	12.5	467	631
16	ICPL 81	84	6.5	450	608
9	ICPL 85045	90	7.5	450	608
3	ICPL 84045	90	11.5	433	586
11	ICPL 85050	98	12.0	433	586
12	ICPL 85052	88	9.0	367	496
8	ICPL 85043	79	7.5	350	473
14	ICPL 85054	96	11.0	350	473
	SE	-	-	37.7	51.0
	MEAN	-	-	481.5	650.7
	CV(%)	-	-	13.6	13.6

Cooperator and address : Dr. P.N. Narula
Head
ICAR Regional Research Station
Pusa (Bihar) 848 125

Date of sowing : 23.7.86 : Harvesting : 21.12.86
Net plot siz : 7.4 Sq. m.

Table 1.6i: Performance of entries in EPAT-SDT grown at Dehradun, U.P., during 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain yield (g/plot)	Grain yield (kg/ha)
2	UPAS 120 (C)	88	160	198	6.8	94	633	1319
1	H 77 216 (C)	90	168	164	6.9	109	613	1278
18	ICPH 22	121	175	212	7.9	98	610	1271
17	ICPH 11	119	175	203	6.9	73	542	1128
5	ICPL 84059	111	170	176	7.2	85	473	986
4	ICPL 84052	114	165	151	6.8	85	400	833
10	ICPL 85046	111	165	171	7.4	92	370	771
6	ICPL 85035	109	175	161	6.6	97	325	677
11	ICPL 85049	119	175	155	8.4	39	305	635
3	ICPL 84045	121	175	149	6.9	73	270	563
9	ICPL 85045	114	165	159	6.9	43	257	535
16	ICPL 85055	111	170	166	7.1	45	242	504
13	ICPL 85052	111	170	142	8.2	97	230	479
15	ICPL 85054	114	170	180	6.7	59	223	465
12	ICPL 85050	115	170	150	8.7	68	177	368
7	ICPL 85036	114	165	160	7.5	41	175	365
8	ICPL 85043	114	175	162	6.3	72	153	319
14	ICPL 85053	119	170	162	7.6	42	153	319
	SE	-	-	-	-	3.8	17.9	37.4
	MEAN	-	-	-	-	72.9	341.8	711.9
	CV(%)	-	-	-	-	9.0	9.1	9.1

Cooperator and address: Dr. P.C. Tyagi
Plant Breeder
Central Soil and Water Conservation
Research and Training Institute
Dehradun - 248 195 , U.P.

Rainfall(mm) Jun 110.2, Jul 518.5, Aug 385.5, Sept. 100.4, Oct 44.8, Nov 12.2, dec 54.8

Net plot size : 4.8 Sq.m.

Date of planting : 23.6.86, Harvesting : 2.12.86 to 20.12.86

Fertilizer applied : 23.6.86, N:P=20:50 kg/ha

Weeding : By hand, 28.7.86 & 30.8.86

Insecticide applied : 10.10.86 Nuvan 1 lit/ha, 28.10.86 & 10.11.86 Thiodan 2 lit/ha, 20.11.86 Endosulphen 2 lit/ha

Table 1.62 : Performance of entries in MMAT-MST group at Khargone, M.P. during 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain Yield (g/plot)	Grain Yield (kg/ha)
2	UPAS 120 (C)	80	121	123	9.8	50	477	1362
1	M 77 216 (C)	72	114	119	10.0	58	397	1133
6	ICPL 85035	69	126	117	9.5	58	333	953
13	ICPL 85052	74	113	117	10.3	46	310	886
12	ICPL 85050	80	126	125	11.0	53	273	781
7	ICPL 85036	73	117	115	9.8	51	263	752
3	ICPL 84045	74	114	107	10.5	54	250	714
5	ICPL 84059	70	126	119	10.5	53	240	686
10	ICPL 85046	75	113	119	10.0	45	230	657
15	ICPL 85054	80	126	115	10.1	55	193	552
9	ICPL 85045	71	113	110	10.0	56	180	514
4	ICPL 84052	77	117	113	10.2	64	180	514
8	ICPL 85043	73	113	114	9.5	50	150	429
11	ICPL 81	72	113	111	8.4	47	145	414
18	ICPR 22	82	121	146	9.7	60	143	410
14	ICPL 85053	83	126	108	11.0	55	140	400
17	ICPR 11	79	118	127	9.5	42	137	391
16	ICPL 85055	76	113	107	10.0	53	133	381
	SE	0.3	1.8	3.8	0.25	4.9	17.7	50.6
	MEAN	75.6	118.4	117.3	9.99	52.7	231.9	662.7
	CV(%)	0.8	2.7	5.7	4.27	16.1	13.2	13.2

Cooperator and address : Mr. Ashok K. Samosa
Research Associate (PB)
JNKVV, RARS
Khargone - 451 001
M.P.

Lat. 20 N. Long. 75 E . Alt 357 M
Soil type : Loam
Rainfall(mm) : Jun 104.5, Jul 205.0, Aug 284.5
Net Plot size : 3.5 Sqm. Spacing : 30 x 10 cm
Date of planting : 2.7.86, Harvesting : 6.12.86
Fertilizer applied : 2.7.86, DAP 100 kg/ha
Weedings : 17.7.86 & 5.8.86

Table 1.6f : Performance of entries in [illegible] at Lohati, during 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	100-seed weight (g)	Plant stand	Grain yield (g/plot)	Grain yield (kg/ha)
6	ICPL 85035	85	133	72	8.4	47	360	1000
8	ICPL 85043	84	125	85	6.5	50	338	940
15	ICPL 87 (LC)	86	126	61	9.7	51	330	917
7	ICPL 85036	86	133	69	10.7	50	327	907
2	UPAS 120 (C)	83	132	82	6.6	51	322	894
3	ICPL 84045	89	130	82	8.4	53	313	870
1	H 77 216 (C)	87	126	80	8.5	49	313	870
11	ICPL 85050	88	127	93	9.9	51	312	866
9	ICPL 85045	83	127	81	8.7	42	303	843
5	ICPL 84059	85	129	93	9.6	53	303	843
10	ICPL 85046	86	124	79	7.8	42	277	768
4	ICPL 84052	90	127	85	7.5	45	273	759
14	ICPR 11	90	133	89	8.8	39	267	741
13	ICPL 85055	87	128	76	9.7	41	215	597
12	ICPL 85052	87	127	69	9.2	35	203	565
	SE	0.4	0.4	4.5	-	5.4	24.5	68.2
	MEAN	86.2	128.6	79.8	-	46.7	297.1	825.3
	CV(%)	0.8	0.5	9.7	-	20.0	14.3	14.3

Cooperator and address : Dr. T. Swamy Rao
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Lat. 17 2 N, Long. 76 5 E, Alt. 444 m
Soil Type Medium Black
Rainfall ( ) : Jan 31.0, Feb 20.8, Mar -, Apr 18.4, May 18.9, Jun 157.0, Jul 68.0, Aug 161.6, Sep 139.6, Oct 10.4, Nov 12.4, Dec -,
Entries : 15, Reps : 3, Design : RBD
Net plot size : 4 m x .9 m, Spacing : 30 x 10 cm
Date of planting : 23.7.1986, Harvesting : 23.12.'86
Fertilizer applied : 23.7.'86, DAP 25:50:0 kg/ha
Hand weeding was done twice
Irrigation : Nil
Insecticide applied : Two Sprays of endosulphon were taken

Table 1.64: Performance of EPPALT 86 DT entries at different locations during 1986

Entries	At Hisar: Days to flower	Days to mat	Plant height (cm)	100 seed wt (g)	Seed colour	Grain yield (kg/ha): Hisar April	June	July	[illegible] (charcoal)	[illegible]	Mean
ICPL 86005	62	109	192	12.9	B	3029	3555	4442	2969	1613	3053
ICPL 85017	66	121	177	10.6	B	3736	3464	3097	3078	1557	2985
ICPL 86012	62	111	196	12.6	C	2797	3563	3400	3016	1647	2835
ICPL 86015	65	104	186	11.0	C	4003	2626	2810	2750	1494	2787
ICPL 85030	62	100	184	12.4	W	3212	3687	3317	2880	1705	2766
ICPL 83024	76	129	199	17.6	B	3525	2448	3054	2928	1655	2722
ICPL 151 (C)	60	101	185	11.8	C	3714	2674	2942	2700	1467	2715
H 77-216 (C)	77	111	237	7.4	B	-	2555	2708	-	-	(2631)
UPAS-120 (C)	77	111	239	7.9	B	3017	2995	2817	2224	1497	2510
ICPL 86007	59	111	164	11.3	C	1356	3560	3227	3015	1044	2438
ICPL 86002	62	108	185	12.0	B	2006	2479	2546	2902	1481	2326
ICPL 86003	56	101	151	10.3	B	2800	2199	2392	2096	1084	2114
ICPL 4 (C)	67	103	185	6.4	B	1878	2405	2278	2626	1088	2030
ICPL 85030	60	104	155	11.9	W	1464	2813	2417	1902	1340	1987
ICPL 85024	53	86	126	9.0	B	1639	2279	1968	1504	363	1555
ICPL 85059	79	129	125	6.2	B	1525	1956	1693	1134	860	1424
SE	0.6	0.5	4.1	0.15		415	184	226	230	192	
Mean	66	108	180	10.7		2672	2760	2785	2572	1339	
CV (%)	2	1	5	3		22	14	11	16	29	

Table 1.65: Ranking of top 6 ENTRIES OF DT entries for grain yield at different locations during 1986.

Entries	NISAR			Patancheru	Gwalior	Of 5, no of locations at which ranking among top 6
	APRIL	JUNE	JULY			
ICPL 86005	6	2	1	5	5	5
ICPL 85017	2	4	5	3	6	5
ICPL 86012	-	1	4	2	3	4
ICPL 86010	1	-	-	-	4	2
ICPL 85031	5	-	2	-	1	3
ICPL 85004	4	-	6	6	2	4
ICPL 151 (C)	3	-	-	-	-	1
H 77-216 (C)	-	-	-	-	-	-
UPAS-120 (C)	-	5	-	-	-	1
ICPL 86007	-	3	3	4	-	3
ICPL 86002	-	-	-	-	-	-
ICPL 86003	-	-	-	-	-	-
ICPL 4 (C)	-	-	-	-	-	-
ICPL 85030	-	6	-	-	-	1
ICPL 85024	-	-	-	-	-	-
ICPL 85059	-	-	-	-	-	-

Table 1.09. Performance of ICPMLT 86 01 entries in summer sowing at Nisar during 1988

Entries	Days to 50% flowering	Plant height (cm)	Heliothis damage score	Days to 75% maturity	Seeds per pod	100 seeds weight (g)	Plant stand per plot	Yield (kg/ha)	Dry stalk yield (t/ha)
ICPL 86010	69	265	1.0	191	4.3	11.1	19	4103	17.3
ICPL 85017	77	269	1.0	175	4.0	10.9	20	3736	26.3
ICPL 151 ((C)	68	260	2.0	168	3.9	11.1	17	3714	15.0
ICPL 83024	77	303	1.0	189	3.3	16.8	13	3525	19.2
ICPL 85031	70	203	1.0	169	3 5	12.4	16	3212	17.5
ICPL 86005	71	268	1.0	182	3.9	12.4	15	3028	23.4
UPAS 120 (C)	66	300	1.0	190	3.4	8.4	20	3017	31.0
T 21 (C)	159	322	1.0	195	3.3	8.6	19	3003	28.9
ICPL 86003	65	218	1.0	171	4.0	10.7	18	2800	17.3
ICPL 86012	69	223	1.0	169	3.7	12.1	15	2767	9.2
ICPL 86002	67	240	3.0	169	3.6	12.1	18	2006	13.8
ICPL 4 (C)	68	218	1.0	160	3.9	6.7	19	1870	8.3
ICPL 85024	62	174	3.0	172	3.6	8.9	16	1639	9.3
ICPL 85059	77	179	7.0	200	2.7	6.6	15	1525	15.0
ICPL 85030	66	178	3.0	180	3.7	12.2	18	1464	12.7
ICPL 86007	64	173	1.0	180	3.5	11.4	19	1356	5.8
SE	0.83	11.54	0.25	1.16	0.30	0.38	3.69	414.56	1.77
Mean	74	237	1.81	179	3.6	10.8	17	2672	16.8
CV (%)	1.16	6.89	19.51	1.0	11.81	4.27	23.24	21.94	16.71

Date sown : 7.4.86
Spacing : 50 cm x 20

Table 1.67: Performance of EPPMLT 86 DT entries at Hisar during 1986.

Entries	Days to 50% flowering	Plant height (cm)	[illegible] score	Days to maturity	Seeds per pod	100-seed weight (g)	[illegible]	Yield (kg/ha)	Dry stalk yield (t/ha)
KPL 86012	62	196	[illegible]	111	[illegible]	12.[illegible]	50	3523	11.2
KPL 86015	62	192	[illegible]	109	[illegible]	12.7	41	3555	11.3
KPL 86007	59	164	[illegible]	111	[illegible]	11.3	48	355[illegible]	7.3
KPL 85017	66	177	[illegible]	12[illegible]	[illegible]	[illegible]	[illegible]	346[illegible]	7.6
OPAS-120(C)	77	239	[illegible]	111	[illegible]	7.7	[illegible]	2995	12.4
KPL 85030	[illegible]	155	[illegible]	[illegible]	[illegible]	11.7	[illegible]	2813	6.1
KPL 85031	62	[illegible]	[illegible]	[illegible]	[illegible]	12.4	55	2[illegible]	7.[illegible]
KPL 151(C)	(60)	[illegible]	[illegible]	([illegible])	[illegible]	11.[illegible]	[illegible]	267[illegible]	7.6
H77-216(C)	71	23[illegible]	[illegible]	111	[illegible]	7.4	[illegible]	2555	12.2
KPL 86010	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11.0	50	[illegible]	9.0
KPL 86002	62	[illegible]	[illegible]	1[illegible]8	[illegible]	12.0	[illegible]	[illegible]	8.5
KPL 83024	71	191	[illegible]	[illegible]	3.3	17.6	62	[illegible]	10.4
KPL 4 (C)	([illegible])	[illegible]	[illegible]	(103)	[illegible]	6.4	63	[illegible]	6.4
KPL 85024	[illegible]	126	1.0	96	[illegible]	9.[illegible]	[illegible]	22[illegible]	3.7
KPL 86003	56	151	2.[illegible]	101	[illegible]	10.3	[illegible]	2199	5.1
KPL 85059	77	[illegible]	[illegible]	129	2.2	6.2	71	1956	6.1
SE	0.[illegible]	4.10	0.57	0.50	0.16	[illegible]	3.52	1[illegible]	0.58
MEAN	66	166	3.8	108	[illegible]	10.7	57	2780	8.6
CV(%)	1.95	4.60	30.77	0.72	8.7[illegible]	3.0	12.3[illegible]	14.46	13.57

Date Sown : 25.6.86
Spacing : 30cm × 10cm
Plot size : 4 Rows – 4m long

Table 1.68: Characteristics of EPPMLT 86 DT entries in late sowing at Niser during 1986

Entries	Days to 50% flowering	Plant height (cm)	Heliothis damage score	Days to 75% maturity	Seeds per pod	100 seeds weight (g)	Plant stand per plot	Yield (kg/ha)	Dry stalk yield (t/ha)
ICPL 86005	66	126	2.0	122	4.9	13.2	63	4102	9.9
ICPL 85031	60	116	9.0	112	4.7	13.2	72	3317	7.7
ICPL 86007	59	95	3.0	119	4.1	11.7	68	3227	6.2
ICPL 86012	59	119	2.0	115	4.2	11.8	69	3100	5.5
ICPL 85017	58	102	3.0	119	4.2	10.9	85	3097	6.1
ICPL 83024	68	128	4.0	129	3.9	16.0	75	3054	6.6
ICPL 151 (C)	61	100	3.0	118	4.5	10.3	57	2942	3.9
ICPL 86010	59	112	5.0	110	4.6	11.2	61	2910	6.5
UPAS 120 (C)	62	147	3.0	119	3.8	7.8	79	2817	4.8
H 77-216 (C)	59	144	3.0	117	4.1	7.3	88	2758	3.5
ICPL 86002	60	106	3.3	118	4.5	12.4	41	2546	3.1
ICPL 85030	56	88	9.0	109	4.0	13.6	80	2417	4.6
ICPL 86003	54	85	5.0	105	4.2	10.2	71	2392	3.1
ICPL 4 (C)	60	103	4.0	108	4.2	6.9	85	2270	2.9
ICPL 85024	54	57	4.0	102	4.0	8.3	91	1968	1.9
ICPL 85059	76	78	3.0	135	3.5	5.7	65	1693	2.3
SE	1.00	3.60	0.70	1.31	0.17	0.24	6.22	225.59	0.28
Mean	61	106	4.08	116	4.2	10.6	71	278.5	4.6
CV (%)	2.34	4.80	24.15	1.81	6.12	3.58	14.28	11.45	8.82

Date sown : 28.7.86
Spacing : 30 cm x 5 cm
Plot size : 4 rows - 4 m long

Table 1.69:Performance of entries in EPPMLT 86-DT (T-04) grown at Patancheru, rainy season 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Ist harvest Plant stand	Ist harvest Yield (kg/ha)	IInd harvest Plant stand	IInd harvest Yield (kg/ha)	Total Yield (kg/ha)
1	ICPL 87 (CM)	69	111	89	4.09	9.5	121	2077	121	1198 (3)	3284 (1)
6	ICPL 85017	67	110	85	4.28	9.6	111	2002	110	1072 (7)	3078 (3)
9	ICPL 85031	67	118	106	4.61	11.8	105	1969	105	862 (12)	2830 (8)
14	ICPL 86007	65	108	87	4.38	10.5	94	1968	92	1053 (8)	3015 (4)
15	ICPL 86010	67	113	98	4.30	10.9	106	1904	106	832 (13)	2750 (10)
5	ICPL 83024	73	116	110	4.74	13.7	110	1887	110	1041 (9)	2928 (6)
16	ICPL 86012	70	111	107	4.19	11.9	85	1882	85	1224 (2)	3116 (2)
11	ICPL 86002	66	109	105	4.14	10.6	91	1730	89	1184 (4)	2902 (7)
4	ICPL 151 (CM)	67	107	97	4.25	9.8	110	1654	107	1122 (5)	2780 (9)
13	ICPL 86005	74	120	113	4.01	13.1	76	1609	76	1345 (1)	2968 (5)
3	ICPL 4 (CM)	65	99	94	4.31	6.1	116	1560	114	1078 (6)	2626 (11)
2	UPAS 120 (CM)	67	110	110	3.81	7.8	121	1233	114	996 (10)	2224 (12)
12	ICPL 86003	57	102	78	4.36	9.9	104	1166	103	932 (11)	2096 (13)
8	ICPL 85030	59	102	75	4.36	11.3	105	1157	97	762 (14)	1902 (14)
7	ICPL 85026	56	91	72	3.90	7.1	105	1124	87	396 (15)	1524 (15)
10	ICPL 85059	66	106	52	3.21	6.4	91	820	83	317 (16)	1134 (16)
	SE	0.5	0.9	2.6	0.149	0.33	3.4	158.6	3.9	131.9	229.9
	MEAN	66.0	108.2	92.3	4.184	10.01	103.2	1609.0	100.0	963.0	2572.0
	CV%	1.6	1.6	5.7	7.130	6.66	6.5	19.7	7.7	27.4	17.9

Rainfall (mm): Jun 118.2, Jul 131.2, Aug 230.9, Sept 57.3
Irrigation : 25.6.86,3.7.86,30.8.86,21.9.86,9.10.86,1.11.86,20.11.86
Herbicide applied : 28.6.86, Prometryn 2 Lit/ha + Basalin 2.25 Lit/ha
Insecticide applied : 27.8.86,11.9.86 & 23.9.86 Thiodan 17%
30.8.86,3.9.86 & 8.10.86,27.10.86,17.11.86,22.12.86
1 lit/ha. Thiodan 35%
Net plot size : 4.56 Sqm.(4 rows of 3.8m)
Spacing : 30 x 10 cm
Date sown:28.6.86
Hand weeding: 28.7.86, 23.9.86

Table/X:Performance of entries in EPPMLT86DT (T-86GT04) grown at Gaalior,rainy season 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)	IInd Harvest (kg/ha)	Total Yield (kg/ha)
8	ICPL 85031	78	130	106	4.0	11.2	69	1785	304	2089
4	ICPL 85024	88	130	138	3.8	11.6	93	1655	189	1844
15	ICPL 86012	88	130	127	3.5	10.8	70	1647	411	2058
14	ICPL 86010	87	139	126	4.3	9.6	90	1644	513	2157
12	ICPL 86005	84	143	137	4.2	11.6	63	1613	652	2265
5	ICPL 85017	77	130	103	2.8	8.4	96	1551	685	2236
1	UPAS 120(Check)	77	110	135	3.5	7.4	107	1497	921	2418
10	ICPL 86002	81	132	117	4.0	10.3	74	1481	772	2253
3	ICPL 151(Check)	87	135	119	3.9	9.4	96	1467	226	1693
7	ICPL 85030	89	131	89	3.5	10.8	102	1340	162	1502
2	ICPL 4(Check)	76	119	114	3.5	5.8	101	1088	581	1669
11	ICPL 86003	70	113	96	4.4	8.5	93	1086	310	1396
13	ICPL 86007	79	127	98	3.5	9.3	88	1014	484	1498
9	ICPL 85059	108	147	77	4.0	4.8	81	460	208	1068
6	ICPL 85024	82	102	83	4.3	7.7	99	363	239	602
	Sc	2.1	3.0	5.3	0.12	0.43	5.2	192.4	157.8	~~360.2~~
	MEAN	80.7	129.9	110.8	3.81	9.16	88.0	1339.2	671.3	2010.5
	CV(%)	5.2	4.7	9.5	6.12	9.32	11.9	28.7	47.0	~~35.8~~
Gwalior-3										4085

Table 171: Performance of EPPMLT 86 NDT entries at different locations during 1986

Entries	At Hisar: Days to flower	Days to mat	Plant height (cm)	100 seed wt (g)	Seed colour	Grain yield (kg/ha): Hisar April	Hisar June	Hisar July	Patancheru (Summer)	Gwalior	Mean[a]
ICPL 85051	84	107	259	11.6	B	3935	3418	1538	2207	1747	2660
ICPL 85048	83	105	251	10.7	W	4470	2866	1341	1379	1429	2597
ICPL 86011	75	107	218	9.6	B	4211	3545	1424	917	804	2497
ICPL 86024	80	116	223	8.7	B	4123	2612	1471	1638	1058	2291
ICPL 86026	80	107	235	10.2	C	3915	2568	1235	1229	1433	2288
ICPL 86029	82	127	231	10.9	W	3804	2659	1083	1925	1540	2272
ICPL 85057	85	99	215	10.9	W	2878	2590	1648	1693	1848	2236
ICPL 86025	82	110	235	9.5	B	2655	2964	1431	2237	1518	2150
ICPL 85058	83	131	251	12.7	W	1788	3321	1698	1480	1439	2062
ICPL 86022	80	130	252	9.4	B	2846	2623	1221	1073	1534	2056
H77-216(C)	80	111	236	8.3	B	–	2581	1498	–	–	(2039)
ICPL 86026	68	95	238	9.7	B	2824	2754	1649	1120	750	1982
ICPL 85041	76	107	234	9.5	B	3366	2279	1009	1594	1216	1966
UPAS-120(C)	80	105	242	8.6	B	2685	2521	1321	1225	1037	1891
ICPL 85037	57	95	200	6.1	B	1833	2597	1221	1195	641	1573
ICPL 86014	71	104	215	6.7	B	1571	1857	1122	1029	755	1326
SE	0.8	0.7	6.0	0.3		335	239	111	227	173	
MEAN	72	110	235	9.8		3115	2730	1369	1412	1263	
CV(%)	2	1	5	6		17	18	11	32	27	

a. Patancheru yield data not included in mean because of high CV (73%)

Table 17: Rank of Kfg 6 EARLY BG NOT entries for grain yield at different locations during 1986.

Entries	NISAR			Palampur	Kandaghat	Sum of ranks of locations at which ranking among Kfg 6
	APRIL	JUNE	JULY			
ICPL 85051	4	2	4	1	2	5
KPL 85048	1	5	-	-	3	3
KPL 86016	2	1	-	-	-	2
KPL 86024	3	-	6	5	-	3
KPL 86026	5	-	-	-	-	1
KPL 86029	6	-	-	2	4	3
ICPL 85057	-	-	3	3	1	3
ICPL 86028	-	4	-	-	6	2
ICPL 85058	-	3	1	-	-	2
ICPL 86022	-	-	-	-	5	1
H 77-216 (C)	-	-	5	-	-	1
ICPL 86020	-	6	2	-	-	2
ICPL 85041	-	-	-	6	-	1
UPAS-120 (C)	-	-	-	-	-	-
ICPL 85037	-	-	-	-	-	-
ICPL 86014	-	-	-	-	-	-

Table 1.73: Performance of EPPHLT 86 HDT entries in summer at Niger during 1986

Entries	Days to 50% flowering	Plant height (cm)	Heliothis damage score	Days to 75% maturity	Seeds per pod	100 seeds weight (g)	Plant stand per plot	Yield (kg/ha)	Dry stalk yield (t/ha)
ICPL 85048	71	265	1.0	190	3.6	11.1	16	4470	27.7
ICPL 86016	69	240	1.0	185	3.5	9.6	16	4216	23.5
ICPL 86024	71	279	1.0	190	3.2	10.3	17	4023	17.8
ICPL 85051	155	265	1.0	190	3.8	10.7	17	3935	25.1
ICPL 86029	70	373	1.0	190	3.9	11.5	18	3915	21.7
ICPL 86029	108	305	1.0	185	4.3	10.8	15	3804	22.3
ICPL 85041	69	260	1.0	180	4.5	8.8	17	3360	11.8
T 21 (C)	150	325	2.0	200	3.4	9.0	20	3001	26.4
ICPL 85057	153	351	1.0	195	3.4	10.6	19	2878	22.7
ICPL 86022	73	258	1.0	190	3.6	9.2	17	2846	19.8
ICPL 86020	66	273	1.0	169	3.2	10.6	15	2824	16.7
ICPL 86028	66	298	1.0	174	3.4	10.3	14	2685	12.1
UPAB 120 (C)	75	250	1.0	184	3.4	8.2	19	2683	16.6
ICPL 85037	65	226	1.0	168	4.5	9.3	18	1833	7.6
IPL 85058	74	227	2.0	190	4.0	12.6	16	1788	9.9
ICPL 86014	74	195	1.0	190	3.6	9.6	18	1571	8.9
SE	5.20	24.43	0.37	2.27	0.47	0.57	1.36	334.76	3.22
Mean	93	277	1.1	186	3.6	10.1	17	311.5	18.2
CV (%)	8.71	12.46	46.85	1.73	6.47	8.01	11.87	17.0	25.37

Date sown : 7.4.86
Spacing : 50 cm x 20 cm
Plot size : 3 rows - 4 m long

Table 1.74: Performance of EPPMLT 86 MDT entries at Hisar during 1986

Entries	Days to 50% flowering	Plant height (cm)	Heliothis damage score	Days to 75% maturity	Seeds per pod	100 seeds weight (g)	Plant stand per plot	Yield (kg/ha)	Dry stalk yield (t/ha)
ICPL 86016	75	218	6.0	107	3.4	9.8	30	3545	9.7
ICPL 85051	84	259	4.0	107	3.7	11.6	45	3418	16.1
ICPL 85058	83	251	4.0	131	4.1	12.7	40	3321	18.4
ICPL 86028	82	238	4.0	110	3.2	9.5	50	2964	14.0
ICPL 85048	83	251	3.5	105	3.5	10.7	38	2866	12.8
ICPL 86020	63	208	4.0	90	3.7	9.7	30	2704	7.7
ICPL 86029	82	231	4.5	127	4.3	10.9	36	2659	12.9
ICPL 86022	80	252	4.0	130	3.9	9.4	41	2623	12.1
ICPL 86024	80	223	4.0	110	3.7	8.7	47	2612	12.1
ICPL 85037	57	200	3.0	99	3.7	8.1	49	2597	7.0
H 77-216 (C)	80	236	5.0	111	3.6	8.3	42	2581	16.1
ICPL 85057	85	260	4.0	99	4.6	10.9	46	2570	17.2
ICPL 86026	80	235	3.5	107	4.4	10.2	36	2568	13.7
UPA 120 (C)	80	242	4.5	108	4.2	8.6	48	2521	13.6
ICPL 85041	76	234	6.0	107	3.7	9.5	53	2279	12.1
ICPL 86014	71	210	5.0	104	3.6	8.7	44	1857	7.5
SE	0.76	5.88	0.60	0.66	0.15	0.29	2.33	232.29	0.94
Mean	72	235	4.4	110	3.8	9.8	4.3	22.30	12.6
CV (%)	1.97	5.19	27.28	1.25	7.74	5.85	12.1	18.51	15.5

Date sown : 25.6.86
Spacing : 30 cm x 5 cm

Table 1.75: Performance of EPPRLT 86 HDT in late sowing at Hisar during 1986

Entries	Days to 50% flowering	Plant height (cm)	Heliothis damage score	Days to 75% maturity	Seeds per pod	100 seeds weight (g)	Plant stand per plot	Yield (kg/ha)
ICPL 85058	66	124	3.0	120	4.6	11.1	72	1698
ICPL 86020	58	128	4.0	112	4.0	9.5	58	1649
ICPL 85057	71	165	4.0	132	4.9	10.3	87	1648
ICPL 85051	77	185	1.0	130	4.2	9.8	47	1538
H 77-216 (C)	58	131	4.0	110	3.9	7.3	84	1498
ICPL 86024	61	119	3.1	110	3.7	8.3	74	1471
ICPL 86028	63	117	3.0	112	4.0	7.1	74	1431
ICPL 86016	59	131	4.0	115	3.8	10.0	55	1424
ICPL 85048	64	140	3.0	121	3.9	9.1	31	1341
UPAS 120 (C)	60	127	3.0	105	3.8	7.4	84	1321
ICPL 86026	60	135	3.0	110	4.2	10.0	47	1235
ICPL 85037	54	121	4.0	98	3.8	8.1	79	1221
ICPL 86022	59	110	5.0	110	3.8	9.0	74	1221
ICPL 86014	59	125	4.1	110	4.1	8.0	76	1182
ICPL 86029	62	155	3.0	119	4.4	9.8	42	1003
ICPL 85041	54	113	3.0	100	3.9	8.0	78	1009
SE	1.20	7.53	0.62	0.50	0.15	0.20	3.40	111.13
Mean	62	1.33	3.4	113	4.0	8.9	66	1369
CV (%)	2.77	8.51	26.48	0.62	5.20	4.42	7.62	11.48

Date sown : 28.7.86
Spacing : 30 cm x 5 cm
Plot size : 4 rows - 4 m long

Table 1.16: Performance of entries in EPPHLT 86-NDT (T-05) green at Patancheru, rainy season 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Ist harvest Plant stand	Ist harvest Yield (kg/ha)	IInd harvest Plant stand	IInd harvest Yield (kg/ha)	Total Yield (kg/ha)
6	ICPL 85051	75	119	132	4.09	9.2	107	1784	98	414 (3)	2207 (1)
16	ICPL 86029	71	111	123	4.71	7.8	110	1694	79	237 (9)	1925 (2)
8	ICPL 85058	74	118	113	4.32	9.3	112	1310	100	178 (11)	1480 (7)
1	ICPL 161 (CM)	74	120	102	4.26	7.9	129	1305	109	350 (5)	1669 (4)
13	ICPL 86024	69	109	101	3.89	7.5	111	1256	85	402 (4)	1638 (5)
7	ICPL 85057	78	117	111	4.58	8.1	116	1205	112	486 (1)	1693 (3)
5	ICPL 85048	72	111	101	3.91	7.3	121	1193	99	185 (10)	1379 (8)
4	ICPL 85041	67	106	93	3.73	7.9	115	1137	103	431 (2)	1574 (6)
15	ICPL 86028	72	108	100	4.20	6.9	114	1118	85	100 (16)	1237 (9)
14	ICPL 86026	72	109	105	4.09	7.8	83	1073	71	160 (13)	1229 (10)
2	UPAS 120 (CM)	71	111	91	4.10	6.5	117	1006	95	238 (8)	1225 (11) →
3	ICPL 85037	66	110	100	3.93	7.1	123	936	85	243 (7)	1195 (12)
12	ICPL 86022	68	110	95	3.66	7.7	100	919	71	156 (14)	1073 (14)
11	ICPL 86020	68	114	94	4.16	8.8	79	859	67	251 (6)	1120 (13)
9	ICPL 86014	66	107	90	3.86	7.2	113	858	91	174 (12)	1029 (15)
10	ICPL 86016	69	111	101	4.10	8.0	73	808	60	119 (15)	917 (16)
	SE	0.9	1.5	6.0	0.177	0.20	5.5	181.2	8.8	62.1	227.2
	MEAN	70.8	111.9	103.2	4.100	7.82	107.6	1154.0	88.1	258.0	1412.8
	CV%	2.7	2.8	11.7	8.663	5.22	10.3	31.4	19.9	48.1	32.2

Rainfall (mm): Jun 118.2, Jul 131.2, Aug 230.9, Sept 57.3
Irrigation : 25.6.86,3.7.86,30.8.86,21.9.86,9.10.86,1.11.86,20.11.86
Herbicide applied : 28.6.86, Prometryn 2 Lit/ha + Basalin 2.25 Lit/ha
Insecticide applied : 27.8.86,11.9.86 & 23.9.86 Thiodan 17%
30.8.86,3.9.86 & 8.10.86,27.10.86,17.11.86,22.12.86
1 lit/ha. Thiodan 35%
Net plot size : 4.56 Sqm.(4 rows of 3.8m)
Spacing : 30 x 10 cm
Date sown: 28.6.86
Hand weeding: 28.7.86, 23.9.86

Table/77:Performance of entries in EPPMLTdENDT (T-POGTOS) grown at Gwalior,rainy season 1986.

Entry No.	Name	Days to 50% Flower	Days to Maturity	Plant height (cm)	Seeds per pod	100-seed weight (g)	Plant stand	Grain Yield (kg/ha)	IInd Harvest (kg/ha)	Total Yield (kg/ha)
6	ICPL 85057	97	149	149	4.5	9.1	100	1849	727	2575
5	ICPL 85051	102	144	134	3.6	5.5	97	1747	191	1938
4	ICPL 85045	90	134	152	3.7	8.5	77	1629	455	2084
15	ICPL 85027	91	142	144	4.2	7.2	99	1540	588	2128
11	ICPL 85024	91	137	144	3.5	8.4	93	1534	754	2288
14	ICPL 85026	94	125	148	3.6	8.1	99	1519	610	2128
7	ICPL 85059	90	139	139	4.4	10.0	101	1439	392	1831
13	ICPL 85025	97	122	149	4.5	9.6	69	1433	1015	2448
3	ICPL 85041	91	120	144	3.4	8.2	102	1216	740	1956
12	ICPL 85024	93	116	148	3.9	8.3	101	1059	865	1923
1	UPAS 120(Check)	97	124	149	3.1	7.1	93	1037	611	1648
9	ICPL 85016	91	122	115	3.5	8.3	59	804	555	1359
8	ICPL 85014	91	115	122	3.5	8.1	107	755	409	1164
10	ICPL 85020	83	104	125	4.0	8.7	44	750	809	1559
2	ICPL 85017	83	101	131	3.5	7.5	115	641	398	1039
	SE	1.9	3.9	8.6	0.12	0.31	7.2	173.4	127.8	~~301.2~~
	MEAN	90.5	125.7	143.1	3.95	8.50	89.9	1263.1	775.5	2038.6
	CV(%)	4.0	6.1	12.1	6.29	7.32	16.3	27.5	32.9	~~40.4~~
Gwalior-3										3290

Table 1.30: Characteristics of cultivars in ADLT 86-4 at [illegible] during 1986

Entry No. (ENTRY)	Pedigree	Source (ESUM no.)	Days to Fl.	Days to Mat.	Plant height (cm)	100 seed wt (g)	Seed colour	Pods per plant	Grain yield (kg/ha)	Dry stalk yield (t/ha)	[illegible]
10	8IC134-HB-H34-HB-HB	7850	62	104	182	9.6	B	64	3066	9.9	[illegible]
12	900S60-HB-H4-H2-HB-HB	7854	55	102	159	9.8	B	58	2952	8.6	[illegible]
7	80CS40-HB-H4-HB-HB-HB	7827	58	103	184	9.3	B	54	2926	8.2	[illegible]
14	8ICS8-HB-H9-HB-HB	7875	66	107	159	10.1	B	54	3096	12.4	[illegible]
13	80CS19-HB-H3-HB-HB-HB	7865	62	97	182	8.0	C	50	2935	7.3	[illegible]
2	ICPL 151 (C)		60	104	192	10.7	C	57	2923	8.6	
11	80CS41-HB-H5-H1-HB-HB	785.9	57	105	170	10.1	B	65	2915	9.7	
15	8IC134-HB-H11-HB-HB	7676	61	109	172	9.8	B	61	2855	8.6	
9	8ICS26-HB-H11-H1-HB-HB	7636	56	87	154	9.6	C	61	2843	5.1	[illegible]
16	79C235-HB-H3-H1-H1-HB-HB	7887	60	103	164	10.4	B	51	2679	8.0	
5	ICPL 86009		61	97	177	9.4	B	62	2667	7.4	
4	ICPL 86001		55	86	140	7.6	B	51	2587	9.3	
1	C?AS-120 (C)		79	121	234	7.9	B	62	2486	12.4	
6	810058-HB-H5-HB-HB	7224	56	105	164	8.4	B	61	2474	6.3	
8	80CS51-B6-H2-H1-HB-HB-HB	7832	58	97	180	8.7	B	63	2356	6.8	
3	ICPL 4 (C)		61	97	179	6.5	B	64	2330	6.8	
	SE		0.9	0.7	7.5	0.22		3.1	254	1	
	MEAN		61	102	173	9.2		58	2837	8	
	CV (%)		2	1	7	4		11	15	17	

Table 1.19: Characteristics of entries in ADLT 86-2 at Ithaca during 1986

ENTRY NO. (ENTRY-)	PEDIGREE	Source (1985 Nursery)	DAYS TO FL	DAYS TO MAT.	Plant Height (cms)	100 Seed Weight (g)	Seed Colour	Plant Stand per Plot	Dry Matter Yield (T/ha)	Grain Yield (kg/ha)	Moisture (%)
4	ICFL 86004		69	106	205	9.5	B	48	10.2	2190	
8	860520-HB-H36-HB-HB-HB	7830	68	101	174	9.1	B	47	9.7	2180	8098
5	ICFL 86006		61	123	172	12.1	C	44	8.3	2144	
9	RF247-H1-H1-H1-H1-HB	7846	64	103	157	11.4	C	46	7.1	2141	
16	810135-HB-H37-HB-HB	7934	64	104	181	9.2	C	44	7.7	2102	
2	ICFL 151 (C)		62	105	191	12.0	C	54	11.0	2090	
6	ICFL 86008		75	107	203	12.7	C	46	10.9	2046	
1	USA-120 (C)		79	122	222	8.5	B	59	14.0	2035	
12	800520-HB-HB-H2-86-HB	7873	62	95	165	9.2	B	43	6.2	2017	
13	780243-HB-HB-H2-H1-HB-HB-HB	7896	67	106	164	12.6	C	53	8.0	2006	
3	ICFL 4 (C)		66	101	183	6.4	B	46	5.1	2011	
11	800541-HB-H5-H4-HB-HB	7872	64	101	170	9.6	B	43	8.2	1997	
7	810133-HB-HB-HB-HB	245	71	121	185	10.5	B	55	14.0	1957	
14	810155-HB-H7-HB-HB	7902	75	120	174	10.3	C	46	10.3	1899	
10	800520-HB-H23-H1-HB-HB	7856	64	105	195	10.8	B	54	12.5	1861	
15	800576-HB-H9-HB-HB-HB	7936	70	108	213	10.9	C	42	12.1	1782	
	SE		0.4	0.6	8.1	0.17		2.9	0.7	151	
	MEAN		67	108	187	10.3		48	9.7	2024	
	CV (%)		1	1	9	4		12	16	13	

Table 1.8 : Characteristics of entries in ARLT86-3 at Nisar during 1986

ENTRIES No. (ENTRY-)	PEDIGREE	Source (ICRISAT No.)	DAYS TO 50% FL	DAYS TO 50% MAT.	PLANT HT. (cm)	Seed Color	100 Seed Wt. (g)	Grain Yield (kg/ha)	Grain Yield (kg/ha)	[illegible]
9	81d-NE-N3-NB-NB	7880	63	122	138	B	56	10.7	3529	8396
15	BN134-NB-NN-NB-NB	7952	61	122	118	B	51	10.7	3493	
13	BR058-NB-NN-NB-NB	7918	61	108	107	C	47	10.3	3053	8310
10	B00561-N5-N1-N1-NB	7886	63	125	110	B	51	10.7	3044	
11	KPL 3-N1-N2-NB-NB-NB	7897	60	121	125	C	49	9.5	2995	83101
1	UPAS-120 (C)		79	129	81	B	58	15.9	2726	
3	KPL 151 (C)		62	111	124	C	56	10.3	2685	
5	810135-NB-N89-NB-NB	230	75	128	128	C	51	14.2	2386	
2	ICPL 87120		57	98	80	B	56	6.7	2369	
7	816134-NB-N27-NB-NB	240	58	112	105	B	61	12.6	2348	87077
14	B00525-B-N1-N2-NB-NB	7934	62	112	114	B	55	9.5	2189	
12	B00551-NB-N2-NB-NB-NB	7901	65	105	105	C	47	7.1	1914	
8	B00519-NB-N5-NB-NB	7866	61	104	97	B	58	9.6	1900	
6	B10058-NB-N15-NB-NB	237	57	103	99	B	53	8.7	1870	
16	B00561-NB-N2-N1-NB-NB	7954	62	105	118	C	47	10.7	1764	
4	ICPL 85032		69	107	123	C	49	NO	1673	
	SE		0.6	0.4	0.17		3.2	0.9	226	
	MEAN		64	113	111		53	10.8	2490	
	C.V.(%)		2	1	3		12	16	18	

Table 181: Characteristics of entries in ADLT 86-4 at Hisar during 1986

ENTRY Nos (86HT21-...)	ENTRY PEDIGREE	Source (1985 HPMN)	Days to FL	Days to MAT.	Plant Height (cm)	100 Seed wt (g)	Seed Colour	Plant Stand per plot	Dry stalk yield (t/ha)	Grain Yield (kg/ha)	New ICMS
7	800576-HB-H1-H2-HB-HB	290	62	120	189	131	C	56	12.8	3509	87104
5	ICPL 85027		75	107	216	12.4	C	.52	14.0	.3437	
14	81d-HB-H6-HE-HB	7914	68	126	183	12.5	C	41	12.0	3351	87105
10	790237-HE-H11-H1-HE-HE-HE	7896	68	107	202	K 2	C	49	12.0	3298	
4	ICPL 84039		60	121	171	117	C	54	8.4	3094	
2	ICPL 84031		63	109	198	10.2	B	50	13.0	2982	
8	780377-ESB-HH-HB-HB	7885	68	105	182	K 2	B	53	8.3	2798	
13	790233-HB-H3-H2-H2-HB-HE	7912	61	104	182	113	C	36	9.5	2793	
6	ICPL 86011		83	122	231	119	C	50	18.8	2653	
3	ICPL 151 (C)		63	107	184	121	C	59	8.1	2599	
1	UPAS-120 (C)		75	109	224	83	B	52	9.9	2446	
15	800561-HB-H1-H1-HB-HB	7920	71	126	191	139	B	52	18.0	2410	
12	800518-BB-H1-H2-H2-HB-HB	7911	64	99	173	9.9	C	51	7.9	2298	
16	ICPL 312-WBB-WB6-WB5	7932	64	105	182	12.8	C	46	9.3	2043	
9	790243-HB-H2-H3-HB-HB	7895	76	113	199	11.4	W	45	10.9	2020	
11	800561-HB-H2-H2-HB-HB	7909	73	105	178	96	C	48	7.0	1877	
	SE		0.8	1.6	12	0.35		4.0	1	237	
	MEAN		68	112	193	11.3		50	11	2725	
	CV(%)		2	3	11	5		14	16	15	

Table 152: Characteristics of entries in ADLT 86-5 at their showing 1986

ENTRY No. (ESENTIA-)	PEDIGREE	Source (IHDS No.)	50% FL	50% HDT	Plant height (cm)	100 seed wt (g)	Seed colour	Plant lodging (%)	Dry seed yield (T/ha)	Grain yield (kg/ha)	Area (ha)
10	800592-NB-N3-N1-NB-NB	7942	75	120	209	15.4	B	28	140	3419	87108
8	800576-NB-N2-N1-NB-NB	7940	65	131	234	12.4	C	38	173	3261	87106
4	ICPL 86013		73	129	225	14.9	B	55	141	3218	
12	800608-B-N2-N1-N1-NB-NB	7946	75	121	234	13.8	C	47	178	3057	87109
9	800607-NB-N3-N2-NB-NB	7941	73	114	225	146	C	37	147	2995	87107
3	ICPL 151 (C)		61	108	203	12.1	C	58	129	2807	
1	UPAS-120 (C)		79	110	238	8.3	B	68	138	2679	
2	ICPL 87 (C)		64	111	219	12.2	B	55	149	2665	
15	ICPL 53024		75	127	219	17.8	B	44	148	2656	
7	800500-NB-N2S-N1-NB-NB	7921	54	100	148	8.5	B	51	52	2604	87100
14	90C-NB-N3-NB-NB	7953	76	124	220	11.3	C	60	160	2309	
16	BPL 835-NB	264	83	127	239	11.0	C	34	127	2262	
5	790233-NB-N1-N2-NB-NB	7906	65	109	206	9.6	C	58	118	1997	
13	800608-B-N2-N2-N1-NB-NB	7948	77	140	245	12.9	B	48	237	1879	
6	790233-NB-N3-N2-NB-NB	7907	72	113	228	11.5	C	35	180	1874	
11	800586-NB-N1-N1-NB-NB	7943	75	119	238	11.6	W	38	179	1863	
	SE		0.4	0.7	4.2	0.16		2.9	20	222	
	MEAN		72	121	228	11.9		47	151	2603	
	CV(%)		1	1	4	3		13	13	17	

Table 1.83 Performance of entries in ADLT 86-5 (T-06) grown at Patancheru, rainy season 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Ist harvest Plant stand	Ist harvest Yield (kg/ha)	IInd harvest Plant stand	IInd harvest Yield (kg/ha)	Total Yield (kg/ha)
15	ICPL 83024	73	118	120	4.50	13.9	102	2392	97	779 (10)	3170 (2)
2	ICPL 87 (CM)	70	113	96	4.23	9.6	116	2212	115	887 (5)	3092 (4)
9	ICPX 80007-MB-M3-M2-MB-MB	72	115	122	4.73	10.2	105	2163	102	987 (4)	3147 (3)
3	ICPL 151 (CM)	66	104	100	4.50	10.5	100	2120	96	1237 (1)	3351 (1)
14	90C-MB-M3-MB-MB	71	114	108	3.50	10.1	105	2022	102	710 (13)	2724 (7)
12	ICPX 80608-8-M2-M1-M1-MB-MB	73	118	130	4.73	11.7	100	1899	95	811 (8)	2705 (8)
4	ICPL 86013	70	112	110	4.53	9.5	90	1878	87	860 (6)	2743 (6)
10	ICPX 80592-MB-M3-M1-MB-MB	75	120	118	3.93	14.0	89	1875	85	1018 (3)	2895 (5)
1	UPAS 120 (CM)	67	110	122	4.13	7.0	112	1859	108	801 (9)	2666 (10)
11	ICPX 80590-MB-M1-M1-MB-MB	70	115	123	4.83	9.6	100	1803	96	704 (14)	2516 (11)
5	ICPX 79233-MB-M1-M2-MB-MB	76	116	115	4.83	7.8	101	1677	99	1022 (2)	2692 (9)
13	ICPX 80608-8-M2-M2-M1-MB-MB	74	121	120	3.85	11.3	99	1675	95	827 (7)	2506 (12)
8	ICPX 80576-MB-M2-M1-MB-MB	74	119	118	4.25	10.5	87	1666	81	742 (11)	2401 (13)
16	QPL 835-MB	75	119	124	4.43	9.4	90	1588	95	536 (16)	2138 (15)
6	ICPX 79233-MB-M3-M2-MB-MB	81	119	136	5.10	10.0	113	1534	98	732 (12)	2269 (14)
7	ICPX 80500-MB-M25-M1-MB-MB	54	91	82	3.80	6.5	113	1199	101	641 (15)	1838 (16)
	SE	0.9	1.1	4.2	0.192	0.28	4.1	171.2	4.2	68.2	206.7
	MEAN	71.2	114.0	115.2	4.364	10.10	101.3	1847.0	96.3	831.0	2678.0
	CV%	2.3	2.0	7.4	8.812	5.40	8.0	18.5	8.8	16.4	15.4

Rainfall (mm): Jun 118.2, Jul 131.2, Aug 230.9, Sept 57.3
Irrigation : 25.6.86,3.7.86,30.8.86,21.9.86,9.10.86,1.11.86,20.11.86
Herbicide applied : 28.6.86, Prometryn 2 Lit/ha + Basalin 2.25 Lit/ha
Insecticide applied : 27.8.86,11.9.86 & 23.9.86 Thiodan 17%
30.8.86,3.9.86 & 8.10.86,27.10.86,17.11.86,22.12.86
1 lit/ha. Thiodan 35%
Net plot size : 4.56 Sqm.(4 rows of 3.8m)
Spacing : 30 x 10 cm
Date of planting : 28-6-1986
Hand weeding: 28-7-86, 23-9-86

Table 1.84: Characteristics of entries in ANDLT 86-1 at Hisar during 1986

Entry No. (DLNT23-)	Pedigree	Source (1985 No.)	Days to FL	Days to MAT	Plant height (cm)	100 seed wt (g)	Seed color	Plant stand per plot	Dry stalk yield (t/ha)	Grain yield (kg/ha)	New ICPLs
5	ICPL 86019		76	107	225	7.5	B	50	14.2	3525	
15	790329-H8-H3-H8-H6-H8-H6-11	8100	79	119	242	13.2	B	52	15.2	3353	87113
16	790235-H6-H13-H8-H1-H8-H8	8121	82	114	238	10.0	C	44	12.2	3311	87114
11	81019-H8-H28-H8-H8	410	79	119	233	9.3	B	53	11.7	2969	
12	810123-H8-H6-H8-H8	417	80	124	240	10.4	B	53	13.5	2935	
2	H 77-216 (C)		79	109	223	7.9	B	49	12.1	2790	
6	800511-H8-H3-H1-H5-H8-H8	345	76	95	203	7.8	B	56	5.7	2772	
8	800493-H8-H2-H2-H6-H6	383	63	99	[illegible]	7.6	B	54	5.0	2751	87111
4	ICPL 86018		63	101	[illegible]	7.5	B	48	4.9	2680	
3	ICPL 86015		67	109	225	10.3	B	48	14.3	2626	
1	UPAS-120 (C)		75	122	229	8.0	B	49	11.7	2463	
13	800498-H8-H7-H8-H8	[illegible]	75	108	[illegible]	7.4	B	40	7.2	2034	
7	790222-H8-H1-H5-H8-H8-H8	347	69	101	[illegible]	8.1	B	52	8.8	2014	87110
14	800493-H8-H2-H9-H8-H8	[illegible]	63	95	182	6.8	B	48	5.2	1946	
10	790243-H8-H3-H2-H8-H8	[illegible]	78	108	[illegible]	9.3	B	46	11.0	1854	
9	800493-H8-H2-H2-H8-H8	388	63	100	19?	7.9	B	54	5.8	1802	
	SE		±0.4	0.7	5.8	0.24		2.5	0.7	218	
	MEAN		72	108	217	8.7		50	9.5	2614	
	CV (%)		1	1	5	6		11	15	17	

Table 18 Characteristics of entries in ANDLT86-2 at Hisar

ENTRY Nos (BLNT24-)	PEDIGREE	Source (1985 HP Nos)	Days to 50% FL	Days to 50% MAT	Plant Height (cm)	100 Seed wt (g)	Seed Colour	Plant Aspect for Yield	Dry Fodder Yield (T/ha)	Grain Yield (kg/ha)	New NCAS
13	BOO513-NB-N4-NB-NB-NB	8076	83	127	244	9.1	B	44	13.5	3210	87115
7	B10157-NB-NB-NB-NB	8056	81	124	226	8.5	B	50	12.2	2889	
4	ICPL 86023		80	127	236	15.8	B	52	14.8	2768	
11	BOC500-NB-N20-N1-NB-NB	8071	75	104	201	10.0	B	47	10.4	2487	87112
2	N77-216 (C)		80	127	231	8.0	B	50	13.3	2432	
12	BOO545-NB-N1-N2-NB-NB	8073	82	112	233	10.0	B	38	11.1	2374	87116
1	UPAS-120 (C)		82	127	239	8.3	B	50	12.0	2370	
14	B10168-NB-N10-NB-NB	8093	77	111	226	8.5	B	51	10.4	2291	
15	780321-NB-N1-NB-NB-NB	8116	80	107	232	10.2	C	41	11.9	2018	
16	BOC541-NB-N2-NB-NB-NB	8120	80	107	224	11.8	C	47	10.1	1914	
8	790221-NB-N1-N1-NB-NB	8059	75	111	236	10.7	B	38	11.0	1912	
10	BOO545-NB-N2-NB-NB-NB	8066	73	110	240	10.5	B	44	12.3	1909	
6	BOO552-NB-N12-N1-BB-NB-NB	355	81	106	254	9.9	W	53	13.9	1847	
5	790220-NB-N9-N1-BB-NB-NB	348	82	111	241	9.4	B	50	11.6	1844	
3	ICPL 86017		74	107	224	8.9	B	45	8.4	1715	
9	790221-NB-N12-N2-NB-NB	8061	82	107	224	9.9	B	42	8.9	1693	
	SE		0.7	0.8	6.2	0.3		2.3	0.8	246	
	MEAN		79	114	231	9.9		46	11.6	2230	
	CV(%)		2	1	6	5		11	14	23	

Table 18: Characteristics of entries in ANDLT 86-3 at Moor House during 1986

ENTRY Nos. (BENTAS-)	PEDIGREE	Source (1985 NP No.)	DAYS TO FL	DAYS TO ANT	Plant Height (cm)	100 Seed wt (g)	Seed Colour	Plant Blood Per Plot	Dry Matter Yield (T/Ha)	Grain Yield (kg/Ha)	New 100
6	TB0327-F3B-M6-MB-MB	419	79	104	221	99	B	44	11.8	3178	87M9
7	TB0329-B-M12-MB-MB	422	80	117	227	89	B	46	12.4	2801	
12	BC0499-MB-M25-M2-M6-MB	BK9	81	128	245	98	B	55	13.8	2770	
4	ICIL 8E027		82	122	237	85	C	34	9.4	2513	
2	ICIL 84048		82	120	225	98	B	41	11.8	2448	
3	ICIL 8E021		83	134	239	115	B	42	9.6	2384	
1	USAS-120 (C)		81	111	231	76	I	50	11.8	2150	
10	BC0542-MB-M10-M2-MB-MB	B104	84	128	21	100	B	45	13.7	2001	
14	BC0586-MB-M1-M2-M1-MB	3027	87	123	240	108	W	50	17.5	1995	
15	B1C0405-MB-SB3-M1-ME	3462	89	132	243	99	B	49	14.0	1889	
16	B00494-MB-M24-M1-M3-ME	3657	83	121	235	96	B	44	13.9	1866	
5	B0C541-MB-M2-M2-MB-ME	399	81	11	234	93	C	47	8.9	1864	
8	B00502-M41-M1-BE-MB-MB	B03	81	113	19	84	B	37	7.4	1826	
9	B1C130-MB-M10-MB-MB	B055	80	129	210	88	B	46	10.4	1517	
13	B00500-MB-827-MB-MB	511	80	121	22	98	C	38	9.6	1298	
11	B00555-MB-M2-M1-MB-MB	B108	83	127	24	109	B	37	7.9	974	
	SE		0.6	0.9	7.4	0.47		2.8	1	239	
	MEAN		82	121	23	9.7		44	11	2097	
	CV (%)		1	1	6	8		11	13	20	

Table 1.87. Characteristics of entries in ANDLT86-4 at Jhsee showing 1986

ENTRY Nos. (86NT26-)	PEDIGREE	Source (1985 NP/INT Nos.)	DAYS TO FL	DAYS TO MAT.	Plant Height (cm)	100 Seed wt. (g)	Seed Colour	Plant Stand per plot	Dry Stalk Yield (T/ha)	Grain Yield (kg/ha)	New ICRLs
4	KPL 86030		86	122	268	12.1	B	49	19.3	3472	
11	800586-HB-H3-HB-HB-HB	18-1	83	121	157	8.2	C	26	8.4	3246	
5	810119-HB-HB-H4-HB-HB	380	80	120	227	8.3	B	39	11.7	3186	
14	800576-HB-H6-HB-HB-HB	18-14	82	121	220	9.1	B	46	12.4	3155	
6	810120-HB-H17-HB-HB	393	79	117	175	9.1	C	41	11.8	3003	
15	800584-B-H1-HBH1-HB-HB	18-25	83	118	232	10.1	C	50	12.6	2898	87118
9	810126-F3HB-H2H-HB-HB	8178	82	117	210	9.2	C	36	12.5	2889	
8	800497-HB-H7-H1-HB-HB	8110	82	113	207	7.9	B	44	6.8	2708	
16	800584-B-H1-HBH1-HB-HB	18-28	83	121	239	9.4	B	40	12.2	2669	
1	UPAS-120 (C)		81	112	210	6.9	B	52	9.3	2651	
13	78C321-HB-HB-H5-HBHB-HB	1840	86	119	203	8.1	C	39	9.3	2542	
2	T-21 (C)		83	122	219	6.9	B	52	10.6	2278	
7	760326THB-H4-H5-HBHB-HB	8078	86	124	230	9.1	B	44	9.9	2144	
12	800502-HB-H3-HBHB-HB	18-4	82	121	215	8.9	C	28	7.6	1776	
10	77007-H4C-H6-H1-H3-H4-L1HB-HB	8127	82	117	230	8.2	C	27	10.8	1477	
3	KPL 86025		86	120	176	8.4	C	24	8.8	1294	
	SE		1.2	0.8	14.8	0.46		6.3	2	233	
	MEAN		83	119	213	8.7		40	11	2586	
	CV (%)		2	1	10	7		22	22	13	

List of new short duration pigeonpea lines selected at Hisar for Preliminary Multilocation Testing during 1987 Kharif

ICPL No.	Pedigree	Source (1986) KR	Gr. Habit	Fl.	Pod	Seed	Days to Fl.	Days to Mat.	Plant Height (cm)	100 seed wt(g)	Seeds per Pod	Grain Yield (kg/ha)
FOR EXPMLT 87:	(a) DETERMINATE LINES											
1. [illegible]	800500-HB-H41-HB-HB-HB-HB	86HT18-7	DT	YS	GPS	B	58	103	154	9.3	3.0	3306
2. [illegible]	800520-HB-H11-H1-HB-HB-HB	-9	DT	YS	GPS	C	56	89	154	9.6	3.6	2923
3. [illegible]	810134-HB-H34-HB-HB-HB	-10	DT	YS	GPS	B	62	104	182	9.6	4.1	3466
4. [illegible]	800500-HB-H11-H2-HB-HB-HB	-12	DT	YS	GPS	B	55	102	159	9.2	3.9	3452
5. [illegible]	800519-HB-H3-HB-HB-HB-HB	13	DT	R	G	CBS	62	97	182	8.0	3.8	2928
6. [illegible]	810058-HB-H9-HB-HB-HB	-16	DT	YS	GPS	B	66	107	169	10.1	3.7	3096
	UPAS-120	-1	MDT	YS	GPS	B	79	121	234	7.9	3.9	2406
	ICPL 151	-2	DT	YS	GPS	CBS	60	104	192	11.7	3.8	2923
	ICPL 4	-3	DT	YS	GPS	B	64	99	179	6.5	3.1	2330
	SE						0.8	0.7	7.5	0.2	0.2	354
	Mean						61	102	173	[illegible]	3.6	2839
	CV %						2	1	7	4	8	15
7. [illegible]	800500-HB-H30-HB-HB-HB-HB	86HT-19-8	DT	YS	GPS	B	63	101	171	9.1	3.0	3000
	UPAS-120	-1	MDT	YS	GPS	B	79	122	272	8.5	3.3	2835
	ICPL 151	-2	DT	YS	GPS	CBS	62	105	191	12.0	3.5	3090
	ICPL 4	-3	DT	YS	GPS	B	66	101	183	6.4	3.3	2211
	SE						0.4	0.6	0.1	0.2	0.2	151
	Mean						67	108	187	10.3	3.6	3478
	CV%						1	1	9	4	11	13
8. [illegible]	810134-HB-H27-HB-HB-HB	86HT20-7	DT	YS	GPS	B	58	112	-	10.5	3.5	2988
	UPAS 120	-1	MDT	YS	GPS	B	179	129	-	8.8	3.5	2726
	ICPL 151	-3	DT	YS	GPS	CBS	62	111	-	13.4	3.6	3005
	SE						0.6	0.5	-	0.2	0.2	256
	Mean						64	113		11.1	3.8	2990
	CV %						2	1		3	11	10

9. 87100	800500-HB-H25-H1-HB-HB-HB	86HT22-7	DT	YS	GPS	B	54	100	148	8.5	2.7	2604
	UPAS 120	-1	NDT	YS	GPS	B	79	110	238	8.3	3.5	2679
	ICPL 151	-3	DT	YS	GPS	CBS	61	108	203	12.1	4.9	2807
	SE						0.4	0.7	4.2	0.2	0.2	222
	Mean						72	121	220	11.9	4.2	2603
	CV%						1	1	4	3	12	17
FOR EPPHLT 87DT :												
10. 87101	81d-HB-H3-HB-HB-HB	86HT20-9	DT	R	GPS	B	63	122	-	13.8	3.7	3509
11. 87102	ICPL 3-H1-H2-HB-HB-HB-HB	-11	DT	R	GPS	CBS	60	121	-	12.5	4.1	2945
12. 87103	800556-HB-H2-HB-HB-HB-HB	-13	DT	Yb	GPS	C	65	105	-	10.5	3.5	1984
	UPAS 120	-1	NDT	YS	GPS	B	79	129	-	8.8	3.5	2726
	ICPL 151	-3	DT	YS	GPS	CBS	62	111	-	12.4	3.6	2685
	SE						0.6	0.4		0.2	0.2	226
	Mean						64	113		11.1	3.8	2490
	CV %						2	1		3	11	18
13. 87104	800576-HB-H1-H2-HB-HB-HB	86HT21-7	DT	R	GPS	CBS	62	120	189	13.1	4.0	3509
14. 87105	81d-HB-H6-HB-HB-HB	-14	DT	R	GPS	CBS	68	126	183	12.5	3.8	3351
	UPAS 120	-1	NDT	YS	GPS	B	75	109	224	8.3	3.9	2646
	ICPL 151	-3	DT	YS	GPS	CBS	63	107	184	12.1	4.2	2599
	SE						0.8	1.6	12	0.3	0.2	237
	Mean						68	112	193	11.3	4.2	2725
	CV %						2	2	11	5	9	15
15. 87106	800576-HB-H2-H1-HB-HB-HB	86HT22-8	DT	Y	GPS	C	65	131	224	12.6	4.3	3369
16. 87107	800607-HB-H3-H2-HB-HB-HB	-9	DT	Y	G	C	73	114	225	11.6	4.4	2995
17. 87108	800592-HB-H3-H1-HB-HB-HB	-10	DT	R	GPS	B	75	128	209	15.4	4.0	3419
18. 87109	800608-HB-H2-H1-H1-HB-HB	-12	DT	Y	GPS	C	75	121	234	13.8	4.6	3057
	UPAS 120	-1	NDT	YS	GPS	B	79	110	238	8.3	3.5	2679
	ICPL 87	-2	DT	YS	GPS	B	64	140	219	12.2	4.4	2665
	ICPL 151	-3	DT	YS	GPS	CBS	61	108	203	12.1	4.9	2807
	SE						0.4	0.7	4.2	0.2	0.2	222
	Mean						72	121	220	11.9	4.2	2603
	CV %						11	1	4	3	12	17

(b) INDETERMINATE LINES :

FOR EPPMLT 87 :

19. 87110	790222-HB-H1-H3-B0-HB-HB-HB	86HT23-7	HDT	YS	GPS	B	69	101	218	8.1	3.6	2014
20. 87111	800493-HB-H2-H2-HB-HB-HB	-8	HDT	R	G	B	63	99	197	7.6	3.7	2751
	UPAS 120	-1	HDT	YS	GPS	B	78	122	229	8.0	3.6	2463
	H77-216	-2	HDT	YS	GPS	B	79	109	223	7.9	3.7	2790
	SE						0.4	0.7	5.8	0.2	0.1	218
	Mean						72	108	217	8.7	3.6	2614
	CV%						1	1	6	6	7	17
21. 87112	800500-HB-H20-H1-HB-HB-HB	86HT24-11	HDT	YS	GPS	B	75	104	201	10.0	3.6	2487
	UPAS 120	-1	HDT	YS	GPS	B	82	127	239	8.3	3.4	2370
	H77-216	-2	HDT	YS	GPS	B	80	127	231	8.0	3.5	2432
	SE						0.7	0.8	6.2	0.3	0.2	246
	Mean						79	114	231	9.9	3.6	2230
	CV%						2	1	6	5	10	24

FOR EPPMLT 87 HDT :

22. 87113	790329-HB-H3-HB-HB-HB-HB-HB	86HT23-15	HDT	YS	Bl.	B	79	119	242	13.2	3.4	3353
23. 87114	790235-HB-H13-HB-H1-HB-HB-HB	-16	HDT	YS	GPS	CBS	82	114	230	10.0	3.5	3311
	UPAS 120	-1	HDT	YS	GPS	B	78	122	229	8.0	3.6	2463
	H77-216	-2	HDT	YS	GPS	B	79	109	223	7.9	3.7	2790
	SE						0.4	0.7	5.8	0.2	0.1	218
	Mean						72	108	217	8.7	3.6	2614
	CV %						1	1	5	6	7	17
24. 87115	800513-HB-H4-HB-HB-HB-HB	86HT24-13	HDT	YS	GPS	B	83	127	244	9.1	3.2	3210
25. 87116	800545-HB-H1-H2-HB-HB-HB	86HT24-12	HDT	YS	GPS	B	82	112	233	10.0	3.5	2374
	UPAS 120	-1	HDT	YS	GPS	B	82	127	239	8.3	3.4	2370
	H77-216	-2	HDT	YS	GPS	B	80	127	231	8.0	3.5	2432
	SE						0.7	0.8	6.2	0.3	0.2	246
	Mean						79	114	231	9.9	3.6	2230
	CV %						2	1	6	5	10	24

26. 87117	780327-Pyß-H6-HB-HB-HB	86MT25-6	MDT	YS	GPS	B	79	104	221	9.9	3.6	3170
	UPAS 120	-1	MDT	YS	GPS	B	81	111	231	7.6	3.6	2150
	SE						0,6	0.9	7.6	0.5	0.2	239
	Mean						82	121	831	9.7	3.9	2097
	CV %						1	1	6	8	9	20
27. 87118	800504-HB-H1-H1-H1-HB-HB	86MT26-15	MDT	R	G	CBS	83	118	222	10.1	4.3	2890
	UPAS 120	- -1	MDT	YS	GPS	B	81	112	210	6.9	3.2	2651
	T 21	-2	MDT	YS	GPS	B	83	122	219	6.9	3.5	2270
	SE						1.2	0.8	14..8	0.5	0.4	233
	Mean						83	119	213	8.7	3.7	2506
	CV %						2	1	10	7	14	13

Table 19: Performance of entries in T-21 Group DT lines test (T-13) grown at Patancheru, rainy season 1986.

Entry No.	Name	Days to Flower	Days to Mature	Plant height (cm)	Seeds per pod	100-seed weight (g)	Plant stand	Grain Yield (g/plot)	Grain Yield (kg/ha)
4	ICPL 83009	78	115	76	3.90	7.0	109	337	738
2	ICPL 155	80	118	83	4.12	6.2	99	332	728
5	ICPL 83024	81	119	80	3.93	11.5	75	268	587
1	ICPL 87	79	119	71	3.93	7.9	104	256	561
6	ICPL 84C32	78	122	79	3.50	7.8	81	242	530
9	ICPL 84C38	83	120	82	4.47	8.9	73	180	395
7	ICPL 84035	81	121	75	4.08	9.7	40	165	361
8	ICPL 84C36	76	121	77	4.67	8.5	56	152	333
3	ICPL 83008	81	123	72	3.42	7.8	51	117	256
10	ICPL 85059	80	124	61	2.82	5.9	85	88	193
	SE	1.3	1.8	2.7	0.170	0.38	11.7	29.1	63.8
	MEAN	79.7	120.2	73.6	3.883	8.13	75.3	213.5	468.2
	CV(%)	2.8	2.6	6.3	7.574	8.07	26.9	23.6	23.6

Table 1.90: Characteristics of ESAYA86 DT entries in April, June and July sowings at Mtwapa during 1986.

ENTRY	100 SEED WT (g)	DAYS TO FLOWER			DAYS TO MATURE			PLANT HEIGHT (CM)			GRAIN YIELD (KG/ha) *			DRY STOVER YIELD (T/ha)		
		APRIL	JUNE	JULY	APRIL	JUNE	JULY	APRIL	JUNE	JULY	APRIL	JUNE	JULY	APRIL	JUNE	JULY
N77 216	8.0	68	76	62	174	117	117	340	223	136	3613(6)	2855(9)	2086	22.8	13.4	8.7
UMS 120	8.4	68	77	63	175	112	117	314	240	142	3203(9)	2431	2093(10)	25.8	14.9	9.3
ICPL 4	6.6	66	67	62	190	100	101	217	188	95	2503	2129	1721	9.6	6.7	2.2
ICPL 151	12.2	67	63	66	169	112	111	246	187	110	4329(2)	2595(7)	2433(5)	17.6	10.6	3.7
ICN 83049	10.7	61	68	56	190	105	108	241	166	84	2459	2289	1984	7.9	8.6	4.8
ICPL 84019	10.7	69	68	56	180	119	99	227	190	73	2495	2054	1958	11.0	9.9	4.9
ICPL 84023	8.2	64	55	56	150	101	109	153	130	81	2971	2438(10)	2279(9)	7.4	5.5	2.1
ICPL 84032	10.8	69	71	67	175	119	114	282	199	112	2922	2287	1969	25.5	15.3	3.1
ICPL 84037	13.0	69	75	65	173	107	119	295	201	107	2827	1978	2107(9)	18.4	13.8	3.4
KPL 85010	10.6	65	58	57	169	104	106	210	154	79	3759(5)	2560(8)	2116(11)	8.5	8.4	4.7
ICPL 85012	12.1	67	62	60	143	118	116	210	174	91	3920(4)	2821(5)	2166(12)	10.3	12.1	3.9
ICPL 85014	10.0	67	65	62	166	106	112	242	187	97	3565(3)	2339	2049	15.5	10.1	3.6
KPL 85015	9.8	66	61	63	168	105	116	227	183	122	4779(1)	3246(1)	2601(4)	17.9	11.9	4.4
KPL 85016	10.8	68	60	65	168	107	118	256	192	107	3207(8)	3220(3)	2413(7)	14.9	15.1	3.9
ICPL 85021	12.3	70	75	66	170	112	114	250	198	108	2981(10)	2398	2033	18.2	14.9	3.1
KPL 85033	11.1	70	64	66	171	105	122	245	195	120	3972(2)	3244(2)	2822(1)	23.8	13.0	5.2
ICPH 9	9.8	-	67	61	-	123	118	-	197	113	-	2980(9)	2611(8)	-	15.5	3.9
ICPH 10	10.1	-	70	63	-	108	118	-	194	110	-	2783(6)	2086	-	15.0	3.6
SE	0.2	0.4	0.6	0.8	1.4	0.6	1.2	6.9	5.7	4.0	182	258	180	0.7	0.7	0.2
MEAN	10.3	67	66	62	172	110	113	243	189	104	3339	2563	2124	15.9	11.9	3.0
CV(%)	4	2	2	3	2	1	2	6	6	8	11	20	16	10	12	14

* Ranks in ( ).

Table 1.91: Characteristics of [illegible] entries in April, June and July sowings at Hisar during 1986

ENTRY	100 Seed wt (g)	Days to flower			Days to mature			Plant height (cm)			Grain yield (kg/ha)			Dry stalk yield (t/ha)		
		April	June	July	April	June	July	April	June	July	April	June	July	April	June	July
H77 216	8.4	71	76	61	192	124	116	273	-	142	2210	2291	1974	17.3	14.6	3.0
UPAS-120	8.4	72	80	61	186	125	119	[illegible]		138	2217	2359	2191	14.5	13.9	3.7
ICPL 84045	10.1	143	81	65	192	121	132	290		147	2119(6)	[illegible]	2139(8)	20.0	11.6	4.2
ICPL 84052	9.1	138	81	68	184	123	119	301	-	154	3021(1)	2527	2459	17.1	12.8	2.9
ICPL 84059	10.2	143	92	68	190	121	120	251		147	2362(10)	2402(9)	2473	17.5	14.1	4.7
ICPL 85035	7.3	74	76	62	131	111	127	244	-	149	2315	1961	2631(9)	13.5	13.0	4.1
ICPL 85036	10.9	72	81	61	157	120	113	296	-	137	2676(4)	2590(4)	2989(3)	20.7	11.3	4.2
ICPL 85043	8.6	70	76	60	190	111	114	263	-	136	2571(5)	2614	2325	17.6	14.7	3.8
ICPL 85045	10.4	71	80	61	187	124	132	265	-	143	2866(3)	2901(8)	2935(1)	17.5	10.3	4.2
ICPL 85046	8.5	146	81	65	191	122	120	272	-	148	2462(8)	3019(5)	2676(2)	14.2	13.2	4.1
ICPL 85049	12.3	154	85	70	196	126	132	315	-	155	2223	2496	2692(7)	21.9	14.0	5.2
ICPL 85050	14.4	155	84	67	219	128	127	278	-	137	2994(9)	3005(3)	2486(10)	17.8	15.4	3.8
ICPL 85052	11.0	148	81	63	195	123	119	271	-	134	1733	2950(8)	2351	14.2	11.8	3.7
ICPL 85053	12.5	168	85	71	201	126	129	246	-	140	2150	2219	2293	18.2	11.9	4.5
ICPL 85054	10.4	71	82	64	194	128	119	303	-	137	2437(7)	3354(1)	2778(5)	21.9	16.3	4.3
ICPL 85055	10.9	71	79	62	203	109	119	257	-	139	2811(2)	3129(2)	2459	18.1	12.2	3.9
[illegible] 11	9.1	-	85	70	-	125	131	-	-	179	-	2843(7)	2669	-	18.1	5.8
[illegible] 22	9.0	-	85	71	-	130	134	-	-	179	-	2550	2848	-	20.1	7.7
SE	0.6	1.6	0.5	0.6	3.2	1.0	0.8	10.2		5.3	270	306	348	1.4	1.1	0.3
MEAN	10.0	110	81	64	191	122	123	277		148	2425	2700	2550	17.3	13.8	4.4
CV(%)	13	3	1	2	3	2	1	8		7	22	23	27	18	16	16

Table 1.92: Characteristics of ICPLs from SM nursery and Hisar OP seed in a trial at Hisar during 1986

Entry Nos.	Pedigree	Days to 50% flowering	Plant height (cm)	Heliothis damage score	Days to 75% maturity	Seeds per pod	100 seeds weight (g)	Plant stand/plot at harvest	Yield kg/ha	Dry stalk yield t/ha
86HT27 4	ICPL 87 OP	67	187	4.0	129	4.1	11.8	57	3798	14.0
-3	ICPL 87 SMR	67	187	3.0	132	3.9	11.7	52	3042	13.0
-14	ICPL 83008 OP	75	209	2.5	124	3.5	10.7	59	3420	15.1
-13	ICPL 83008 SMR	75	202	4.0	123	3.5	11.6	60	3276	14.4
6	ICPL 151 OP	62	197	2.0	107	3.9	11.5	48	3153	10.7
5	ICPL 151 SMR	62	188	3.5	105	3.5	11.8	53	2954	9.0
-12	ICPL 289 OP	61	173	3.5	123	3.5	11.4	37	3054	11.6
-11	ICPL 289 SMR	61	168	3.5	121	3.3	11.1	47	2926	11.5
-8	ICPL 151 OP	73	215	3.5	130	3.8	8.4	52	3041	13.0
-7	ICPL 151 SMR	72	220	3.0	131	3.6	9.0	49	2792	12.1
-10	ICPL 288 OP	86	265	2.5	129	3.8	9.3	50	2997	16.2
-9	ICPL 288 SMR	86	278	2.0	129	3.7	9.5	53	2359	15.1
-16	ICPL 84023 OP	55	134	2.0	102	3.2	7.5	57	2772	5.5
-15	ICPL 84023 SMR	58	189	3.5	108	3.2	9.4	50	2749	13.4
2	ICPL 83 OP	77	225	4.0	140	3.4	9.5	53	2073	14.7
1	ICPL 83 SMP	80	230	4.0	134	3.7	9.7	51	1851	15.0
	Mean (overall)	70	204	3.2	123	3.6	10.2	51	2891	12.8
	Mean (SMR)	70	208	3.3	122	3.6	10.5	52	2743	13.0
	Mean (OP)	69	201	3.0	123	3.7	10.0	51	3038	12.6
SE (Rep. Ent.)		0.6	6.5	0.8	1.1	0.27	0.3	4.9	372.4	1.3
SE (Rep. Ent. Sub plot)		0.6	8.6	0.9	1.4	0.22	0.4	7.7	425.8	1.3
CV % (Rep. Ent.)		0.9	3.2	25.1	0.9	7.5	2.8	9.5	12.9	10.2
CV % (Rep. Ent. Sub plot)		0.9	4.2	30.0	1.2	6.2	3.9	15.0	14.7	10.2

Date sown 25.6.1986; Net area: 2 rows x 3.6 m x 0.30 m

Table 1.93: Mean yield (kg/ha) of 57 short-duration genotypes evaluated at six environments at ICRISAT Center, Patancheru during 1986 rainy season

ENTRY	GENOTYPE	LOC(1)	LOC(2)	LOC(3)	LOC(4)	LOC(5)	LOC(6)	MEAN
1	ICPL 1	1149.0	895.5	617.0	779.0	382.0	572.5	644.0
2	ICPL 151	695.5	783.5	167.0	311.5	511.0	555.0	503.9
3	ICPL 269	947.5	658.5	195.5	300.5	298.5	171.5	417.0
4	ICPL 84048	1207.5	1018.5	549.0	371.0	871.0	441.0	743.0
5	ICPL 84052	1238.0	1512.0	452.0	658.5	902.0	654.0	906.0
6	ICPL 84059	1534.5	1279.5	434.5	377.5	832.0	575.0	838.8
7	ICPL 85035	999.0	1163.5	417.5	382.0	770.5	1309.0	838.9
8	ICPL 85037	641.0	1381.0	309.5	352.5	281.0	487.0	577.0
9	ICPL 85046	917.5	915.5	505.0	516.0	948.5	766.0	761.4
10	ICPL 85052	818.5	652.0	296.5	344.5	157.5	456.5	490.9
11	ICPL 86023	1169.5	1036.0	313.0	293.0	500.5	915.5	719.5
12	ICPL 86024	1015.5	1593.5	423.5	511.5	770.0	886.5	866.9
13	ICPL 86029	1225.0	1152.0	418.5	379.5	505.0	779.0	743.1
14	ICP 7295	1110.5	1071.5	300.5	287.5	674.0	565.5	668.0
15	ICP 7457	1040.5	2331.0	921.0	867.5	2116.0	1466.0	440.0
16	ICP [illegible]	1178.5	1422.0	408.0	476.0	1130.5	1991.0	169.1
17	ICP 7629	1225.0	1104.0	562.0	441.0	1115.0	540.0	841.5
18	ICP 4251	2223.5	2586.0	483.0	779.5	1284.0	1337.5	465.5
19	[illegible]	1517.0	2429.5	955.0	768.5	845.0	2408.0	553.8
20	ICP [illegible]	841.0	2123.5	591.0	412.5	2147.0	1254.5	195.9
21	[illegible]	1561.2	1533.0	527.0	770.0	1061.5	800.0	179.6
22	[illegible]	1177.0	[illegible]	371.5	790.5	1660.1	1499.0	287.6
23	ICP [illegible]	[illegible]	1762.5	779.0	268.0	[illegible]	1622.0	103.6
24	ICP [illegible]	[illegible]	1317.0	733.0	362.0	2851.0	2004.0	440.4
25	ICPL [illegible]	961.5	2011.5	500.5	267.5	1600.1	761.5	981.7
26		[illegible]	[illegible]	499.5	261.0	726.5	431.0	704.0
27		[illegible]	1115.0	616.5	426.0	1156.5	720.0	1084.5
28	ICPL [illegible]	1402.5	1155.5	737.5	292.0	904.5	919.5	966.9
29	ICPL [illegible]	1013.5	[illegible]	415.5	257.0	[illegible]	564.0	581.1
30	ICPL 8306	1196.0	1512.5	568.5	337.5	878.0	957.0	918.2
31	ICPL [illegible]	1178.5	1511.0	340.5	377.5	1161.0	1569.5	1061.3
32	ICPL [illegible]	1146.5	[illegible]	558.0	226.0	146.5	565.5	591.2
33	ICP 8319	1150.5	547.0	375.0	241.0	667.5	577.5	623.0
34	ICPL [illegible]	1045.0	220.0	572.5	261.5	788.0	735.5	772.5
35	ICPL 84019	919.5	573.0	171.0	272.0	170.0	437.0	515.9
36	ICP 84020	906.5	370.0	590.5	278.5	[illegible]	522.5	623.6
37	ICPL 84023	858.0	1115.0	384.0	369.0	432.5	571.0	621.5
38	[illegible] 84039	1355.0	1123.0	265.5	274.5	460.0	601.5	681.5
39	ICPL 85010	1273.0	1101.0	288.0	289.5	407.5	777.0	671.0
40	ICPL 85012	1147.0	373.0	296.5	298.5	361.0	803.0	670.5
41	ICPL 85074	755.0	619.5	285.0	182.0	231.5	171.0	380.6
42	ICPL 86009	900.0	1444.5	329.0	318.0	854.0	444.5	714.8
43	ICP 10900	830.0	404.5	656.0	327.0	444.0	474.0	589.0
44	ICP 10903	739.5	753.0	322.5	314.0	201.5	344.5	494.6
45	ICP 1090[illegible]	856.0	469.5	296.5	323.0	330.5	459.0	539.7
46	ICP 10906	1135.0	937.0	309.5	296.5	745.5	293.0	602.9
47	ICP 10909	1049.0	645.5	430.0	257.5	883.5	298.5	561.5
48	ICP 1091[illegible]	906.5	723.0	318.0	305.0	567.0	351.0	540.2
49	ICP 1091[illegible]	816.5	768.5	305.0	417.0	254.5	438.5	499.3
50	ICP 10919	974.5	735.5	219.5	223.0	533.0	374.0	526.4
51	ICP 10920	721.5	577.5	497.5	279.0	417.0	167.5	475.3
52	ICP 10923	1053.5	633.5	534.0	335.5	266.5	406.0	539.0
53	ICP 10924	1001.0	720.0	617.0	266.0	667.5	439.0	614.3
54	ICP 10925	963.5	712.0	278.5	253.5	554.5	332.5	523.9
55	ICP 10926	836.5	858.5	441.5	292.0	621.5	364.0	535.6
56	ICP 10927	906.5	724.0	419.5	197.5	434.5	461.0	525.3
57	ICP 10928	865.5	750.5	617.5	278.5	638.5	492.5	639.6
Trial mean		1102.1	1159.7	456.2	368.0	776.4	751.7	767.3
SE ±		278.30	212.80	135.50	63.40	267.40	289.70	
CV (%)		36	26	42	24	49	47	

1 = Alfisol, Irrigated, Normal sowing, 2 = Alfisol, Irrigated, Delayed sowing
3 = Alfisol, Unirrigated, Normal sowing, 4 = Alfisol, Unirrigated, Delayed sowing
5 = Vertisol, Irrigated, Normal sowing, 6 = Vertisol, Irrigated, Delayed sowing

Table 1.94: Mean performance of top ten short duration genotypes evaluated in six growing conditions at ICRISAT Center, rainy season 1986

Sl. No.	Genotypes	Mean days to 50% flower	Mean days to maturity	Mean 100 seed wt (g)	Yield kg/ha — Environments 1	2	3	4	5	6	Mean yield kg/ha
1	ICP 7457	75	116	8.6	1041	2331	821	868	2116	1464	1440
2	ICP 7460	73	111	8.9	1179	1822	408	476	1140	1991	1169
3	ICP 3251	77	120	8.5	2224	2586	483	780	1284	1438	1466
4	ICP 7104	73	114	9.0	1517	2830	955	769	845	2408	1554
5	ICP 8739	77	117	8.5	834	2125	584	343	2037	1254	1196
6	ICP 7638	77	119	8.0	1561	1543	527	770	1965	900	1180
7	ICP 12210	74	118	8.6	1477	2000	422	791	1660	1499	1283
8	ICP 8812	77	118	8.6	1521	1763	779	268	670	1622	1104
9	ICP 7100	76	119	8.3	876	1817	733	362	2851	2004	1440
10	ICPL 87	68	107	8.8	2112	1475	617	428	1157	720	1085
11	ICPL 1 (C)	68	105	7.0	1148	896	617	279	382	573	649
12	ICPL 6 (C)	74	111	7.2	962	2042	501	268	1660	762	982
	SE ±				278.3	212.8	135.5	63.4	267.4	249.7	
	Trial mean				1102.4	1159.7	456.2	368.0	776.9	751.7	
	CV %				36	26	42	24	49	47	

1. Alfisol, Irrigated, normal sowing, 2. Alfisol, irrigated, delayed sowing
3. Alfisol, unirrigated, normal sowing, 4. Alfisol, unirrigated delayed sowing
5. Vertisol, irrigated, normal sowing, 6. Vertisol, irrigated delayed sowing

Table 1.95: Mean performance of extra short-duration genotypes evaluated in six growing conditions at ICRISAT Center, rainy season 1986

Sl. No.	Genotypes	Mean days to 50% flower	Mean days to 75% maturity	Mean 100 seed wt (g)	Yield kg/ha						Mean yield kg/ha
					Environments						
					1	2	3	4	5	6	
1	ICPL 85010	57	94	8.1	1273	1001	288	290	398	777	671
2	ICP 10928	58	92	5.7	966	751	613	279	639	593	640
3	ICPL 83019	54	94	8.2	1151	687	375	281	668	578	623
4	ICPL 84023	57	97	6.9	858	1115	384	369	433	571	622
5	ICP 10924	57	93	5.7	1001	720	617	266	668	439	618
6	ICP 10906	58	93	5.8	1135	847	310	297	736	294	603
7	ICP 10900	57	93	5.4	830	905	656	327	393	424	589
8	ICPL 316	57	96	7.6	1019	802	396	257	431	584	581
9	ICP 10909	58	94	5.6	1049	646	439	253	685	299	561
10	ICP 10904	58	93	5.5	856	870	297	323	435	459	540
11	ICP 10910	59	93	5.4	907	799	318	305	562	391	540
12	ICP 10923	57	94	5.9	1054	635	538	336	249	486	536
13	ICP 10926	59	93	5.6	837	859	442	292	422	364	536
14	ICP 10919	58	93	5.9	975	736	220	224	531	474	526
15	ICP 10927	59	94	5.7	907	724	420	198	444	461	525
16	ICP 10925	58	92	6.2	964	742	279	264	554	343	524
17	ICPL 84019	54	94	6.9	1019	573	371	272	424	437	516
18	ICP 10915	58	93	5.6	817	769	395	417	255	339	498
19	ICP 10903	60	94	5.4	940	753	323	314	295	345	495
20	ICP 10920	56	92	6.0	784	578	398	279	347	468	475
21	ICPL 85024	55	92	8.0	755	650	285	182	242	171	381
	SE ±				278.3	212.8	135.5	63.4	267.4	249.7	
	Trial mean				1102.4	1159.7	456.2	368.8	776.9	751.7	
	CV %				36	26	42	24	49	47	

1. Alfisol, Irrigated, normal sowing, 2. Alfisol, irrigated, delayed sowing
3. Alfisol, unirrigated, normal sowing, 4. Alfisol, unirrigated, delayed sowing
5. Vertisol, irrigated, normal sowing, 6. Vertisol, irrigated, delayed sowing

Table 1.96: Performance of extra short-duration lines planted on 28 June 1986 (R), 15 October 1986 (R) and 10 February 1987 (S) at ICRISAT Center

Entry	Days to flower			Mean	Days to mature			Mean	Yield (kg/ha)			Total
	R	R	S		R	R	S		R	R	S	
ICPL 84019	52	58	50	53	91	107	90	96	1353	165	355	1873
ICPL 85024	56	60	51	56	91	102	93	95	1124	277	170	1571
ICPL 83019	52	59	50	54	91	105	92	96	1353	202	424	1979
ICPL 10905	60	60	54	58	97	105	91	98	855	342	317	1514
ICPL 85014	63	67	53	61	99	106	92	99	1836	554	439	2021
ICPL 84020	69	67	57	64	104	109	93	102	972	666	342	1980
ICPL 86009	62	66	57	62	97	107	94	99	1000	582	358	1940
ICPL 84039	63	66	55	61	100	105	92	99	1456	287	430	1173
ICP 10903	60	62	55	59	89	102	91	94	939	252	322	1513
ICPL 85010	60	62	53	58	95	105	92	97	1761	413	461	2635
ICP 10909	58	63	55	59	94	106	93	98	1048	311	320	1679
ICPL 312	63	65	57	62	97	117	93	102	1364	452	500	2316

Table 1.97: Performance of ICPL 87 BC1 F3 progenies grown at ICRISAT Center, rainy season 1986

Progeny No.	Source 86-R Plot No.	Pedigree	Days to Flower	Days to Mature	Seeds per pod	g/100 seed	Plant stand	Plant type	Plot yield (g)	Ratoon yield (g)	Total yield (g)	Total yield (kg/ha)
	1312	ICPL 87	75	118	4.1	9.3	18	DT	359	211	570	2377
1	1313	[(ICPL 87-2 x ICPL 289) x ICPL 87]-1-1	74	115	3.8	9.3	13	DT	165	88	253	1055
	1322	ICPL 87	75	115	4.0	9.4	13	DT	290	264	554	2310
	1332	ICPL 87	75	115	3.3	9.0	18	DT	364	196	560	2335
2	1336	[(ICPL 87-2 x ICPL 289) x ICPL 87]-21-1	79	120	3.3	9.0	13	DT	251	241	492	2052
	1342	ICPL 87	75	115	3.8	9.4	16	DT	404	333	737	3073
3	1344	[(ICPL 87-3 x ICPL 289) x ICPL 87]-2-2	75	115	4.1	9.2	19	DT	277	253	530	2210
4	1346	[ICPL 87-3 x ICPL 289) x ICPL 87]-2-4	81	123	3.4	9.5	19	DT	319	299	618	2577
	1352	ICPL 87	75	115	3.7	8.3	20	DT	343	291	634	2644
5	1356	[ICPL 87-3 x ICPL 289) x ICPL 87]-6-4	74	115	3.7	9.5	19	DT	290	222	512	2135
6	1361	[ICPL 87-3 x ICPL 289) x ICPL 87]-9-2	75	115	2.7	8.5	16	DT	262	315	577	2406
	1362	ICPL 87	78	120	3.1	9.8	17	DT	296	199	495	2064
	1382	ICPL 87	76	120	3.5	9.4	22	DT	400	257	657	2740
7	1387	[ICPL 87-5 x ICPL 289) x ICPL 87]-5-1	77	120	3.7	8.7	11	DT	208	103	311	1297
	1392	ICPL 87	81	122	3.6	9.3	19	DT	357	269	626	2610
8	1393	[ICPL 87-5 x ICPL 289) x ICPL 87]-6-4	71	110	3.4	9.8	13	DT	133	107	240	1001
9	1397	[ICPL 87-5 x ICPL 289) x ICPL 87]-10-2	75	115	3.7	9.1	12	DT	287	272	559	2331
10	1401	[ICPL 87-5 x ICPL 289) x ICPL 87]-15-1	83	123	3.7	10.5	11	DT	374	185	559	2331
	1402	ICPL 87	75	115	3.6	9.2	19	DT	347	289	636	2652
11	1404	[ICPL 87-5 x ICPL 289) x ICPL 87]-16-2	75	115	3.5	9.6	8	DT	177	159	336	1407
	1412	ICPL 87	75	118	4.1	9.3	19	DT	354	356	710	2961
12	1419	[ICPL 87-5 x ICPL 289) x ICPL 87]-27-2	75	115	3.5	9.9	10	DT	222	204	426	1776
	1422	ICPL 87	75	115	3.8	9.0	10	DT	311	395	706	2944
13	1427	[ICPL 87-5 x ICPL 289) x ICPL 87]-34-4	76	115	3.4	8.5	6	DT	180	219	399	1664
	1432	ICPL 87	75	115	3.9	8.5	20	DT	436	315	751	3132
14	1441	[ICPL 87-6 x ICPL 289) x ICPL 87]-4-2	75	115	3.9	9.1	16	DT	249	156	405	1689
	1442	ICPL 87	76	115	3.3	9.2	19	DT	233	223	456	1902
15	1443	[ICPL 87-6 x ICPL 289) x ICPL 87]-4-3	75	115	3.7	10.2	10	DT	204	189	393	1639
	1452	ICPL 87	75	115	3.5	9.3	19	DT	552	251	803	3349
16	1460	[ICPL 87-6 x ICPL 289) x ICPL 87]-15-5	76	115	3.4	9.6	10	DT	217	204	421	1756
	1462	ICPL 87	81	118	3.6	8.4	20	DT	255	166	421	1756
	1472	ICPL 87	75	115	4.2	9.4	17	DT	387	382	769	3207

17	1480	(ICPL 87-8 x ICPL 289) x ICPL 87)-5-2	74	115	4.1	8.7	17	DT	235	246	481	2006
	1482	ICPL 87	74	115	3.8	8.9	17	DT	411	370	781	3257
18	1484	(ICPL 87-8 x ICPL 289) x ICPL 87)-8-1	74	115	3.5	8.1	8	DT	169	70	239	997
19	1488	(ICPL 87-8 x ICPL 289) x ICPL 87)-8-5	76	115	4.4	9.3	13	DT	288	278	566	2360
	1492	ICPL 87	75	115	4.0	9.1	21	DT	491	408	899	3749
20	1499	(ICPL 87-8 x ICPL 289) x ICPL 87)-19-3	76	115	3.9	8.2	18	DT	282	165	447	1864
	1502	ICPL 87	75	115	3.7	9.1	17	DT	395	202	597	2489
21	1507	(ICPL 87-8 x ICPL 289) x ICPL 87)-20-4	74	115	3.7	8.3	16	DT	282	197	479	1997
22	1510	(ICPL 87-8 x ICPL 289) x ICPL 87)-22-1	75	115	3.7	9.1	16	DT	324	227	551	2298
	1512	ICPL 87	75	115	4.0	8.9	15	DT	271	193	464	1935
23	1518	(ICPL 87-8 x ICPL 289) x ICPL 87)-34-3	76	115	3.5	10.2	11	DT	237	291	528	2202
	1522	ICPL 87	76	118	4.2	8.8	22	DT	397	117	514	2143
24	1523	(ICPL 87-12 x ICPL 83023) x ICPL 87)-3-3	81	122	3.8	8.1	13	DT	202	83	285	1188
25	1525	(ICPL 87-12 x ICPL 83023) x ICPL 87)-3-5	81	122	3.4	9.4	17	DT	343	116	459	1914
	1532	ICPL 87	75	115	3.7	9.1	15	DT	281	232	513	2139
26	1535	(ICPL 87-12 x ICPL 83023) x ICPL 87)-11-1	76	115	4.1	8.3	16	DT	238	203	441	1839
27	1536	(ICPL 87-12 x ICPL 83023) x ICPL 87)-11-2	75	115	3.5	9.0	13	DT	201	124	325	1355
28	1537	(ICPL 87-12 x ICPL 83023) x ICPL 87)-12-1	81	120	3.7	8.9	11	DT	314	198	512	2135
29	1539	(ICPL 87-12 x ICPL 83023) x ICPL 87)-12-3	76	115	3.8	8.6	15	DT	385	272	657	2740
	1542	ICPL 87	76	115	4.3	8.7	18	DT	410	307	717	2990
30	1543	(ICPL 87-12 x ICPL 83023) x ICPL 87)-13-1	80	120	3.5	8.0	13	DT	217	217	434	1810
31	1551	(ICPL 87-12 x ICPL 83023) x ICPL 87)-13-9	76	115	3.6	8.4	17	DT	340	249	589	2456
	1552	ICPL 87	75	115	3.8	8.1	19	DT	323	268	591	2464
32	1559	(ICPL 87-12 x ICPL 83023) x ICPL 87)-15-6	83	125	4.0	9.6	17	DT	349	328	677	2823
33	1560	(ICPL 87-12 x ICPL 83023) x ICPL 87)-15-7	75	115	4.2	8.6	12	DT	279	264	543	2264
	1562	ICPL 87	71	112	3.2	8.6	12	DT	317	293	610	2544
	1572	ICPL 87	76	115	3.7	9.1	18	DT	394	235	629	2623
34	1578	(ICPL 87-12 x ICPL 83023) x ICPL 87)-25-2	76	115	4.0	8.8	15	DT	227	215	442	1843
	1582	ICPL 87	76	115	4.1	8.7	14	DT	214	161	375	1564
	1612	ICPL 87	75	115	3.5	9.1	16	DT	264	327	591	2464
35	1616	(ICPL 87-16 x ICPL 83023) x ICPL 87)-6-3	75	115	3.8	10.3	10	DT	207	75	282	1176
36	1620	(ICPL 87-16 x ICPL 83023) x ICPL 87)-8-2	81	120	3.8	10.6	17	DT	445	357	802	3344
37	1621	(ICPL 87-16 x ICPL 83023) x ICPL 87)-8-3	81	120	4.3	9.9	10	DT	254	273	527	2198
	1622	ICPL 87	71	110	3.0	7.9	19	DT	334	281	615	2565

38	1623	(ICPL 87-16 x ICPL 83023) x ICPL 87]-8-4	81	120	4.0	9.8	8	DT	231	189	420	1751
39	1626	(ICPL 87-16 x ICPL 83023) x ICPL 87]-11-4	76	115	4.1	10.5	15	DT	335	257	592	2469
40	1629	(ICPL 87-16 x ICPL 83023) x ICPL 87]-12-1	82	122	4.1	11.2	12	DT	458	366	824	3436
	1632	ICPL 87	75	115	3.5	8.2	19	DT	380	362	742	3094
	1642	ICPL 87	76	115	3.9	9.4	20	DT	516	272	788	3286
41	1646	(ICPL 87-16 x ICPL 83023) x ICPL 87]-17-1	76	118	4.2	9.7	13	DT	379	193	572	2385
42	1648	(ICPL 87-16 x ICPL 83023) x ICPL 87]-17-3	80	120	3.6	9.5	13	DT	287	114	401	1672
	1652	ICPL 87	75	115	4.0	9.1	21	DT	424	212	636	2652
43	1661	(ICPL 87-16 x ICPL 83023) x ICPL 87]-26-2	75	115	3.7	8.2	17	DT	275	87	362	1510
	1662	ICPL 87	75	115	3.4	8.7	20	DT	472	127	599	2498
44	1663	(ICPL 87-16 x ICPL 83023) x ICPL 87]-26-3	74	115	4.0	9.8	11	DT	162	74	236	984
45	1665	(ICPL 87-16 x ICPL 83023) x ICPL 87]-26-5	79	120	3.5	9.8	15	DT	234	77	311	1297
46	1669	(ICPL 87-16 x ICPL 83023) x ICPL 87]-27-5	83	125	4.2	10.9	15	DT	344	129	473	1972
	1672	ICPL 87	80	120	4.2	8.9	21	DT	421	177	598	2494
47	1674	(ICPL 87-16 x ICPL 83023) x ICPL 87]-33-4	80	120	3.3	9.9	11	DT	240	110	350	1460
48	1678	(ICPL 87-17 x ICPL 83023) x ICPL 87]-10-1	80	120	4.7	9.8	9	DT	286	157	443	1847
49	1681	(ICPL 87-17 x ICPL 83023) x ICPL 87]-10-4	82	124	4.3	8.8	13	DT	445	226	671	2798
	1682	ICPL 87	75	115	3.2	9.3	20	DT	445	226	671	2798
50	1689	(ICPL 87-17 x ICPL 83023) x ICPL 87]-25-2	72	115	4.2	8.3	17	DT	374	244	618	2577
	1692	ICPL 87	80	120	3.9	9.1	19	DT	476	312	788	3286
51	1693	(ICPL 87-17 x ICPL 83023) x ICPL 87]-31-1	71	110	4.0	8.1	16	DT	250	125	375	1564
52	1695	(ICPL 87-17 x ICPL 83023) x ICPL 87]-31-3	81	122	4.6	9.6	13	DT	496	247	743	3098
	1702	ICPL 87	71	115	3.8	9.0	20	DT	625	338	763	3182
	1732	ICPL 87	80	120	4.3	9.7	21	DT	595	288	883	3682
53	1739	(ICPL 87-18 x ICPL 83023) x ICPL 87]-28-2	81	122	3.6	11.2	11	DT	396	233	629	2623
	1742	ICPL 87	74	115	3.6	8.7	18	DT	499	288	787	3282
	1752	ICPL 87	75	115	4.3	9.8	21	DT	426	295	721	3007
54	1755	(ICPL 87-18 x ICPL 83023) x ICPL 87]-2-1	76	115	3.7	9.8	13	DT	482	304	786	3278
	1762	ICPL 87	71	112	3.3	9.5	19	DT	433	405	838	3494
55	1764	(ICPL 87-20 x ICPL 83023) x ICPL 87]-4-7	75	115	4.3	11.2	14	DT	467	368	835	3482
56	1769	(ICPL 87-20 x ICPL 83023) x ICPL 87]-8-1	75	115	4.2	9.6	7	DT	284	145	429	1789
	1772	ICPL 87	71	112	4.2	8.8	21	DT	477	366	843	3515
57	1773	(ICPL 87-20 x ICPL 83023) x ICPL 87]-8-5	81	122	5.0	9.1	12	DT	311	244	555	2314
58	1780	(ICPL 87-20 x ICPL 83023) x ICPL 87]-13-1	83	125	4.2	9.8	17	DT	608	117	725	3023
	1782	ICPL 87	75	115	4.2	9.3	19	DT	533	251	784	3269