

# Annual Progress Report 2012 - 2013

**Project 1: Enhancing livelihoods of resource-poor farmers of Rajasthan through introduction of eco-friendly pigeonpea varieties**

**Project 2: Development of hybrid pigeonpea technology suitable for Rajasthan**



Submitted to  
**Swami Keshwanand Rajasthan Agricultural University,  
Bikaner, Rajasthan**



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## **PROJECT 2**

### **Development of Hybrid Pigeonpea Technology Suitable for Rajasthan**

## HIGHLIGHTS

- During the 2012 cropping season, the hybridization program was adversely affected due to plant losses caused by high rainfall and subsequent waterlogging.
- Seven short duration pigeonpea hybrid trials and four state hybrid trials were conducted to study adaptability of hybrids at ARS, Durgapura, Rajasthan, during the 2012 cropping season. All the trials failed due to unusually heavy rains and waterlogging in the fields.
- Nine short duration hybrids (ICPH 2438, ICPH 2441, ICPH 2364, ICPH 2429, ICPH 2447, ICPH 2433, ICPH 2431, ICPH 3310 and ICPH 2363) were tested for their performance at Patancheru. Hundred percent fertility restoration was recorded among all the nine hybrids. ICPH 2364 was earliest to flower and mature (70 and 114 days, respectively) with mean grain yield of 1375 kg/ha which was 16% higher than check ICPL 88039. ICPH 2364 was also found to be resistant to wilt and sterility mosaic diseases.

## About the Project

**Title: Development of hybrid pigeonpea technology suitable for Rajasthan**

**Goal: Breed high yielding, short duration pigeonpea hybrids**

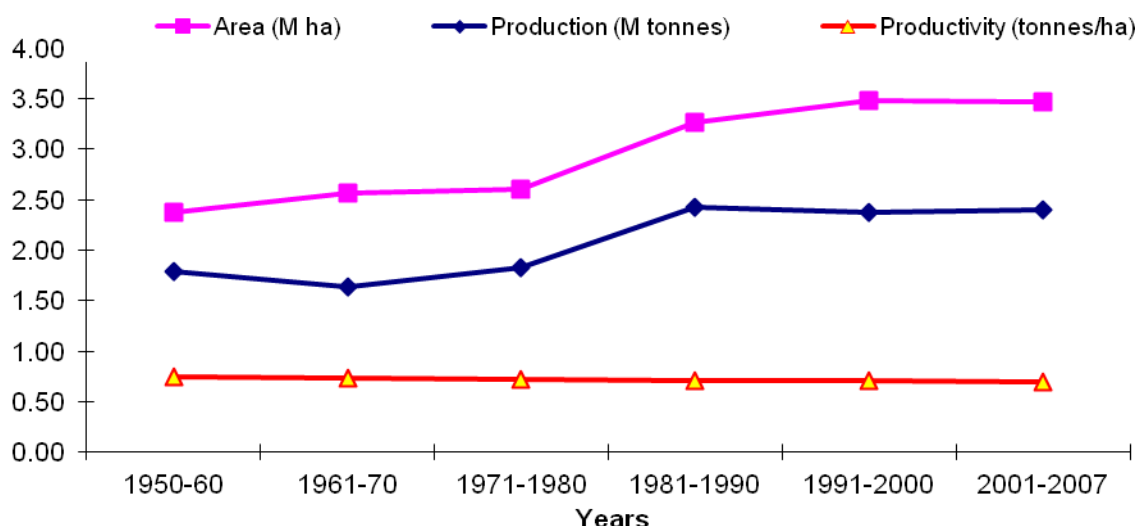
### Objectives

- Develop stable cytoplasmic nuclear male sterile (CMS) lines;
- Identify stable fertility restorers;
- Evaluate and identify high yielding experimental hybrids;
- Develop seed production technology for hybrids and their parents.

### Introduction

Even though pigeonpea is the second most important pulse crop in Rajasthan, it is cultivated on marginal lands by resource-poor farmers; and as a result, the production of pigeonpea in the state is insufficient to meet the domestic needs. Considering this fact and to enhance the production and productivity of pigeonpea, a project, “Development of hybrid pigeonpea technology suitable for Rajasthan” was initiated by ICRISAT in collaboration with SKRAU, Bikaner, with funding from Rajasthan State Government in 2012.

To enhance the production of pigeonpea in India, the national crop improvement program has released over 100 varieties which has helped the nation in increasing pigeonpea area from 2.3 million hectares in 1950 to 4.0 m ha in 2010, but there has been no improvement in its productivity which has remained low and stagnant between 700 - 800 kg/ ha (Figure 16). Therefore, the issue of stagnating on a yield plateau has emerged as a major concern.



**Figure 16. Trends of area, production, and productivity of pigeonpea in India**

To overcome this bottleneck, attempts were made at ICRISAT to breed hybrids by using partial natural out-crossing of pigeonpea, and availability of cytoplasmic nuclear male-sterility (CMS) systems. There are two major prerequisites for a successful commercial hybrid breeding program. At present both the components are well established and hence in this project attempts will be made to breed high yielding hybrids in early maturity groups suitable for Rajasthan.

## **Output 1: A set of stable pigeonpea CMS lines and their maintainers developed**

### **Activity 1.1 Evaluation of existing CMS lines for stability at Durgapura**

For hybrid development, there is a need for stable CMS sources. The stability of CMS may vary because of strong environmental effects. To evaluate stability performance of CMS lines for Rajasthan, six diverse CMS lines, developed at ICRISAT, Patancheru were planted at ARS, Durgapura along with four maintainer lines and 20 restorer lines. Each line was planted in 4m row length, with 60 x 30 cm spacing. During 2012 the germination of CMS lines was adversely affected due to excessive rains (1074 mm). Unfortunately none of the lines germinated due to prolonged waterlogging.

### **Activity 1.2 Development of super early CMS lines at Patancheru**

A crossing program was initiated to develop super early CMS lines during rainy season 2012. A set of 12 diverse super early testers were identified on the basis of per se performance and these were crossed with ICPA 2156 as a prominent source of A<sub>4</sub> cytoplasm. The F<sub>1</sub> seeds were grown in the off-season to check their pollen fertility. Twenty-five plants were grown in each cross and all of them were completely sterile, indicating maintenance of sterility (Table 30). The F<sub>1</sub> plants were again backcrossed with their respective maintainers to get the BC<sub>1</sub>F<sub>1</sub> seeds. Considering the unavailability of restorers in the super early group, a breeding program was initiated to recover fertility restorers in super-early group by transferring genes from the known restorer i.e ICPL 87119 (Table 31).

As the main target area for promotion of short duration pigeonpea hybrids will be North India, this material will be evaluated at Durgapura, Rajasthan during 2013-14.

### **Activity 1.3 Transfer of CMS through backcross breeding into locally adapted lines**

Early maturing six A-lines (CMS) were planted along with four B-lines (maintainer lines) and 20 testers (Table 32) during the 2012 cropping season to transfer male sterility to the locally adopted lines through backcrossing. But due to heavy rains and waterlogging conditions none of the CMS lines and testers germinated. Hence the backcross program was abandoned.

### **Activity 1.4 Selfing of the promising maintainer and restorer lines**

Due to uncertain rainfall and water-logging situations at ARS, Durgapura, CMS lines was fully affected and therefore further crossing, evaluation of maintainers and R-lines was not carried-out.

## **Output 2: A set of fertility restoring lines with high combining ability developed**

### **Activity 2.1 Develop 10-20 experimental hybrids by hand pollination**

This activity was not undertaken during 2012 due to plant losses caused by waterlogging.

## Output 3: Early maturing pigeonpea hybrids identified

### Activity 3.1 Evaluation of high yielding early maturing hybrids

Three short duration hybrid trials from ICRISAT, Patancheru and four local hybrid trials were planted at Agricultural Research Station, Durgapura, to evaluate the entries for yield and earliness during 2012 (Table 33). Due to unusually heavy rains, data on yield could not be recorded but data on days to 50 % flowering, days to maturity, plant height and 100-seed mass were all recorded on the surviving plants (Annexures III and IV).

### Activity 3.2 Performance of short duration pigeonpea hybrids at Patancheru

Nine short duration hybrids (ICPH 2438, ICPH 2441, ICPH 2364, ICPH 2429, ICPH 2447, ICPH 2433, ICPH 2431, ICPH 3310 and ICPH 2363) were evaluated for their performance along with ICPL 161 and ICPL 88039 as checks during 2012 (Table 34). ICPH 2364 and ICPH 3310 were earliest to flower (70 days) followed by ICPH 2441 (72 days) and ICPH 2447 (72 days). All these hybrids flowered significantly earlier than the check ICPL 161(78 days). Similarly, ICPH 3310 (112 days) was earliest to mature among all the hybrids followed by ICPH 2441 (114 days), ICPH 2364 (114 days) and ICPH 2447 (114 days) as compared to check, ICPL 161 which matured in 122 days (Table 34). All the nine hybrids exhibited 100% pollen fertility restoration and had brown colored seeds. Most of the hybrids were highly susceptible to fusarium wilt but resistant to sterility mosaic disease. Seed size of all the hybrids was significantly greater than the check, ICPL 161 (7.9 g). ICPH 2363 (10.8 g) had the boldest seeds. ICPH 2438 (1544 kg/ha) was the top yielder with respectively 14% and 31% standard heterosis over checks, ICPL 161(1349 kg/ha) and ICPL 88039 (1181 kg/ha). Higher yield was also recorded in hybrid ICPH 2441 (1388 kg/ha). Considering various important traits together, hybrid ICPH 2364 was found to be the best. This hybrid flowered and matured in 70 and 114 days, respectively. Mean height recorded was 175 cm with 3.9 seeds /pod and 8.9 g 100-seed mass with mean grain yield of 1373 kg/ha.

## Output 4: Seed production technology of hybrids developed

Hybrid seed production is the most critical aspect in exploiting hybrid vigour in any experiment. For commercial seed production two things are important and these include natural out crossing and an efficient CMS system.

**Natural out-crossing:** Pigeonpea is known to have a considerable extent (average 25%) of natural out-crossing that is mediated by a number of pollinating insects. The experiments conducted at ICRISAT and other locations indicated that the present level of out-crossing is sufficient for hybrid seed production. However, in the locations where the population of the pollinators is insufficient, the expected yield is comparatively less and we may introduce beehives for effective cross-pollination. The seed production activity will be initiated once stable and adapted A/B lines are identified.

**CMS system:** Cytoplasmic nuclear male-sterility (CMS) is another important component for commercial hybrid seed production. The expression of CMS, in part, is controlled by a genetic factor carried only through the female parent. This cytoplasmic factor is referred to as 'N' for normal male-fertile cytoplasm and 'S' for the male-sterile cytoplasm. The male-sterile female (A-line) line with 'S' cytoplasm and homozygous recessive (*msms*) nuclear genes is maintained by its male-fertile maintainer B-line that has a normal (N) cytoplasm and homozygous recessive for nuclear genes. For producing male-fertile hybrids, the A-line with 'S' cytoplasm is crossed with a male-fertile line (R-line) carrying dominant fertility restoring genes (*MsMs*) housed in its nucleus. To sum up, the three-line hybrid system is geared for multiplying A-line seed with the help of B-line and for producing hybrid seed, the A-line is pollinated with R-line. Since CMS was not available in the global pigeonpea germplasm, plans were made to breed it by placing pigeonpea genome into the cytoplasm of its wild relatives. It was expected that the interaction between cytoplasm and nuclear genome would produce male-sterility that would be inherited maternally. The  $A_4$  CMS system, derived from the cytoplasm of *Cajanus cajanifolius* was developed at ICRISAT and it has been found to be

stable across locations and years. The  $F_1$  hybrid plants involving the  $A_4$  derived lines have high level of fertility restoration and produce excellent pollen load and pod set. A large-scale seed production technology based on CMS and out-crossing has been successfully developed at ICRISAT with male-to-female row ratio of 1:4. For the early maturing hybrids, the seed production technology suitable for Rajasthan will be developed under this project.

### **Output 5: Research technicians trained in hybridization and evaluation of hybrids**

Three field staff were trained in crossing and selection during the flowering stage. The staffs were also trained in various other activities, such as identification of male-sterile plants, pollen fertility tests, selfing, and large-scale seed production.

### **Output 6: Workshop to develop annual and long term plans organized**

This program will start in the next season, that is, the 2013 rainy season.



## TABLES

**Table 1. Target villages identified and area sown for promotion of pigeonpea in Rajasthan during 2012**

District	Villages	Target for 2012 (ha)	Area sown in 2012 (ha)	Difference (ha)
Jaipur	Padasoli, Lalwas, Sarpanch ki Dhani	10	212	+ 202
Dausa	Kaillai, Mala Khera	10	6	- 4
Karauli	Bagor, Jeetkipur, Gudli, Nadoti, Salawat, Saher, Gadhhkhera	10	107	+ 97
Alwar	Gotoli, Daulatpura	10	12	+ 2
Total		40	337	+ 297

**Table 2. Details of on-farm demonstrations conducted in four districts of Rajasthan during 2012**

District	Village	On-farm trials (no.)	Area (ha)	Seed distributed (kg)
Jaipur	Padasoli	177	177	2832
	Lalwas	20	20	320
	Sarpanch ki Dhani	15	15	240
	Total	212	212	3392
Karauli	Bagor	43	43	688
	Jeetkipur	30	30	480
	Gudli	12	12	192
	Nadauti	10	10	160
	Salawat	6	6	96
	Shahar	3	3	48
	Gadhhkheda	3	3	48
	Total	107	107	1712
	Dausa	Kailai	4	4
Mala Khera		2	2	32
Total		6	6	96
Alwar	Gotoli	10	10	160
	Daulatpura	2	2	32
	Total	12	12	192
Grand Total		337	337	5392

**Table 3. Summary of productivity in demonstrations during *kharif*, 2012**

District/ Village	Area sown (ha)	Area harvested (ha)	Total production (ton)	Yield range (kg/ha)	Yield (kg/ha)
Jaipur					
Padasoli	177	177	202.19	600-1900	1142.3
Lawas	20	20	20.91	800-1480	1045.5
Sarpanch ki Dhani	15	15	17.42	660-1510	1161.3

<b>District/ Village</b>	<b>Area sown (ha)</b>	<b>Area harvested (ha)</b>	<b>Total production (ton)</b>	<b>Yield range (kg/ha)</b>	<b>Yield (kg/ha)</b>
Total	212	212	240.52	600-1900	1118.7
Alwar					
Milakpur	7	7	9.94	960-1540	1420.0
Daulatpura	5	5	6.20	900-1450	1239.0
Total	12	12	16.14	900-1540	1075.7
Karauli					
Bagour	43	27	12.14	280-528	449.7
Gudli	12	1	0.54	-	538.0
Jeetkipura	30	7	2.92	250-560	417.1
Nadauti	10	-	-	-	-
Gadkhera	3	-	-	-	-
Saher	3	-	-	-	-
Salawat	6	5	2.88	565-585	479.5
Total	107	40	18.48	250-528	462.0
Dausa					
Kailai	4	1	-	125	125
Malakhera	2	-	-	-	-
Total	6	1	-	0.125	125
All total	337	271	275.26	-	1015.7

**Table 4. Details of the monitoring during the cropping season, 2012**

Number of monitoring	Stage of the crop	Remarks
First monitoring	At the time of sowing	Our field staff helped the farmers in sowings with the help of seed drill.
Second monitoring	Vegetative stage	Observe the germination, and the growth of the crop in 14 villages of four districts. Due to severe rain and waterlogging at Karauli and Dausa districts most of the crop was affected (Figures 5 & 6).
Third monitoring	Vegetative to flower initiation stage	Gave instructions to the farmers about pest identification and found some pod borer incidence
Fourth & Fifth monitoring	Flowering to pod initiation stage & Pod filling stage	To avoid further damage, spraying was done and monitored by the ICRISAT staff, Rajasthan (Figure 7)
Sixth monitoring	At harvest	Gave instructions on harvesting, sun drying methods and handling the harvest
Seventh monitoring	At threshing	Gave instructions about threshing, storage of the produce and marketing

**Table 5. Details of area, production and productivity of seed multiplication of ICPL 88039 during 2012 at Rajasthan**

Name of Farmer	Village	District	Area sown (ha)	Date of sowing	Total yield (kg)
Deep Singh	Lalwas	Jaipur	7	16/07/2012	7000
Ram Kumar Meena	Padasoli	Jaipur	3	16/07/2012	2200
Sankar Singh	Kaneta	Jaipur	2	18/07/2012	3000
Total			12	-	12200

**Table 6. Basic seed production of early pigeonpea varieties during Kharif 2012, ARS, Durgapura, Rajasthan**

Genotype	Production (kg)
ICPL 88039	93.14
Pusa 992	64.98
ASJ 105	62.74
Pusa 991	18.30
UPAS 120	1.88

**Table 7. Evaluation of early maturing trial data Kharif 2012, ARS, Durgapura, Rajasthan**

Genotype	Days to 50% flowering	Seeds /pod	Yield /plot (kg)	Yield (kg/ha)
ICPL 88039	77	4	3.04	1268
Pusa 992	78	4	3.80	1583
ASJ 105	85	4	7.75	3227
Pusa 991	80	4	3.81	1589
UPAS 120	87	3	1.59	653

**Table 8. Information on materials and methods used in the station trials**

Trial name	Test entries	Controls	Replications	Spacing (cm)	Rows/plot	Sowing date	Remarks
Multilocation super early trial - I (NDT)	12	4	3	60 x 30	4	11-Jul-12	Poor germination (waterlogging)
Multilocation super early trial - II (NDT)	14	3	3	60 x 30	4	11-Jul-12	Poor germination (waterlogging)
Multilocation super early trial - I (DT)	10	3	3	60 x 30	4	11-Jul-12	Poor germination (waterlogging)
Multilocation super early trial - II (DT)	10	3	3	60 x 30	4	11-Jul-12	Poor germination (waterlogging)

**Table 9. List of non-determinate parents selected for diallel mating at Patancheru**

Parent	Origin	Days to flower	Days to maturity	Plant height (cm)	Seeds/pod	100-seed weight (g)	Seed color
ICPL 88039	ICRISAT	55	100	160	4	10	B
ICPL 88034	ICRISAT	80	125	195	4.1	9.5	B
ICPL 86022	ICRISAT	55	100	155	3.5	8.9	C
AL 201	PAU	67	108	150	-	-	B
P 992	IARI	70	110	130	-	-	B
ICPL 161	ICRISAT	85	132	200	3.5	8.7	B
UPAS 120	GBPUA T	74	112	212	4.1	7.2	B
NDT line 1	ICRISAT	50	85	-	-	-	B
NDT line 2	ICRISAT	52	90	-	-	-	B
AL 881	PAU	70	110	-	-	-	B

**Table 10. Performance of super early determinate pigeonpea lines at Patancheru, 2012. (Test no. 3)**

Entry Name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds/ pod	100-seed mass (g)	Seed color	Plant stand	Yield (kg/ha)	Yield/ day (kg)	Fusarium wilt (%)	Sterility mosaic (%)
ICPL 20336	55	95	44.8	4.4	6.9	Cream	15	156	1.6	18.2	63.6
ICPL 20337	55	93	50.7	4.0	7.5	Brown	33	430	4.6	41.2	82.4
ICPL 20338	48	85	51.7	3.8	7.1	Brown	40	672	7.9	11.8	47.1
ICPL 20339	50	90	50.8	3.8	6.8	Brown	35	561	6.2	13.3	6.7
ICPL 20340	51	93	48.3	3.9	8.5	Brown	40	766	8.2	37.5	50.0
ICPL 20341	48	88	48.7	3.7	7.2	Brown	35	818	9.3	31.3	28.6
MN 5 (C)	54	92	53.7	3.8	7.3	Brown	35	773	8.4	46.7	33.3
Mean	53.6	92.7	53.99	3.89	7.29	-	33.8	657.5	7.1	28.57	44.53
LSD	3.8	3.7	8.18	0.59	0.59	-	12.8	364.0	3.91	-	-
SE±	1.06	1.06	2.26	0.14	0.14	-	3.5	99.6	1.06	-	-
CV (%)	3.4	1.9	7.18	7.21	3.86	-	17.9	26.2	26.06	-	-

**Table 11. Performance of super early, non-determinate brown seeded pigeonpea lines at Patancheru, 2012. (Test No 5)**

Entry Name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds /pod	100-seed mass (g)	Plant stand	Yield kg/ha	Yield/day (kg)	Fusarium wilt (%)	Sterility mosaic (%)
ICPL 20326	58	101	94.0	3.9	6.4	38	1660	16.4	64.7	23.5
ICPL 20328	56	100	104.0	3.9	6.7	39	1568	15.7	23.1	83.8
ICPL 20330	55	96	79.0	4.1	5.8	42	940	9.8	40.0	53.3
ICPL 20331	57	100	104.0	3.8	6.3	36	1262	12.6	5.9	76.5
ICPL 20335	57	98	84.0	3.6	6.3	33	952	9.7	66.7	26.7
PAU 881 (C)	55	93	93.0	4.1	6.5	40	1249	13.4	-	-
ICPL 20325	64	104	99.0	3.8	7.0	46	1667	16.0	52.9	29.4
ICPL 20327	60	100	103.0	4.0	6.2	30	1128	11.3	20.0	80.0
ICPL 20329	61	101	100.0	3.9	6.9	34	1268	12.5	64.3	57.1
ICPL 20332	61	100	78.0	3.8	6.3	39	918	9.2	37.5	56.3
ICPL 20333	64	102	75.0	3.8	5.8	34	743	7.3	52.6	42.1
ICPL 20334	60	101	80.0	3.6	6.3	39	1061	10.5	30.0	70.0
ICPL 88039 (C)	61	104	94.0	4.2	8.3	41	1528	14.7	62.5	31.3
Mean	58.9	99.4	91.71	3.91	6.56	37.7	1217.2	12.2	-	-
LSD	4.1	4.8	11.87	0.39	0.55	11.4	555.3	5.63	-	-
SE±	1.2	1.3	3.39	0.14	0.14	3.2	158.2	1.60	-	-
CV (%)	3.4	2.4	6.39	4.87	4.12	14.9	23.1	22.71	-	-

**Table 12. Performance of super early, determinate pigeonpea brown seeded lines at Patancheru, 2012. (Test no. 4)**

Entry Name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds/ pod	100-seed mass (g)	Plant stand	Yield (kg/ha)	Yield/ day (kg)
ICPL 11249	49	89	47.5	3.9	8.7	42	608	6.8
ICPL 11250	50	88	45.7	3.8	8.4	40	566	6.4
ICPL 11251	51	89	49.2	3.9	8.0	37	658	7.4
ICPL 11252	50	90	47.8	3.8	8.1	40	520	5.8
ICPL 11253	52	92	49.5	4.1	8.2	41	594	6.5
ICPL 11254	52	93	47.3	3.9	8.4	41	496	5.3
ICPL 11255	50	91	47.5	4.0	8.5	39	760	8.4
MN 5 (C)	54	95	46.2	3.6	7.3	35	573	6.0
Mean	53.0	82.9	51.23	3.95	7.94	37.7	665.8	8.0
LSD	2.6	5.2	5.68	0.39	0.58	5.7	293.9	3.42
SE±	0.7	1.41	1.56	0.14	0.14	1.6	81.4	0.94
CV (%)	2.4	3.0	5.32	4.70	3.50	7.2	21.2	23.13

**Table 13. Performance of super early, non-determinate pigeonpea brown seeded lines at Patancheru, 2012. (Test no. 6)**

Entry Name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds/pod	100-seed mass (g)	Plant stand	Yield (kg/ha)	Yield/day (kg)
ICPL 11241	63	102	85.3	3.7	6.3	31	936	9.2
ICPL 11242	62	102	75.0	3.8	5.9	20	541	5.3
ICPL 11243	65	105	95.0	3.7	6.2	37	1206	11.5
ICPL 11244	66	105	91.3	3.9	8.5	36	1251	11.9
ICPL 88039 (C)	65	103	81.3	4.0	8.7	34	1063	10.3
ICPL 11245	61	100	72.7	3.6	6.4	32	828	8.3
ICPL 11246	61	100	74.7	3.9	6.4	31	646	6.5
ICPL 11247	59	98	79.0	3.7	6.3	38	1110	11.3
ICPL 11248	61	101	85.0	3.6	6.3	31	900	8.9
PAU 881 (C)	58	97	88.3	4.0	6.2	34	1050	10.8
Mean	61.5	100.7	83.52	3.82	6.74	32.8	969.9	9.6
LSD	5.9	5.8	10.63	0.51	0.70	11.6	497.9	5.10
SE±	1.7	1.6	2.97	0.14	0.21	3.2	139.3	1.42
CV (%)	4.7	2.8	6.16	6.53	5.03	17.2	24.8	26.65



**Table 14. Performance of super early, determinate pigeonpea lines tested in advanced MLT in North India, 2012**

Location	Punjab				Delhi				Seed coat color	Overall mean			
Entry Name	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)		Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)
ICPL 20336	128	7.40	1543	12.1	119	7.43	611	5.1	Cream	123.5	7.415	1077	8.6
ICPL 20337	121	8.00	1054	8.7	120	6.97	492	4.1	Brown	120.5	7.485	774	6.4
ICPL 20338	128	7.70	1183	9.2	122	7.62	822	6.7	Brown	125	7.66	1003	8.0
ICPL 20339	128	7.70	1029	8.0	118	7.02	815	6.9	Brown	123	7.36	922	7.5
ICPL 20340	121	8.10	1157	9.6	120	9.17	796	6.6	Brown	120.5	8.635	977	8.1
ICPL 20341	122	7.50	1415	11.6	117	7.12	552	4.7	Brown	119.5	7.31	983	8.2
MN 5 (C)	139	7.60	1543	11.1	120	7.44	814	6.8	Brown	129.5	7.52	1179	8.9
Mean	132.0	7.70	1528.9	11.6	122.3	7.51	714.82	5.8	-	127.15	7.605	1121.9	8.71
LSD	1.2	0.30	440.6	3.20	10.15	0.99	288.76	2.59	-				
SE±	0.4	0.10	120.6	0.87	2.78	0.27	79.03	0.70	-				
CV (%)	0.4	2.0	13.7	13.31	3.93	6.26	19.15	20.97	-				

**Table 15. Performance of super early, non-determinate brown seeded pigeonpea lines tested in advanced MLT in North India, 2012**

Location	Punjab				Delhi				Overall mean			
Entry Name	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)
ICPL 20325	141	7.7	1595	11.3	131	6.1	537	4.1	136	6.9	1066	7.7
ICPL 20326	136	7.2	1286	9.5	135	5.6	469	3.5	136	6.4	877	6.5
ICPL 20327	139	7.1	1312	9.4	128	6.2	573	4.5	134	6.7	942	7.0
ICPL 20328	119	8.0	977	8.2	126	6.1	391	3.1	123	7.1	684	5.7
ICPL 20329	128	7.2	1080	8.4	129	5.4	448	3.5	129	6.3	764	6.0
ICPL 20330	122	7.6	772	6.3	121	6.3	641	5.3	122	7.0	706	5.8
ICPL 20331	128	7.5	1003	7.8	122	6.6	313	2.6	125	7.1	658	5.2
ICPL 20332	125	7.4	952	7.6	116	6.1	469	4.0	121	6.8	710	5.8
ICPL 20333	118	7.6	875	7.4	124	6.8	323	2.6	121	7.2	599	5.0
ICPL 20334	117	7.5	823	7.0	118	6.6	323	2.7	118	7.1	573	4.9
ICPL 20335	117	7.2	772	6.6	118	6.1	589	5.0	118	6.7	680	5.8
ICPL 88039 (C )	150	7.7	3086	20.6	134	7.8	677	5.1	142	7.8	1882	12.8
PAU 881 (C)	132	7.7	1919	14.5	132	6.7	885	6.7	132	7.2	1402	10.6
Mean	129.2	7.50	1311.0	10.15	126.2	6.4	530.9	4.2	127.7	6.95	921	7.2
LSD	1.5	0.30	473.1	3.43	6.3	0.8	355.7	2.70				
SE±	0.4	1.90	134.9	0.97	1.6	0.2	94.9	0.72				
CV (%)	0.6	0.10	17.8	17.12	1.9	4.9	25.28	24.38				

**Table 16. Performance of super early, determinate brown seeded pigeonpea lines tested in preliminary MLT in North India, 2012**

Location	Punjab				Delhi				Almora				Overall mean			
Entry Name	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield / day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)
ICPL 11249	128	7.6	1286	10.0	124	8.5	782	6.3	118	8.9	875	7.4	123	8.3	981	7.9
ICPL 11250	129	8.2	1312	10.2	126	8.4	741	5.9	113	8.7	708	6.3	123	8.4	920	7.4
ICPL 11251	130	8.2	1903	14.6	126	8.3	804	6.4	115	9.0	792	6.9	124	8.5	1166	9.3
ICPL 11252	128	8.6	1415	11.1	121	8.0	937	7.7	116	7.9	625	5.4	122	8.2	992	8.1
ICPL 11253	129	8.1	1543	12.0	126	8.4	630	5.0	120	8.9	792	6.6	125	8.5	988	7.9
ICPL 11254	122	8.0	1312	10.8	118	7.5	570	4.8	115	8.8	750	6.5	118	8.1	877	7.4
ICPL 11255	130	8.7	1145	8.8	124	8.8	852	6.9	119	8.0	1000	8.4	124	8.5	999	8.0
MN 5 (C)	137	7.0	1543	11.32	128	7.2	778	6.12	127	7.8	708	5.63	131	7.3	1010	7.6
Mean	133	8.00	1523.9	11.46	126.0	7.95	798.1	6.33	119.1	8.5	791.7	6.65	126.0	8.15	1037.9	8.15
LSD	1.5	0.32	271.5	2.01	3.26	0.75	293.8	2.37	9.8	1.5	240.8	2.17				
SE±	0.4	0.12	75.2	0.55	0.91	0.29	115.1	0.65	2.5	0.4	60.3	0.54				
CV (%)	0.5	1.90	8.5	8.44	1.24	4.51	17.7	18.02	2.9	6.3	10.8	11.55				

**Table 17. Performance of super early, non-determinate brown seeded pigeonpea lines tested in preliminary MLT in North India, 2012**

Location	Punjab				Delhi				Almora				Overall mean			
Entry Name	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)	Days to 75 % maturity	100-seed mass (g)	Yield (kg/ha)	Yield/day (kg)
ICPL 11241	129	7.6	1157	9.0	131	7.5	793	6.1	147	7.6	1444	9.8	136	7.6	1132	8.3
ICPL 11242	137	7.9	1492	10.9	126	7.4	652	5.2	149	7.1	1278	8.6	137	7.5	1141	8.2
ICPL 11243	126	7.7	772	6.1	126	7.0	415	3.3	152	9.7	1339	8.8	135	8.1	842	6.1
ICPL 11244	148	8.5	2032	13.7	140	8.2	870	6.2	151	8.4	1389	9.2	146	8.4	1430	9.7
ICPL 11245	129	7.6	1466	11.4	126	7.5	352	2.8	155	6.8	1167	7.5	137	7.3	995	7.2
ICPL 11246	127	7.6	1440	11.3	137	7.2	541	3.9	149	7.1	1222	8.2	138	7.3	1068	7.8
ICPL 11247	132	7.6	1286	9.7	134	7.3	778	5.8	150	7.3	1306	8.7	139	7.4	1123	8.1
ICPL 11248	135	7.7	1569	11.6	135	7.2	945	7.0	151	6.9	1222	8.1	140	7.3	1245	8.9
ICPL 88039 (C)	149	8.2	2366	15.9	137	8.2	630	4.6	163	8.5	1444	8.9	150	8.3	1480	9.8
Mean	134.7	7.8	1571.7	11.67	132.0	7.44	963.0	7.30	146.2	7.79	1361.6	9.31	137.6	7.7	1298.8	9.4
LSD	1.6	0.2	353.7	2.55	7.5	0.86	356.1	2.64	7.1	0.53	383.6	2.33				
SE±	0.4	0.1	98.9	0.71	2.1	0.24	99.60	0.73	1.8	0.13	98.1	0.57				
CV (%)	0.6	1.1	10.9	10.67	2.7	5.58	24.87	24.42	1.8	2.44	10.2	8.59				

**Table 18. Super early, determinate F<sub>6</sub> generation testcross progenies selected at Patancheru, 2012**

Plot no	Entry name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds/ pod	Visual* selection score at flowering	Visual* selection score at maturity	Plant stand	100- seed mass	Seed coat color	Yield/ plot (g)	Self Seed qty.(g)
692	ICPX 070168-2-1-1-1-4*	53	88	65.0	3.8	1.5	1.5	24	8.5	B	440.1	56.4
693	MN 5 (C)	53	88	60.0	3.8	3.0	2.0	25	7.3	B	481.0	-
694	ICPX 070168-5-3-10-1-8*	53	85	50.0	3.8	1.5	2.0	22	8.3	B	400.1	480.0
695	MN 5 (C)	55	90	55.1	3.6	2.0	2.0	18	7.4	B	390.0	-
696	ICPX 070168-1-4-1-1-12*	53	88	55.0	3.5	2.0	2.0	24	8.3	B	390.5	350.1
697	ICPX 070168-9-3-4-1-16*	53	85	56.0	3.5	2.0	2.5	20	8.4	B	380.4	449.8
	Mean	53	86.5	56.5	3.65	1.75	2	22.5	8.375	-	413.68	
	MN 5 (Check mean)	54.0	89.0	57.50	3.70	2.50	2.00	21.5	7.35	-	435.50	-
	SE	1.0	1.0	2.5	0.1	0.5	0.0	3.5	0.1	-	45.5	-

\* Visual selection scores recorded in comparison with check in 1-5 scale 1 being best, 2-Very good, 3- Good, 4- Poor and 5- Worst

**Table 19. Super early, non-determinate F<sub>6</sub> generation testcross progenies selected at Patancheru, 2012**

Plot No	Entry name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds /pod	Visual* selection score at flowering	Visual* selection score at maturity	Plant stand	Yield/ plot (g)	100-seed mass	Seed coat color	Seed qty. (g)
375	<b>ICPL 88039 (C)</b>	59	100	115.0	4.2	3.0	3.0	26	395.0	8.4	B	-
383	ICPX 070168-2-2-10-3-19*	55	95	75.0	4.0	2.0	2.0	29	320.0	8.0	B	277.5
386	<b>ICPL 88039 (C)</b>	58	95	115.0	3.6	3.0	3.0	30	530.0	8.3	B	-
392	ICPX 070168-8-1-15-2-15*	56	100	85.0	3.9	3.0	3.0	29	350.0	8.0	B	100.0
398	<b>ICPL 88039 (C)</b>	59	100	107.0	4.0	3.0	3.0	25	325.0	8.5	B	-
401	ICPX 070168-8-1-15-3-6*	56	100	85.0	3.8	3.0	2.5	22	300.0	8.4	B	247.0
404	<b>ICPL 88039 (C)</b>	59	100	100.0	3.9	3.5	4.0	21	325.0	8.6	B	-
408	ICPX 070168-8-1-15-3-15*	57	100	88.0	3.8	2.5	2.0	34	390.0	7.3	B	328.5
415	<b>ICPL 88039 (C)</b>	59	100	105.0	4.2	3.0	3.0	25	505.0	8.4	B	-
419	ICPX 070168-8-1-15-5-6*	53	95	88.0	3.8	3.0	3.0	29	185.0	8.2	B	260.0
422	<b>ICPL 88039 (C)</b>	60	102	120.0	4.1	3.0	4.0	21	435.0	8.5	B	-
426	ICPX 070168-8-1-15-5-12*	53	95	80.0	4.0	2.5	2.5	27	180.0	7.3	B	202.5
428	<b>ICPL 88039 (C)</b>	58	100	125.0	3.9	3.0	3.5	24	460.0	8.6	B	-
434	ICPX 070168-6-2-4-1-5*	57	100	95.0	4.2	3.5	2.5	26	180.0	8.1	B	255.0
435	ICPX 070168-6-2-4-1-19*	63	102	85.0	4.2	3.0	2.5	32	450.0	8.4	B	238.0
439	<b>ICPL 88039 (C)</b>	60	102	105.0	4.2	3.0	3.0	24	455.0	8.6	B	-
443	ICPX 070168-4-1-4-3-1*	57	98	75.0	4.2	2.5	2.5	25	300.0	9.1	B	291.0
444	ICPX 070168-4-1-4-3-5*	57	98	90.0	4.0	3.0	3.0	26	335.0	8.3	B	115.0
445	<b>ICPL 88039 (C)</b>	59	100	125.0	4.0	3.0	3.0	30	430.0	8.5	B	-
446	ICPX 070168-4-1-4-3-9*	57	100	100.0	3.7	3.5	2.5	25	320.0	8.4	B	293.0
451	ICPX 070168-4-1-4-4-17*	57	100	110.0	3.0	2.5	3.0	25	250.0	7.6	B	287.0
457	<b>ICPL 88039 (C)</b>	59	100	65.0	4.2	3.0	3.0	29	440.0	8.4	B	-

Plot No	Entry name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds /pod	Visual* selection score at flowering	Visual* selection score at maturity	Plant stand	Yield/ plot (g)	100-seed mass	Seed coat color	Seed qty. (g)
462	ICPX 070168-6-5-6-1-13*	57	98	75.0	3.8	3.0	2.5	34	290.0	7.4	B	232.0
463	ICPX 070168-6-5-6-1-17*	58	100	75.0	4.0	3.0	2.5	32	280.0	7.6	B	108.0
465	ICPX 070168-6-5-6-1-19*	55	95	70.0	4.0	2.5	2.5	36	250.0	7.0	B	181.0
468	ICPX 070168-6-5-6-2-2*	55	95	100.0	4.2	2.0	2.5	25	320.0	7.8	B	261.0
469	ICPX 070168-6-5-6-2-3*	58	98	90.0	4.1	2.0	2.0	28	320.0	7.5	B	313.0
471	ICPX 070168-6-5-6-2-5*	59	100	95.0	3.9	2.0	2.0	32	350.0	7.6	B	111.0
473	ICPX 070168-6-5-6-2-10*	56	95	85.0	3.9	3.0	2.5	25	350.0	7.8	B	226.0
474	ICPX 070168-6-5-6-2-11*	59	100	88.0	3.8	3.0	2.5	27	335.0	8.6	B	268.0
475	ICPX 070168-6-5-6-2-12*	57	95	85.0	3.9	2.5	2.5	34	330.0	7.4	B	279.5
	Mean	56.8	98.0	86.6	3.9	2.7	2.5	28.7	304.0	7.9	-	-
	ICPL 88039 (Check mean)	59.0	100.4	109.0	4.0	3.1	3.3	26.2	421.0	8.5	-	-
	SE	0.2	0.3	5.5	0.1	0.1	0.1	0.9	27.2	0.1	-	-

**Table 20. Super early, non-determinate F<sub>5</sub> generation progenies selected at Patancheru, 2012**

Plot no	Entry name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds/ pod	Visual* selection score at flowering	Visual* selection score at maturity	Plant stand	Yield/ plot (g)	100-seed mass	Seed coat color	Self Seed qty. (g)
478	ICPX 060026-2-11-8-8*	59	100	110.0	4.0	3.0	3.0	27	300.0	8.1	B	110.0
480	<b>ICPL 88039 (C)</b>	63	105	115.0	3.5	3.0	4.0	13	185.0	8.4	B	-
483	ICPX 060026- 2-1-6-4-22*	57	98	95.0	4.2	3.0	2.5	19	290.0	6.7	B	274.5
484	ICPX 060026- 2-1-6-3-3*	55	95	95.0	4.0	2.5	2.5	29	290.0	8.0	B	215.5
485	ICPX 060026- 2-1-6-3-4*	57	95	75.0	3.9	4.0	3.0	21	260.0	7.5	B	75.0
491	<b>ICPL 88039 (C)</b>	63	105	90.0	3.8	3.5	4.0	9	170.0	8.5	B	-
493	ICPX 060026-2-11-1-4*	55	95	100.0	3.6	2.5	2.5	28	320.0	8.7	B	303.0
499	ICPX 060064-1-4-2-16*	55	95	106.0	4.0	3.0	2.5	19	250.0	8.0	B	110.0
505	<b>ICPL 88039 (C)</b>	65	105	95.0	4.2	4.0	3.5	8	115.0	8.8	B	-
512	ICPX 060064-1-4-8-26*	53	95	90.0	4.0	1.5	1.5	28	340.0	7.2	B	211.0
513	ICPX 060026- 2-1-6-5-5*	53	95	95.0	4.0	2.0	2.0	28	330.0	6.0	B	227.0
514	ICPX 060026- 2-1-6-5-8*	53	95	105.0	4.0	3.0	3.0	21	350.0	6.6	B	75.0
516	<b>ICPL 88039 (C)</b>	64	102	120.0	4.3	2.0	2.5	21	520.0	8.5	B	-
517	ICPX 060026- 2-1-6-5-23*	53	95	85.0	4.1	2.0	3.0	22	360.0	6.2	B	240.0
519	ICPX 060073-3-4-1-10*	53	95	95.0	4.2	2.5	2.5	25	250.0	7.0	B	100.0
520	ICPX 060073-3-4-1-26*	53	95	90.0	3.9	2.0	2.5	28	520.0	9.0	B	291.0
521	ICPX 060026- 2-1-5-6-2*	52	95	80.0	3.8	2.0	2.5	25	320.0	9.0	B	245.0
522	ICPX 060026- 2-1-5-6-12*	52	95	90.0	4.1	3.0	2.5	20	190.0	7.8	B	249.0
526	ICPX 060064-1-4-4-2*	55	98	95.0	3.9	3.0	2.5	24	360.0	8.6	B	304.0
527	<b>ICPL 88039 (C)</b>	60	100	100.0	4.1	3.0	3.0	20	370.0	8.6	B	-
535	ICPX 060064-1-7-5-2*	57	100	80.0	3.8	3.0	3.0	20	210.0	8.4	B	102.0
537	ICPX 060064-1-7-5-10*	55	95	90.0	3.9	3.0	2.5	17	280.0	7.4	B	200.0
542	ICPX 060026- 2-1-5-1-17*	55	95	85.0	4.1	2.5	2.5	22	300.0	8.6	B	355.0
543	ICPX 060067-13-4-3-3*	55	95	85.0	3.2	3.0	3.0	20	200.0	7.6	B	283.0
544	ICPX 060067-13-4-3-7*	58	100	85.0	4.0	4.0	3.0	20	245.0	7.1	B	110.0
	Mean	54.8	96.1	91.6	3.9	2.7	2.6	23.2	298.3	7.7	-	-
	ICPL 88039 (Check Mean)	63.0	103.0	107.7	4.0	3.1	3.4	15.0	277.9	8.4	-	-
	SE	0.6	0.8	4.8	0.2	0.2	0.2	2.4	52.3	0.1	-	-



**Table 21. Super early, determinate F<sub>6</sub> generation progenies selected at Patancheru, 2012**

Plot no	Entry name	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds/pod	Visual* selection scores at flowering	Plant stand	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
807	ICPX 060034-12-6-1-5-10*	55	90	45.0	4.0	2.0	26	9.0	B	290.7
810	<b>MN 5 (C)</b>	58	90	60.0	3.8	3.0	-	7.6	B	-
812	ICPX 060066-1-1-13-3-12*	53	85	45.0	3.8	1.5	27	9.3	B	300.0
816	ICPX 060077-11-6-6-5-3*	55	90	50.0	3.7	2.0	18	9.3	B	219.0
817	ICPX 060077-11-6-6-5-30*	53	85	55.0	3.8	1.5	28	9.4	B	306.2
819	ICPX 060077-11-6-6-7-24*	53	90	45.0	3.8	2.5	24	8.3	B	350.0
821	<b>MN 5 (C)</b>	58	100	65.0	3.8	3.5	-	7.7	B	-
822	ICPX 060077-3-7-2-11-13*	53	90	55.0	4.0	2.0	24	9.6	B	190.0
823	ICPX 060077-6-10-11-8-6*	53	90	55.0	3.6	3.0	17	8.9	B	153.0
824	ICPX 060077-6-10-11-8-16*	52	85	60.0	3.7	1.5	23	8.5	B	220.7
825	ICPX 060077-6-10-11-8-23*	53	90	60.0	3.6	1.0	24	9.7	B	184.8
828	<b>MN 5 (C)</b>	55	100	62.0	3.6	2.0	-	7.5	B	-
829	ICPX 060036-12-2-1-2-7*	52	80	56.0	3.7	1.5	12	8.2	B	167.6
830	ICPX 060036-12-2-1-2-8*	50	80	59.0	4.0	1.0	20	8.3	B	263.0
831	ICPX 060036-12-2-1-2-18*	50	80	58.0	4.2	1.5	24	8.0	B	290.6
832	ICPX 060036-12-2-1-5-11*	52	80	54.0	4.1	2.0	27	8.2	B	204.8
833	ICPX 060036-12-2-1-5-12*	52	80	51.0	3.9	2.5	18	8.0	B	334.0
834	<b>MN 5 (C)</b>	55	95	61.0	3.4	2.0	-	7.6	B	-
835	ICPX 060066-16-3-4-2-4*	52	80	50.0	3.4	2.0	30	8.5	B	34.5
836	ICPX 060066-16-3-4-2-19*	52	80	52.0	3.8	1.5	27	8.3	B	108.7
837	ICPX 060066-16-3-4-2-2*	52	85	54.0	3.8	1.5	26	8.8	B	145.0
840	ICPX 060077-6-5-10-4-26*	53	85	53.0	3.4	3.0	7	9.0	B	174.0
	Mean	52.5	84.7	53.2	3.80	1.9	-	8.7	-	-
	MN 5 (Check mean)	53.0	86.0	62.0	3.70	2.5	-	7.6	-	-
	SE	0.5	0.2	3.0	0.0	0.0	-	0.1	-	-

**Table 22. Super early, non-determinate F<sub>6</sub> generation progenies selected at Patancheru, 2012**

Plot no	PEDIGREE	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds /pod	Visual* selection score at flowering	Visual* selection score at maturity	Plant stand	100-seed mass	Seed coat color	Yield /plot (g)	Self Seed qty. (g)
549	ICPX 060063-8-1-13-1-11*	53	95	100.0	4.0	3.5	2.5	22	7.3	LB	370.0	263.0
552	<b>ICPL 88039 (C)</b>	63	102	100.0	4.2	3.0	3.0	22	8.4	B	540.0	-
553	ICPX 060077-6-8-11-2-3*	53	90	110.0	3.6	2.5	2.5	24	7.6	B	315.0	110.0
556	ICPX 060077-6-8-11-2-11*	55	95	105.0	3.8	3.0	2.5	17	8.4	B	325.0	256.0
557	ICPX 060077-6-8-11-2-17*	53	95	90.0	3.7	3.0	2.5	18	7.7	B	200.0	86.3
559	<b>ICPL 88039 (C)</b>	59	100	125.0	4.2	3.0	3.0	17	8.3	B	485.0	-
564	ICPX 060077-6-8-11-5-2*	52	90	85.0	3.7	2.0	2.0	18	7.9	B	185.0	95.6
565	ICPX 060077-6-8-11-5-11*	52	90	85.0	3.5	2.0	2.0	24	7.7	B	300.0	100.0
566	ICPX 060077-7-4-1-1-11*	52	90	90.0	3.7	1.5	1.0	29	7.9	LB	540.0	325.5
570	<b>ICPL 88039 (C)</b>	59	100	130.0	4.1	3.0	3.0	20	8.4	B	690.0	-
574	ICPX 060066-16-11-10-6-17*	54	98	100.0	3.4	2.5	2.5	20	6.8	B	270.0	88.3
575	ICPX 060066-16-11-10-6-18*	53	95	95.0	3.8	3.0	2.5	14	8.4	B	350.0	196.0
580	ICPX 060066-16-11-10-8-19*	55	95	100.0	3.9	3.5	3.0	16	7.3	B	200.0	78.6
581	<b>ICPL 88039 (C)</b>	59	100	115.0	4.4	2.5	3.0	29	8.4	B	690.0	-
582	ICPX 060077-6-4-15-1-1*	53	95	90.0	3.6	2.0	2.5	17	7.1	B	200.0	111.2
585	ICPX 060063-8-9-9-1-5*	54	95	104.0	3.8	2.0	3.0	21	8.8	B	490.0	210.0
586	ICPX 060063-8-9-9-1-7*	54	95	100.0	4.0	1.5	2.0	25	8.4	B	510.0	304.0
587	ICPX 060063-8-9-9-1-15*	55	100	90.0	3.9	3.0	2.5	21	7.3	B	300.0	110.2
588	<b>ICPL 88039 (C)</b>	59	100	120.0	4.2	3.0	3.0	17	8.5	B	425.0	-
589	ICPX 060063-8-9-9-1-24*	53	95	90.0	3.6	2.5	2.5	18	7.8	B	350.0	252.0
590	ICPX 060063-8-9-9-3-11*	54	95	100.0	3.8	2.5	2.5	21	7.0	LB	470.0	312.0
591	ICPX 060063-8-9-9-3-24*	54	98	90.0	4.2	3.0	2.0	16	8.1	B	520.0	113.0
592	ICPX 060063-8-9-9-3-26*	54	98	115.0	3.6	1.5	2.0	22	6.2	B	460.0	224.0
593	ICPX 060063-8-9-9-4-10*	55	100	90.0	4.0	3.0	2.5	24	7.5	B	360.0	331.5
Plot	PEDIGREE	Days to 50	Days to	Plant	Seeds	Visual*	Visual*	Plant	100-	Seed	Yield	Self

no		% flowering	75 % maturity	height (cm)	/pod	selection score at flowering	selection score at maturity	stand	seed mass	coat color	/plot (g)	Seed qty. (g)
599	ICPX 060077-6-9-16-3-23*	55	100	95.0	3.9	3.0	2.5	25	7.1	B	410.0	95.6
600	ICPX 060077-6-9-16-3-33*	54	98	100.0	3.8	2.0	2.0	30	7.4	B	540.0	381.0
606	<b>ICPL 88039 (C)</b>	60	112	110.0	4.4	3.0	3.0	10	8.4	B	-	
601	ICPX 060077-6-9-16-3-35*	54	98	105.0	3.7	1.5	2.0	24	7.9	LB	455.0	320.5
602	ICPX 060077-6-9-16-4-6*	53	95	100.0	3.5	1.5	2.0	29	7.1	B	500.0	393.0
603	ICPX 060077-6-9-16-4-13*	53	95	110.0	3.8	1.5	1.0	25	7.2	B	480.0	229.0
604	ICPX 060077-6-9-16-4-23*	54	95	100.0	3.4	2.0	2.0	23	6.1	B	455.0	124.0
610	ICPX 060077-6-9-17-1-17*	55	100	90.0	3.4	3.5	2.5	19	7.9	B	290.0	110.0
612	ICPX 060066-16-8-14-3-16*	55	95	85.0	3.6	3.0	2.5	14	6.8	B	185.0	95.0
613	ICPX 060066-16-8-14-3-17*	54	95	75.0	4.0	2.5	1.0	20	7.5	LB	390.0	192.0
614	ICPX 060036-4-13-6-1-11*	55	95	85.0	4.0	3.0	2.0	19	7.0	B	255.0	110.0
615	ICPX 060036-4-13-6-1-31*	54	95	85.0	4.0	2.0	2.0	23	7.5	LB	625.0	231.0
616	ICPX 060036-4-13-6-1-12*	54	95	95.0	3.4	3.0	2.0	14	7.7	B	220.0	114.0
617	<b>ICPL 88039 (C)</b>	59	100	120.0	4.2	3.0	3.0	24	8.5	B	585.0	-
618	ICPX 060027-3-4-4-1-16*	53	95	90.0	4.0	2.0	2.0	22	7.0	B	445.0	114.0
619	ICPX 060027-3-4-4-1-26*	53	95	90.0	3.8	2.5	1.5	21	7.6	B	555.0	140.0
620	ICPX 060027-3-4-4-2-6*	53	95	90.0	3.9	2.5	2.5	17	7.7	B	300.0	76.3
621	ICPX 060027-3-4-4-2-24*	53	95	105.0	4.0	2.0	2.0	17	7.5	B	460.0	108.0
622	ICPX 060027-3-4-4-2-29*	53	95	95.0	4.1	1.5	2.5	23	7.2	B	460.0	213.0
623	ICPX 060027-12-3-2-1-12*	55	95	95.0	4.0	3.0	2.5	32	6.6	B	490.0	237.0
624	<b>ICPL 88039 (C)</b>	60	102	120.0	4.4	3.0	2.5	27	8.4	B	680.0	-
626	ICPX 060027-12-3-2-1-23*	55	95	90.0	3.7	3.5	2.5	25	7.6	B	355.0	78.6
628	ICPX 060027-12-3-2-3-8*	55	96	90.0	3.8	2.5	2.5	23	7.5	B	410.0	331.5
629	ICPX 060027-12-3-2-3-14*	55	98	95.0	4.0	3.0	2.5	24	8.4	B	425.0	100.5
631	<b>ICPL 88039 (C)</b>	60	105	125.0	4.5	3.0	3.0	22	8.3	B	580.0	-

Plot no	PEDIGREE	Days to 50 % flowering	Days to 75 % maturity	Plant height (cm)	Seeds /pod	Visual* selection score at flowering	Visual* selection score at maturity	Plant stand	100-seed mass	Seed coat color	Yield /plot (g)	Self Seed qty. (g)
633	ICPX 060077-7-4-19-1-2*	55	100	90.0	3.4	3.5	2.0	23	6.9	B	355.0	87.6
635	ICPX 060077-7-4-19-1-15*	55	100	105.0	3.8	2.0	2.5	29	8.6	B	430.0	89.6
636	ICPX 060077-7-4-19-2-6*	53	90	100.0	3.6	2.0	2.5	25	7.7	B	390.0	95.6
637	ICPX 060077-7-4-19-2-15*	53	90	85.0	3.8	1.5	2.0	31	7.5	B	495.0	210.0
638	ICPX 060077-7-4-19-2-23*	55	95	100.0	3.9	1.5	2.0	23	8.4	B	515.0	252.0
640	ICPX 060077-7-4-19-3-4*	55	98	105.0	3.7	2.0	2.0	26	7.3	LB	435.0	222.0
641	ICPX 060077-7-4-19-3-12*	53	95	85.0	3.7	2.0	2.0	27	7.4	B	340.0	157.5
643	ICPX 060077-7-4-19-3-13*	53	95	80.0	4.0	2.5	3.0	25	8.5	B	350.0	88.9
646	ICPX 060077-7-4-19-4-6*	53	95	95.0	3.7	3.5	2.5	20	8.5	B	305.0	95.6
649	ICPX 060027-8-2-9-1-15*	53	98	90.0	4.0	3.5	2.5	19	8.8	B	255.0	111.0
650	ICPX 060027-8-2-9-1-16*	53	98	80.0	3.9	3.0	3.0	27	7.4	B	300.0	87.3
651	ICPX 060027-8-2-9-1-14*	53	95	90.0	3.8	2.0	3.0	26	8.1	B	305.0	59.3
652	<b>ICPL 88039 (C)</b>	60	100	135.0	4.7	3.0	3.0	30	8.5	B	355.0	-
653	ICPX 060036-4-13-9-2-4*	53	90	80.0	4.2	2.5	1.0	26	7.2	B	355.0	89.6
656	ICPX 060036-4-13-9-2-33*	53	95	105.0	4.2	2.5	2.0	24	8.3	B	35.0	77.6
658	ICPX 060036-4-13-9-3-27*	55	90	85.0	4.0	3.0	2.5	26	6.8	B	250.0	58.6
660	<b>ICPL 88039 (C)</b>	60	100	135.0	4.7	3.0	3.0	27	8.6	B	625.0	-
661	ICPX 060063-8-9-1-4-5*	53	90	100.0	4.0	3.0	2.5	28	8.0	B	345.0	78.6
664	ICPX 060063-8-9-1-8-9*	53	95	95.0	3.9	3.0	2.5	24	7.9	B	400.0	45.6
665	ICPX 060063-8-9-1-8-13*	53	95	100.0	3.8	2.5	2.0	33	7.2	B	400.0	136.5
666	<b>ICPL 88039 (C)</b>	62	102	125.0	4.5	3.0	3.0	25	8.7	B	670.0	-
669	ICPX 060063-8-9-1-8-18*	55	100	100.0	3.8	3.0	3.5	25	7.9	B	415.0	170.5
670	ICPX 060077-6-5-2-1-3*	53	95	90.0	3.5	3.5	2.5	21	7.5	B	360.0	89.4
672	ICPX 060077-6-5-2-1-28*	55	100	110.0	3.9	3.5	3.0	23	7.3	B	390.0	78.4
674	ICPX 060077-6-5-2-2-1*	53	98	95.0	3.6	2.5	2.5	23	7.6	B	390.0	75.8
676	ICPX 060077-6-5-2-2-24*	55	100	95.0	3.4	3.0	2.5	24	7.2	B	305.0	89.6
683	ICPX 060077-6-5-10-13-11*	55	100	105.0	3.8	2.5	3.0	19	7.2	B	395.0	142.5
689	ICPX 060077-6-5-10-3-12*	55	95	85.0	3.4	3.0	2.5	26	7.1	B	560.0	197.0
	Mean	53.8	95.6	94.5	3.8	2.5	2.3	22.9	7.6	-	377.2	-
	ICPL 88039 (Mean)	59.9	101.8	122.9	4.4	3.0	3.0	22.7	8.4	-	590.4	-
	SE	0.3	0.9	2.6	0.1	0.0	0.0	1.5	0.1	-	29.8	-

**Table 23. Single plant selections made in brown seeded super early F<sub>4</sub> determinate testcross material at Patancheru, 2012**

Plot no	PEDIGREE	Days to first flower	100-seed mass (g)	Self Seed qty. (g)
707	ICPX 080001-5-3-4*-10*	47	7.0	6.0
707	ICPX 080001-5-3-4*-11*	48	7.9	11.5
707	ICPX 080001-5-3-4*-12*	49	6.0	10.5
707	ICPX 080001-5-3-4*-24*	48	7.5	12.5
707	ICPX 080001-5-3-4*-25*	48	7.7	18.5
707	ICPX 080001-5-3-4*-27*	49	7.5	12.5
707	ICPX 080001-5-3-4*-28*	48	7.4	15.5
710	ICPX 080001-6-1-18*-10*	48	7.5	17.3
710	ICPX 080001-6-1-18*-15*	49	8.1	9.4
711	MN 5 (check)	55	7.2	-
712	ICPX 080003-9-2-17*-6*	48	7.6	11.0
712	ICPX 080003-9-2-17*-19*	48	5.9	7.0
713	ICPX 080001-7-1-16*-18*	49	8.5	19.4
714	ICPX 080001-5-5-2*-10*	49	8.1	12.0
714	ICPX 080001-5-5-2*-16*	49	7.2	27.5
715	ICPX 080003-7-1-6*-8*	49	8.1	21.0
715	ICPX 080003-7-1-6*-10*	48	7.6	8.9
715	ICPX 080003-7-1-6*-13*	49	8.3	8.5
715	ICPX 080003-7-1-6*-15*	48	7.8	8.0
	<b>MN 5 (check)</b>	55	7.2	-

**Table 24. Single plant selections made in super early F<sub>4</sub> determinate material at Patancheru, 2012**

Plot no	PEDIGREE	Days to first flower	100-seed mass	Seed color	Self Seed qty. (g)
719	ICPX 060012-1-10-4-2*-14*	50	6.8	Cream	13.2
720	ICPX 060012-1-8-2-19*-6*	50	8.5	Brown	17.5
720	ICPX 060012-1-8-2-19*-9*	47	7.8	Brown	20.3
	MN 5 (Check)	54	7.3	Brown	-

**Table 25. Single plant selections made in cleistogamous non-determinate pigeonpea lines at Patancheru, 2012**

Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
854	1	(ICPX 060131-2-2 x ICPL 88039)-4-4-3-1	68	3.5	9.5	Brown	56.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-2	68	3.0	10.0	Brown	122.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-3	70	3.5	8.0	Brown	160.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-4	69	3.5	8.0	Brown	77.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-5	66	3.5	8.5	Brown	85.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-6	62	4.0	8.1	Brown	46.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-7	63	3.5	8.4	Brown	81.5
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-8	66	4.0	9.5	Brown	122.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-9	71	3.5	8.0	Brown	150.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-10	67	3.5	10.0	Brown	171.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-11	66	4.0	7.0	Brown	94.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-12	68	4.0	8.5	Brown	93.0
854		(ICPX 060131-2-2 x ICPL 88039)-4-4-3-13	68	3.0	9.5	Brown	132.0
Progeny Mean			67.1		8.6		
SE			0.70		0.26		
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-2	67	4.0	8.0	Brown	88.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-3	67	3.5	9.0	Brown	131.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-4	72	4.0	8.5	Brown	62.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-5	66	3.5	9.5	Brown	39.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-6	71	5.0	NG	Brown	NG
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-7	63	3.0	8.5	Brown	160.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-8	69	3.5	10.5	Brown	89.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-9	64	3.5	7.5	Brown	123.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-10	70	3.0	8.5	Brown	206.0
856		(ICPX 060131-2-2 x ICPL 88039)-4-4-7-11	71	3.5	8.5	Brown	96.0

Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
		Progeny Mean	67.9		8.9		
		SE	0.88		0.31		
860	3	(ICPX 060131-2-2 x ICPL 88039)-4-6-4-1	68	3.5	8.5	Brown	179.0
860		(ICPX 060131-2-2 x ICPL 88039)-4-6-4-2	70	4.0	9.5	Brown	203.0
860		(ICPX 060131-2-2 x ICPL 88039)-4-6-4-3	69	3.5	8.5	Brown	193.7
		Progeny Mean	69.1		8.8		
		SE	0.57		0.33		
862	4	(ICPX 060131-2-2 x ICPL 88039)-4-6-6-1	64	3.5	9.5	Brown	171.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-2	68	3.5	7.5	Brown	138.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-3	66	3.0	7.0	Brown	156.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-4	71	4.0	7.3	Brown	161.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-5	71	3.5	9.5	Brown	216.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-6	71	3.5	7.5	Brown	150.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-7	57	4.0	7.6	Brown	176.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-8	71	3.5	7.5	Brown	202.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-9	56	4.0	8.5	Brown	142.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-10	65	4.0	7.0	Brown	130.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-11	69	3.5	7.5	Brown	87.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-12	68	4.0	6.5	Brown	133.0
862		(ICPX 060131-2-2 x ICPL 88039)-4-6-6-13	67	4.0	8.3	Brown	112.7
		Progeny Mean	66.45		7.80		
		SE	1.38		0.28		
863	5	(ICPX 060131-2-2 x ICPL 88039)-4-6-7-1	75	4.0	7.4	Brown	-
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-2	69	4.0	7.0	Brown	178.0

Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-3	69	4.0	8.0	Brown	189.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-4	63	3.5	8.0	Brown	240.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-5	73	4.0	9.0	Brown	153.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-6	67	4.5	7.5	Brown	192.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-7	65	3.5	7.0	Brown	174.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-8	65	4.0	6.5	Brown	114.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-9	71	3.5	7.0	Brown	181.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-10	66	4.5	7.5	Brown	82.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-11	71	3.5	10.0	Brown	193.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-12	67	3.5	8.5	Brown	157.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-13	64	4.0	9.0	Brown	130.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-14	62	3.5	7.5	Brown	168.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-15	64	4.0	8.0	Brown	88.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-16	67	4.0	8.5	Brown	135.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-17	63	4.0	7.0	Brown	150.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-18	62	3.5	7.7	Brown	198.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-19	69	3.5	8.0	Brown	231.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-20	66	3.5	7.5	Brown	208.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-21	68	3.5	7.5	Brown	193.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-22	66	3.5	7.0	Brown	193.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-23	64	3.5	7.5	Brown	185.0
863		(ICPX 060131-2-2 x ICPL 88039)-4-6-7-24	66	4.0	9.2	Brown	98.5
Progeny Mean			66.7		7.83		
SE			0.69		0.17		
864	6	(ICPX 060131-2-2 x ICPL 88039)-4-6-8-1	71	4.0	9.0	Brown	114.2
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-2	64	4.0	9.5	Brown	165.2
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-3	71	4.5	9.5	Brown	154.0



Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-4	69	4.0	8.0	Brown	175.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-5	71	4.0	7.5	Brown	172.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-6	73	3.5	7.0	Brown	268.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-7	64	3.0	7.0	Brown	167.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-8	68	3.5	7.0	Brown	238.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-9	69	3.0	7.0	Brown	165.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-10	68	3.5	7.0	Brown	131.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-11	67	3.5	6.7	Brown	193.0
864		(ICPX 060131-2-2 x ICPL 88039)-4-6-8-12	71	4.0	7.5	Brown	107.0
		Progeny Mean	68.83		7.73		
		SE	0.81		0.30		
875	7	(ICPX 060131-2-1 x ICPL 20229)-1-1-4-1	73	3.5	8.5	Brown	160.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-2	73	4.0	7.8	Brown	123.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-3	71	4.0	8.5	Brown	94.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-4	66	3.5	8.4	Brown	155.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-5	66	4.0	7.5	Brown	83.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-6	71	3.5	8.0	Brown	148.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-7	71	4.0	7.0	Brown	124.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-8	65	4.0	8.5	Brown	181.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-9	71	3.0	8.0	Brown	223.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-10	71	3.5	7.5	Brown	163.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-11	66	3.5	7.2	Brown	190.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-12	73	4.0	7.0	Brown	81.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-13	69	4.0	7.0	Brown	139.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-14	71	4.0	8.0	Brown	150.0
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-15	71	4.0	8.9	Brown	136.3

Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
875		(ICPX 060131-2-1 x ICPL 20229)-1-1-4-16	68	3.5	9.2	Brown	142.8
Progeny Mean			69.75		7.94		
SE			0.68		0.17		
879	8	(ICPX 060131-2-1 x ICPL 20229)-1-1-9-1	73	4.0	8.3	Brown	120.3
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-2	67	4.0	8.5	Brown	83.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-3	70	4.0	8.0	Brown	135.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-4	72	4.0	6.7	Brown	136.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-5	73	3.0	6.5	Brown	205.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-6	66	2.5	6.5	Brown	156.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-7	73	3.5	7.5	Brown	202.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-8	73	4.0	7.5	Brown	84.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-9	68	3.0	7.0	Brown	247.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-10	66	5.0	NG	Brown	NG
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-11	73	3.5	7.5	Brown	129.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-12	69	3.5	6.5	Brown	50.0
879		(ICPX 060131-2-1 x ICPL 20229)-1-1-9-13	66	3.0	8.5	Brown	193.0
Progeny Mean			69.9		7.42		
SE			0.84		0.23		
886	9	(ICPX 060131-2-1 x ICPL 20229)-2-6-3-1	73	3.5	7.5	Brown	146.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-2	72	3.5	7.0	Brown	98.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-3	73	3.0	7.0	Brown	156.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-4	69	3.5	6.0	Brown	186.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-5	69	2.5	7.3	Brown	226.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-6	74	2.5	6.5	Brown	229.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-7	72	3.5	6.6	Brown	180.0

Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-8	71	3.5	7.0	Brown	177.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-9	74	3.5	7.0	Brown	123.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-10	74	3.5	7.5	Brown	130.0
886		(ICPX 060131-2-1 x ICPL 20229)-2-6-3-11	73	3.5	7.5	Brown	125.0
Progeny Mean			72.1		6.99		
SE			0.55		0.14		
887	10	(ICPX 060131-2-1 x ICPL 20229)-2-7-4-1	73	3.0	7.6	Brown	151.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-2	66	3.5	8.5	Brown	179.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-3	62	3.0	8.5	Brown	206.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-4	62	3.0	7.5	Brown	208.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-5	63	3.0	7.6	Brown	246.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-6	65	2.5	7.5	Brown	231.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-7	65	3.0	7.0	Brown	254.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-8	65	1.5	7.5	Brown	297.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-9	73	3.0	8.5	Brown	208.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-10	72	3.0	8.0	Brown	261.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-11	67	4.0	7.8	Brown	184.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-12	68	3.5	7.9	Brown	170.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-13	65	3.0	5.9	Brown	274.5
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-14	70	3.0	8.8	Brown	100.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-15	71	3.0	8.5	Brown	252.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-16	66	2.5	7.5	Brown	153.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-17	69	3.0	6.5	Brown	205.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-18	73	3.5	8.0	Brown	151.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-19	69	3.0	9.5	Brown	136.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-20	71	3.0	8.5	Brown	269.0

Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-21	68	3.5	7.5	Brown	324.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-22	64	3.0	7.5	Brown	208.0
887		(ICPX 060131-2-1 x ICPL 20229)-2-7-4-23	71	3.5	8.5	Brown	207.0
Progeny Mean			67.7		7.85		
SE			0.74		0.16		
889	11	(ICPX 060131-2-1 x ICPL 20229)-2-9-2-1	71	2.5	7.5	Brown	213.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-2	71	3.5	7.5	Brown	131.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-3	73	3.5	7.5	Brown	137.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-4	69	3.5	8.1	Brown	95.8
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-5	71	4.0	8.5	Brown	77.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-6	69	2.5	7.5	Brown	135.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-7	74	4.0	8.1	Brown	149.5
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-8	71	4.0	7.6	Brown	115.2
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-9	69	3.5	6.5	Brown	155.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-10	72	3.5	7.0	Brown	163.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-11	69	3.5	7.0	Brown	107.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-12	73	3.5	6.0	Brown	122.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-13	73	3.5	6.5	Brown	165.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-14	73	3.5	6.5	Brown	138.0
889		(ICPX 060131-2-1 x ICPL 20229)-2-9-2-15	69	2.5	7.0	Brown	125.0
Progeny Mean			71.1		7.25		
SE			0.46		0.18		
890	12	(ICPX 060131-2-1 x ICPL 20229)-3-10-3-1	73	4.0		Brown	
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-2	74	4.0	9.8	Brown	30.0
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-3	71	2.5	9.5	Brown	90.8
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-4	73	3.5	9.7	Brown	91.4
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-5	71	3.0	8.2	Brown	50.3
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-6	70	3.0	-	Brown	-

Plot no	Progeny selected	Entry name	Days to flowering	Visual selection* scores at maturity	100-seed mass (g)	Seed coat color	Self Seed qty. (g)
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-7	71	3.0	-	Brown	-
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-8	74	3.0	8.7	Brown	90.9
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-9	74	3.0	8.6	Brown	115.0
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-10	73	3.0	10.5	Brown	70.0
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-11	71	3.5	8.5	Brown	100.0
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-12	71	3.5	9.2	Brown	121.9
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-13	74	2.5	9.3	Brown	66.9
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-14	74	2.0	8.6	Brown	135.3
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-15	74	3.5	9.0	Brown	96.4
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-16	74	3.5	10.1	Brown	70.9
890		(ICPX 060131-2-1 x ICPL 20229)-3-10-3-17	75	3.5	8.6	Brown	45.0
Progeny Mean			72.7		9.16		
SE			0.37		0.18		

**Table 26. Single plant selections made in super early, non-determinate cleistogamous pigeonpea lines at Patancheru, 2012**

Plot no	Entry name	Days to 50 % flowering	Visual selection* score at maturity	100-seed mass (g)	Seed color	Self Seed qty. (g)
731	(ICPX 060131-5-2-1-2 x ICPX 060016-17-4-3)-B*-3*-1	62	2.0	8.8	Brown	76.7
731	(ICPX 060131-5-2-1-2 x ICPX 060016-17-4-3)-B*-3*-2	62	2.5	7.5	Brown	134.0
731	(ICPX 060131-5-2-1-2 x ICPX 060016-17-4-3)-B*-3*-3	56	3.0	7.5	Brown	104.0
731	(ICPX 060131-5-2-1-2 x ICPX 060016-17-4-3)-B*-3*-4	59	3.0	8.5	Brown	123.0
731	(ICPX 060131-5-2-1-2 x ICPX 060016-17-4-3)-B*-3*-5	64	2.5	9.5	Brown	126.0
731	(ICPX 060131-5-2-1-2 x ICPX 060016-17-4-3)-B*-3*-6	56	2.5	7.5	Brown	142.5
731	(ICPX 060131-5-2-1-2 x ICPX 060016-17-4-3)-B*-3*-7	59	1.0	7.0	Brown	167.0
	Progeny Mean	59.7		8.04		
	SE	1.16		0.34		
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-1	62	1.5	5.5	Brown	174.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-2	67	4.0	6.5	Brown	68.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-3	65	3.5	6.0	Brown	110.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-4	58	3.5	5.0	Brown	97.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-5	59	-	NG	-	-
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-6	70	3.0	7.3	Brown	211.8
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-7	63	3.5	7.1	Brown	76.8
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-8	60	2.5	6.7	Brown	173.9
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-9	64	3.0	5.6	Brown	15.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-10	63	3.5	7.0	Brown	93.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-11	64	2.5	7.0	Brown	226.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-12	64	4.0	6.5	Brown	94.0
752	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4)-B*-2*-13	61	2.0	7.0	Brown	288.0
	Progeny Mean	63.07		6.43		
	SE	0.90		0.21		

Plot no	Entry name	Days to 50 % flowering	Visual selection* score at maturity	100-seed mass (g)	Seed color	Self Seed qty. (g)
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-1	71	3.0	7.5	Brown	81.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-2	70	3.5	6.5	Brown	104.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-3	69	4.0	9.5	Brown	73.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-4	64	3.0	7.0	Brown	110.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-5	66	3.5	7.5	Brown	103.5
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-6	68	4.0	7.3	Cream	46.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-7	57	4.0	6.7	Cream	28.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-8	60	4.0	7.4	Cream	56.3
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-9	NG	NG	NG	NG	NG
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-10	61	3.5	7.0	Brown	37.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-11	67	3.5	6.9	Cream	142.8
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-12	70	3.5	6.9	Brown	104.0
775	(ICPX 060131-5-3-10-2 x ICPX 060016-17-4-3)-B*-2*-13	70	2.5	6.8	Brown	180.0
	Progeny Mean	65.4		7.25		
	SE	1.40		0.22		

**Table 27. Selections made in cleistogamous x super-early F<sub>2</sub> lines at Patancheru, 2012**

Plot no	Pedigree	Plant stand	Cleisto flower	Normal flower	Selection/ Rejection	REMARKS
801	(ICPX 060131-5-3-3-1 x ICPX 060077-8-1)-B*	82	17	65		
802	(ICPX 060131-5-3-3-2 x ICPX 060016-17-4-3)-B*	56	5	51		
803	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4-)-B*	37	10	27	Y	Select 4 plants with df < 55
804	(ICPX 060132-3-1-2-2 x ICPX 060016-17-4-3)-B*	22	1	21		
805	(ICPX 060132-8-1-2-2 x ICPX 060016-17-4-3)-B*	176	35	141		

**Selected plants:**

Plot no	Pedigree	Days to flowering	100-seed mass (g)	Seed coat color	Self Seed qty. (g)	REMARKS
803	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4-)-B*-1	55	6.0	Brown	3.0	
803	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4-)-B*-2	53	8.5	Brown	24.5	
803	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4-)-B*-3	55	6.2	Brown	11.0	Shrivelled seed
803	(ICPX 060131-5-3-3-3 x ICPX 060077-7-4-4-)-B*-4	55	8.2	Brown	20.5	



**Table 28. Details of crop management package for achieving high productivity of pigeonpea**

Name of trial	Variety	Treatments	Area (ha)	Fertilizer / Manure		
				SSP (bags)	ZnSO <sub>4</sub> (kg)	Neemplus (bags)
Variety Evaluation	ICPL 88039, Pusa 992	*RDF / RDM	80	40	400	40
Integrated Nutrient Management	ICPL 88039	ZnSO <sub>4</sub>	30	15	300	-
		Sulphur / Neemcake	30	15	-	-
		Foliar spray (2% Urea)	30	15	-	-
Integrated Pest Management	ICPL 88039	Acephate @ 2 kg/ha	30	15	-	-
		NSKE (10%)	60	-	-	30
FPSP	ICPL 88039, Pusa 992, UPAS 120, ASJ 105	RDF / RDM	77	-	-	30
	Total		337	100	700	100

**Table 29. Summary table of yield based on crop management package during *Kharif* 2012**

<b>S.No</b>	<b>Name of the Trial</b>	<b>Variety</b>	<b>Treatments</b>	<b>Village</b>	<b>Area (ha)</b>	<b>Range of Yield (kg/ha)</b>	<b>Yield (kg/ha)</b>
I	Variety Evaluation	ICPL 88039	*RDF / RDM	Padasoli	50	1000-1625	1217
II	Integrated Nutrient Management	ICPL 88039	ZnSO <sub>4</sub>	Padasoli	20	710-1100	878
			Sulphur / Neem cake	Padasoli	20	750-1250	967
			Foliar spray (2% Urea)	Padasoli	20	680-1200	883
III	Integrated Pest Management	ICPL 88039	Acephate @ 2 kg/ha	Padasoli	30	600-1440	1004
			NSKE (10%)	Padasoli	15	1420-1900	1629
IV	FPSP	ICPL 88039	RDF / RDM	Padasoli, Lalwas	57	660-1800	1238
				Sarpanch ki Dhani	212	600-1900	1119

**Table 30. Evaluation of F<sub>1</sub> hybrids for fertility restoration**

Sl. No	Cross	F <sub>1</sub> seeds	No. of Plants			BC <sub>1</sub> F <sub>1</sub> seeds
			Total	Sterile	Sterility %	
1	ICPA 2156 x ICPX 060024-7-6-4-9-12*-10*	60	25	25	100	50
2	ICPA 2156 x ICPL 20338	60	25	25	100	106
3	ICPA 2156 x ICPX 060026- 2-1-5-6-2*	62	25	25	100	107
4	ICPA 2156 x ICPL 2011247	60	25	25	100	138
5	ICPA 2156 x ICPL 20325	64	25	25	100	94
6	ICPA 2156 x ICPL 20339	62	25	25	100	100
7	ICPA 2156 x ICPX 060036-12-2-1-2-18*	63	25	25	100	32
8	ICPA 2156 x ICPX 060063-8-9-9-1-7*	64	25	25	100	77
9	ICPA 2156 x ICPX 060064-1-4-8-26*	62	25	25	100	75
10	ICPA 2156 x ICPX 060077-6-9-16-4-13*	65	25	25	100	58
11	ICPA 2156 x ICPL 20330	67	25	25	100	155
12	ICPA 2156 x ICPX 070168-8-1-15-5-12*	68	25	25	100	86

**Table 31. Crosses made with the known restorer ICPL 87119 to study the fertility restoration**

Sl. No	Cross	Seeds
1	(ICPA 2156 x ICPX 060026- 2-1-5-6-2*) x ICPL 87119	25
2	(ICPA 2156 x ICPL 2011247) x ICPL 87119	42
3	(ICPA 2156 x ICPL 20325) x ICPL 87119	36
4	(ICPA 2156 x ICPX 060064-1-4-8-26*) x ICPL 87119	55
5	(ICPA 2156 x ICPX 070168-8-1-15-5-12*) x ICPL 87119	23

**Table 32. List of testers sown for crossing with CMS lines**

Sl. No.	Tester	S.N.	Tester
1	ICPL 88039	11	ICPL 98011
2	ICPL 86022	12	ICPL 20215
3	ICPL 88034	13	ICPX 100001
4	ICPL 90048	14	ICPL 92043
5	ICPL 149	15	ICPL 161
6	ICPL 81-3	16	ICPL 20333
7	ICPL 90030	17	ICPL 20334
8	ICPL 90034	18	PAU-881
9	ICPL 90040	19	PUSA 992
10	ICPL 93106	20	AL-201

**Table 33. List of hybrid trials grown at ARS, Durgapura during 2012**

Trial name	Test entries	Controls	Replications	Spacing (cm)	Rows/plot	Sowing date
Hybrid trial-I	10	2	2	60x 30	4	11-Jul
Hybrid trial-II	10	2	2	60x 30	4	11-Jul
Hybrid trial-III	10	2	2	60 x 30	4	11-Jul
State hybrid trial -I	10	1	3	60x 30	4	12-Jul
State hybrid trial -II	10	1	3	60x 30	4	12-Jul
State advanced hybrid trial -I	10	1	3	60x 30	4	12-Jul
State advanced hybrid trial -II	10	1	3	60x 30	4	12-Jul

**Table 34. Performance of short duration pigeonpea hybrids at Patancheru, 2012**

Hybrid	Days to		Plant height	Seed /pod	100-seed mass (g)	Plant stand	Fertility %	Grain yield (kg/ha)	seed/c olor	Superiority (%) over			(%) Disease incidence	
	flower	mature								C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	Wilt	SM
ICPH 2438	76	122	180	3.9	9.2	42	100	1544	B	0.2	14	31	100	0
ICPH 2441	72	114	185	4.2	8.6	45	100	1388	B	-10	3	18	100	0
ICPH 2364	70	114	175	3.9	8.9	44	100	1373	B	-11	2	16	50	50
ICPH 2429	74	120	185	4.0	8.9	46	100	1366	B	-11	1	16	100	0
ICPH 2447	72	114	170	4.0	9.8	44	100	1295	B	-16	-4	10	100	0
ICPH 2433	80	128	195	3.9	9.2	48	100	1214	B	-21	-10	3	100	0
ICPH 2431	80	128	190	3.9	9.0	41	100	1189	B	-23	-12	1	100	0
ICPH 3310	70	112	175	3.7	8.8	40	100	1162	B	-25	-14	-2	100	0
ICPH 2363	76	120	195	3.9	10.8	46	100	1038	B	-33	-23	-12	67	33
UPAS 120 (C <sub>1</sub> )	86	129	185	3.8	9.8	42	-	1541	B	-	-	-	0	67
ICPL 161 (C <sub>2</sub> )	78	122	175	4.0	7.9	42	-	1349	B	-	-	-	75	25
ICPL 88039 (C <sub>3</sub> )	61	105	155	3.8	8.8	44	-	1181	B	-	-	-	80	20
SEm ±	± 1.0	± 1.4	± 5.3	± 0.13	± 0.26	± 3.1	-	± 176.3	-	-	-	-	-	-
Mean	74.5	119.2	180.4	3.90	9.16	43.7	-	1303.4	-	-	-	-	-	-
CV(%)	2.0	1.7	4.1	4.89	3.98	10.1	-	19.1	-	-	-	-	-	-

## FIGURES



**Figure 1. Training program on pigeonpea production conducted at ARS, Durgapura (Rajasthan)**



**Figure 2. Interaction with the farmers of Padasoli, Jaipur district during the visit of DR KB Saxena, Principal Investigator of the project, ICRISAT, Patancheru**



**Figure 3. Farmers' Field Day conducted at Padasoli, Jaipur district, Rajasthan**



**Figure 4. Field visit along with Padasoli farmers during Field Day**



**Figure 5. Waterlogging in a farmers' field in Karauli district**



**Figure 6. Crop lost due to waterlogging in a farmers' field in Karauli district**



**Figure 7. Spraying at pod filling stage at Padasoli village, Jaipur district**



**Figure 8. An excellent pigeonpea seed production plot at Lalwas, Jaipur district**



**Figure 9. Cleistogamous flower structure**



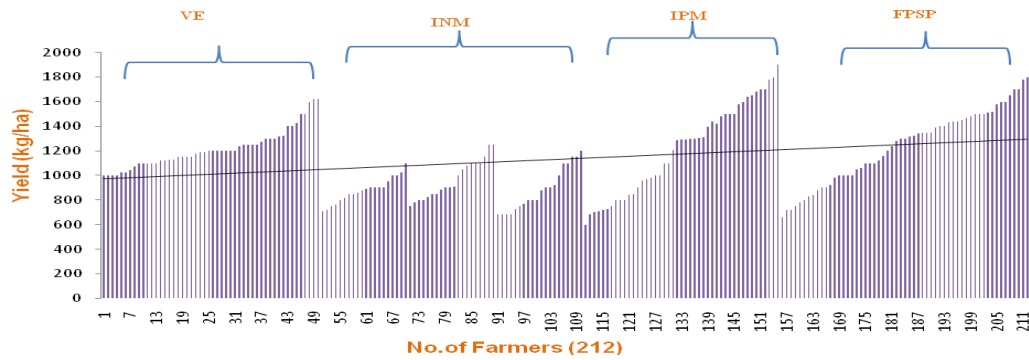


Figure 10. Yield range based on different nutrient management package at Jaipur district during 2012 cropping season



Figure 11. Drs. SJ Singh and Shrikant Sawargaonkar discussing about pigeonpea production with farmers at Jaipur



Figure 12. An item on cultivation of pigeonpea in rainfed regions of Rajasthan was published in a daily newspaper, 2 September 2012



Figure 13. Dr KB Saxena, Principal Scientist, ICRISAT addressing the Villagers at Padasoli, Jaipur during the inaugural function of Mini-dal mill



Fig 14. The 'Rajasthan patrika' covered the news of Mini-dal mill inaugural function



**Figure 15. Seed lifting by Local Private Seed Company at Padasoli village of Jaipur district**

## ANNEXURES

### ANNEXURE – I

#### I. Comparison of monsoon rainfall 2012 received at district headquarter and on district average basis in Rajasthan

S.No.	District	District Average Basis			District H.Q. Basis		
		Normal (mm)	Actual (mm)	Deviation %	Normal (mm)	Actual (mm)	Deviation %
1	Bikaner	228.7	288.9	26	228.7	296.0	29
2	Churu	313.7	376.4	20	313.7	372.0	19
3	Sri Gangasagar	201.4	225.4	12	201.4	284.0	41
4	Hamangarth	252.5	247.4	-2	252.5	176.0	-30
5	Barmer	243.4	224.0	-8	243.4	258.0	6
6	Jaisalmer	158.4	211.0	33	158.4	186.0	17
7	Jalore	394.2	307.0	-22	394.2	194.2	-51
8	Jodhpur	274.5	334.2	22	274.5	447.0	63
9	Pali	446.7	542.2	21	446.7	296.0	-34
10	Sirohi	868.6	689.5	-21	868.6	741.8	-15
11	Ajmer	429.6	591.6	38	429.6	568.4	32
12	Bhilwara	580.9	614.6	6	580.9	597.0	3
13	Nagaur	348.5	473.6	36	348.5	388.0	11
14	Tonk	566.0	598.1	6	566.0	673.0	19
15	Bharatpur	557.6	682.0	22	557.6	785.0	41
16	Dholpur	650.0	776.7	19	650.0	705.0	8
17	Karauli	637.4	771.1	21	637.4	567.1	-11
18	Sawai Modhopur	664.0	629.8	-5	664.0	661.0	0
19	Alwar	555.3	606.8	9	555.3	1013.0	82
20	Dausa	612.1	809.8	32	612.1	608.0	-1
21	Jaipur	524.6	598.5	14	524.6	1074.0	105
22	Jomjhumu	410.0	477.0	16	410.0	389.0	-5
23	Sikar	402.5	631.4	57	402.5	765.0	90
24	Baran	792.2	748.5	-6	792.2	736.0	-7
25	Bundi	655.9	591.9	-10	655.9	716.0	9
26	Jhalwar	855.1	736.3	-14	855.1	635.0	-26
27	Kota	746.3	638.2	-14	746.3	591.0	-21
28	Banswara	831.8	1156.9	39	831.8	1300.0	56
29	Chittorgarh	709.7	790.0	11	709.7	789.5	11

**II. Comparison of rainfall received in district headquarters of Rajasthan during 2011 and 2012**

Division	Year 2011				Year 2012			
	No. of Tehsils/ sub Tehsis Stations	Normal Average Rainfall (mm)	Average of Total R.F. data (mm)	% age deviation	No. of Tehsils/ sub Tehsis, Water Resources & IMD Stations	Normal Average Rainfall (mm)	Average of Total R.F. data (mm)	% age deviation
Bikaner	30	249.1	385.9	55	33	249.1	279.4	12
Jodhpur	44	397.6	575.3	45	93	397.6	432.2	9
Ajmer	63	481.1	655.9	36	101	481.0	589.2	22
Bharatpur	29	627.3	697.4	11	67	627.3	704.2	12
Jaipur	52	500.9	624.6	25	77	500.9	630.5	26
Kota	33	762.4	1243.5	63	61	762.4	684.9	-10
Udaipur	60	687.1	957.3	39	103	687.1	816.6	19
Whole Rajasthan	311	530.1	737.6	39	535	530.1	617.9	17

### III. Weather data recorded at ICRISAT, Patancheru during 2012

Month	Rain (mm)	Evap (mm)	Max Temp (°C)	Min Temp (°C)	Rel Humidity 1at 07:17(%)	Rel Humidity 2at 14:17(%)	Wind velocity (in Kmph)	Solar Radiation (in mj/m <sup>2</sup> )	Bright Sunshine (Hrs)
Jan	0.0	157.4	29.9	15.03	83.48	38.54	6.44	15.78	8.33
Feb	0.0	198.6	32.9	15.69	79.44	32.06	6.36	18.44	9.47
Mar	0.0	283.4	36.5	17.58	68.19	22.32	5.82	20.66	9.37
April	17.4	263.8	37.4	22.84	68.66	29.1	7.5	18.88	7.7
May	2.79	397.9	40.0	25.45	49.87	21.93	8.95	21.12	8.79
June	280.7	277.6	34.7	24.17	72.26	45.56	12.89	16.91	5.45
July	199.1	139.4	30.1	22.04	88.58	65.54	11.65	13.51	3.01
Aug	94.7	125.4	29.6	21.82	89.61	68.16	9.73	15.44	4.86
Sept	58.3	116.7	29.7	21.67	93.06	65.7	6.76	16.59	5.34
Oct	73.7	133.7	30.4	17.99	92.51	50.67	3.85	16.61	6.89
Nov	38.2	103.1	28.7	15.79	94.79	51.43	3.77	14.12	6.43
Dec	0.0	123.2	29.8	13.67	91.77	39.12	4.47	15.24	8.62
Total	765.2								

## ANNEXURE – II

**I. Pigeonpea on-farm varietal trials conducted during Kharif 2012 in villages of Jaipur District****1. Padasoli**

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
1	Smt.Bhaonri Devi W/O Shri Ramu Meena	Padasoli, Bassi, Jaipur	25	25	5	1200
2	Ramvatar S/O Shri Ram Ji Lal Meena	Padasoli, Bassi, Jaipur	25	25	5	1400
3	Ramji Lal Meena S/O Shri Jhula Lal Meena	Padasoli, Bassi, Jaipur	25	25	5	1400
4	Ramesh S/O Shri Ramji Lal Meena	Padasoli, Bassi, Jaipur	25	25	5	1300
5	Shyo Narayan S/O Shri Ram Niwas Meena	Padasoli, Bassi, Jaipur	25	25	5	1500
6	Ramesh S/O Shri Badri Narayan Meena	Padasoli, Bassi, Jaipur	25	25	5	1125
7	Hanuman S/O Shri Badri Narayan Meena	Padasoli, Bassi, Jaipur	25	25	5	1175
8	Azad S/O Shri Ramesh Sharma	Padasoli, Bassi, Jaipur	25	25	5	1075
9	Narayan S/O Shri Ram Sahay	Padasoli, Bassi, Jaipur	25	25	5	1025
10	Prabhat S/O Shri Chotu Ram Meena	Padasoli, Bassi, Jaipur	25	25	5	1100
11	Chotu S/O Shri Prabhat	Padasoli, Bassi, Jaipur	25	25	5	1100
12	Kalu S/O Shri Mangi Lal Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1275
13	Raghuveer S/O Shri Mangi Lal Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1300
14	Vishram S/O Shri Mangi Lal Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1325
15	Siya Ram S/O Shri Choth Mal Sharma	Padasoli, Bassi, Jaipur	25	25	5	1200
16	Chothmal S/O Shri Narayan Sharma	Padasoli, Bassi, Jaipur	25	25	5	1125
17	Saroj S/O Shri Siya Ram Sharma	Padasoli, Bassi, Jaipur	25	25	5	1025
18	Kailash S/O Shri Narayan Sharma	Padasoli, Bassi, Jaipur	25	25	5	1250
19	Chiranji Lal S/O Shri Laxami Naran	Padasoli, Bassi, Jaipur	25	25	5	1150
20	Ramji Lal Meena S/O Shri Kalyan	Padasoli, Bassi, Jaipur	25	25	5	1000
21	Sedu S/O Shri Ganesh Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1250
22	Ratan S/O Shri Sedu Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1320

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
23	Ramvatar S/O Shri Sedu Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1190
24	Vikram S/O Shri Ratan Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1240
25	Ramyati S/O Shri Ratan Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1300
26	Babulal S/O Shri Rameshwar Sharma	Padasoli, Bassi, Jaipur	25	25	5	1425
27	Gyarasi Lal S/O Shri Suraj Mal Sharma	Padasoli, Bassi, Jaipur	25	25	5	1625
28	Kalu S/O Shri Gyarasi Lal Sharma	Padasoli, Bassi, Jaipur	25	25	5	1600
29	Jagdish S/O Shri Gyarasi Lal Sharma	Padasoli, Bassi, Jaipur	25	25	5	1625
30	Sunil S/O Shri Gyarasi Lal Sharma	Padasoli, Bassi, Jaipur	25	25	5	1500
31	Lucky S/O Shri Jagdish	Padasoli, Bassi, Jaipur	25	25	5	1200
32	Mohan Lal S/O Shri Radhyshyam Sharma	Padasoli, Bassi, Jaipur	25	25	5	1150
33	Ram Singh S/O Shri Govind Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1100
34	Nahanu S/O Shri Chotu	Padasoli, Bassi, Jaipur	25	25	5	1250
35	Gokul S/O Shri Narayan	Padasoli, Bassi, Jaipur	25	25	5	1200
36	Rameshwar S/O Shri Babu Ram Sharma	Padasoli, Bassi, Jaipur	25	25	5	1150
37	Ram Ji Lal S/O Shri Babu Ram Sharma	Padasoli, Bassi, Jaipur	25	25	5	1100
38	Dev Narayan S/O Shri Gyarasi Lal	Padasoli, Bassi, Jaipur	25	25	5	1000
39	Shyam Sunder S/O Shri Prahlad Sharma	Padasoli, Bassi, Jaipur	25	25	5	1000
40	Ramesh S/O Shri Kalyan	Padasoli, Bassi, Jaipur	25	25	5	1120
41	Badri S/O Shri Prabhat	Padasoli, Bassi, Jaipur	25	25	5	1120
42	Jagdish S/O Shri Bhouri Lal	Padasoli, Bassi, Jaipur	25	25	5	1200
43	Ramkishor S/O Shri Ramanand Sharma	Padasoli, Bassi, Jaipur	25	25	5	1040
44	Ramkishor S/O Shri Paras Ram Sharma	Padasoli, Bassi, Jaipur	25	25	5	1200
45	Kanaram S/O Shri Ram Nath Meena	Padasoli, Bassi, Jaipur	25	25	5	1150
46	Suja Ram S/O Shri Shyo Narayan	Padasoli, Bassi, Jaipur	25	25	5	1200
47	Kajod S/O Shri Bhagwan Sahay	Padasoli, Bassi,	25	25	5	1190



S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
48	Gurjar Girraj S/O Shri Bhagwan Sahay Gurjar	Jaipur Padasoli, Bassi, Jaipur	25	25	5	1250
49	Surgyan S/O Shri Babulal Gurjar	Padasoli, Bassi, Jaipur	25	25	5	1100
50	Jagdish S/O Shri Ram Sahay Meena	Padasoli, Bassi, Jaipur	25	25	5	1000
51	Roshan Lal S/O Shri Ram Ji Lal Meena	Padasoli, Bassi, Jaipur	0	25	10	1100
52	Chitar S/O Shri Kalyan Meena	Padasoli, Bassi, Jaipur	0	25	10	950
53	Pachu Ram S/O Shri Kalyan Meena	Padasoli, Bassi, Jaipur	0	25	10	1000
54	Mangi Lal S/O Shri Laxaman Meena	Padasoli, Bassi, Jaipur	0	25	10	900
55	Girraj S/O Shri Rameshwar Prasad	Padasoli, Bassi, Jaipur	0	25	10	1025
56	Kailash S/O Shri Rameshwar Meena	Padasoli, Bassi, Jaipur	0	25	10	880
57	Ram Dayal Meena S/O Shri Kalyan Meena	Padasoli, Bassi, Jaipur	0	25	10	850
58	Nathu S/O Shri Raghu Nath Meena	Padasoli, Bassi, Jaipur	0	25	10	850
59	Ashok S/O Shri Madhu Lal Meena	Padasoli, Bassi, Jaipur	0	25	10	820
60	Ramdhan S/O Shri Laxaman Meena	Padasoli, Bassi, Jaipur	0	25	10	800
61	Ram Karan S/O Shri Prabhat	Padasoli, Bassi, Jaipur	0	25	10	900
62	Rameshwar S/O Shri Revad Meena	Padasoli, Bassi, Jaipur	0	25	10	900
63	Mahesh S/O Shri Ram Narayan Meena	Padasoli, Bassi, Jaipur	0	25	10	750
64	Gopi S/O Shri Ram Narayan Meena	Padasoli, Bassi, Jaipur	0	25	10	1000
65	Nand Lal S/O Shri Ram Dhan	Padasoli, Bassi, Jaipur	0	25	10	860
66	Tej Pal S/O Shri Ramla Meena	Padasoli, Bassi, Jaipur	0	25	10	900
67	Ram Phool S/O Shri Ram Chand Meena	Padasoli, Bassi, Jaipur	0	25	10	890
68	Deen Dayal S/O Shri Bihari Lal Sain	Padasoli, Bassi, Jaipur	0	25	10	720
69	Mukesh S/O Shri Ghasi Sharma	Padasoli, Bassi, Jaipur	0	25	10	760
70	Prakash S/O Shri Ramu Bairawa	Padasoli, Bassi, Jaipur	0	25	10	710
71	Badri S/O Shri Johari Lal	Padasoli, Bassi, Jaipur	0	25	0	825

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
72	Ramesh S/O Shri Badri Narayan	Padasoli, Bassi, Jaipur	0	25	0	850
73	Smt. Arati W/O Shri Ramesh	Padasoli, Bassi, Jaipur	0	25	0	885
74	Guru Adhar S/O Shri Chotu Lal Meena	Padasoli, Bassi, Jaipur	0	25	0	900
75	Kailash S/O Shri Chotu Lal Meena	Padasoli, Bassi, Jaipur	0	25	0	800
76	Smt. Lali W/O Shri Kailash	Padasoli, Bassi, Jaipur	0	25	0	910
77	Smt. Bhagwati W/O Shri Guru Adhar	Padasoli, Bassi, Jaipur	0	25	0	1000
78	Tara Chand S/O Shri Kailash	Padasoli, Bassi, Jaipur	0	25	0	1100
79	Ram Ji Lal S/O Shri Harchanda	Padasoli, Bassi, Jaipur	0	25	0	1080
80	Sanvar Mal S/O Shri Ram Ji Lal	Padasoli, Bassi, Jaipur	0	25	0	1100
81	Om Prakash S/O Shri Jagan Sharma	Padasoli, Bassi, Jaipur	0	25	0	1250
82	Ram Karan S/O Shri Bhagwan Sahay	Padasoli, Bassi, Jaipur	0	25	0	1050
83	Balram S/O Shri Kalu Sharma	Padasoli, Bassi, Jaipur	0	25	0	1100
84	Kishan S/O Shri Kalu	Padasoli, Bassi, Jaipur	0	25	0	1250
85	Smt. Godavari Devi W/O Shri Kalu	Padasoli, Bassi, Jaipur	0	25	0	1150
86	Akshay S/O Shri Kishan	Padasoli, Bassi, Jaipur	0	25	0	900
87	Ram Jeet S/O Shri Kanhaiya Lal	Padasoli, Bassi, Jaipur	0	25	0	800
88	Kishan S/O Shri Ram Pratap	Padasoli, Bassi, Jaipur	0	25	0	850
89	Jay Ram S/O Shri Ram Pratap	Padasoli, Bassi, Jaipur	0	25	0	780
90	Prabhu S/O Shri Ram Pratap	Padasoli, Bassi, Jaipur	0	25	0	750
91	Ladu S/O Shri Ram Pratap	Padasoli, Bassi, Jaipur	0	25	0	1000
92	Ram Karan S/O Shri Kalyan	Padasoli, Bassi, Jaipur	0	25	0	920
93	Roshan S/O Shri Ladu	Padasoli, Bassi, Jaipur	0	25	0	900
94	Guru Prasad S/O Shri Ranjeet	Padasoli, Bassi, Jaipur	0	25	0	880
95	Ram Chandra S/O Shri Kishan	Padasoli, Bassi, Jaipur	0	25	0	900
96	Ashok S/O Shri Jai Ram	Padasoli, Bassi,	0	25	0	680

S.N o.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
		Jaipur				
97	Golu S/O Shri Roshan	Padasoli, Bassi, Jaipur	0	25	0	770
98	Billa S/O Shri Prabhu	Padasoli, Bassi, Jaipur	0	25	0	680
99	Smt. Kani W/O Shri Ranjeet	Padasoli, Bassi, Jaipur	0	25	0	680
100	Smt. Kamali W/O Shri Jai Ram	Padasoli, Bassi, Jaipur	0	25	0	800
101	Smt. Manbhari W/O Shri Kishan	Padasoli, Bassi, Jaipur	0	25	0	750
102	Babu S/O Shri Bhagwan Gupta	Padasoli, Bassi, Jaipur	0	25	0	800
103	Ramvatar S/O Shri Chiranji Lal	Padasoli, Bassi, Jaipur	0	25	0	680
104	Ram Babu S/O Shri Chiranji Lal	Padasoli, Bassi, Jaipur	0	25	0	725
105	Ram Dayal S/O Shri Madho Sharma	Padasoli, Bassi, Jaipur	0	25	0	800
106	Ram Gopal S/O Shri Madho Sharma	Padasoli, Bassi, Jaipur	0	25	0	1150
107	Jagdish S/O Shri Kanhaiya	Padasoli, Bassi, Jaipur	0	25	0	1150
108	Shrawan S/O Shri Kanhaiya	Padasoli, Bassi, Jaipur	0	25	0	1100
109	Hanumana S/O Shri Amar Chand	Padasoli, Bassi, Jaipur	0	25	0	1200
110	Ram Ratan S/O Shri Hanuman	Padasoli, Bassi, Jaipur	0	25	0	1100
111	Nanag S/O Shri Chittar Mali	Padasoli, Bassi, Jaipur	0	25	0	800
112	Bhairu S/O Shri Nahanu Mali	Padasoli, Bassi, Jaipur	0	25	0	800
113	Jai Ram S/O Shri Shrawan	Padasoli, Bassi, Jaipur	0	25	0	720
114	Ramesh S/O Shri Prabhat	Padasoli, Bassi, Jaipur	0	25	0	800
115	Kushal S/O Shri Ram Narayan	Padasoli, Bassi, Jaipur	0	25	0	700
116	Mukesh S/O Shri Ram Lal	Padasoli, Bassi, Jaipur	0	25	0	750
117	Shankar S/O Shri Nanaga	Padasoli, Bassi, Jaipur	0	25	0	600
118	Girraj S/O Shri Kailash Bairawa	Padasoli, Bassi, Jaipur	0	25	0	680
119	Ram Charan S/O Shri Kailash Bairawa	Padasoli, Bassi, Jaipur	0	25	0	710
120	Ram Kalyan S/O Shri Damodar Sharma	Padasoli, Bassi, Jaipur	0	25	0	725

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
121	Murari S/O Shri Damodar Sharma	Padasoli, Bassi, Jaipur	0	25	0	1300
122	Om Prakash S/O Shri Damodar Sharma	Padasoli, Bassi, Jaipur	0	25	0	1310
123	Kedar S/O Shri Damodar Sharma	Padasoli, Bassi, Jaipur	0	25	0	1295
124	Ashok S/O Shri Ram Kalyan	Padasoli, Bassi, Jaipur	0	25	0	1305
125	Santosh S/O Shri Ram Kalyan	Padasoli, Bassi, Jaipur	0	25	0	1300
126	Dinesh S/O Shri Murari	Padasoli, Bassi, Jaipur	0	25	0	1285
127	Bhola S/O Shri Murari	Padasoli, Bassi, Jaipur	0	25	0	1290
128	Ram Karan S/O Shri Gyarasi Lal Gurjar	Padasoli, Bassi, Jaipur	0	25	0	1210
129	Gyarasi Lal S/O Shri Chotu	Padasoli, Bassi, Jaipur	0	25	0	1440
130	Durga Prasad S/O Shri Gyarasi Lal	Padasoli, Bassi, Jaipur	0	25	0	1395
131	Durga Lal S/O Shri Kailash Bairawa	Padasoli, Bassi, Jaipur	0	25	0	980
132	Bhagwan Sahay S/O Shri Pachu Ram	Padasoli, Bassi, Jaipur	0	25	0	1000
133	Ram Kumar S/O Shri Panchu Ram Meena	Padasoli, Bassi, Jaipur	0	25	0	1100
134	Duji Prasad S/O Shri Panchu Ram Meena	Padasoli, Bassi, Jaipur	0	25	0	960
135	Ravi Kant S/O Shri Panchu Ram Meena	Padasoli, Bassi, Jaipur	0	25	0	1100
136	Gagan S/O Shri Ram Kumar	Padasoli, Bassi, Jaipur	0	25	0	900
137	Rakesh S/O Shri Jagdish	Padasoli, Bassi, Jaipur	0	25	0	1000
138	Ghanshyam S/O Shri Chand Mal	Padasoli, Bassi, Jaipur	0	25	0	850
139	Sita Ram S/O Shri Bhagwan Sahay	Padasoli, Bassi, Jaipur	0	25	0	840
140	Dharm Pal S/O Shri Govind	Padasoli, Bassi, Jaipur	0	25	0	970
141	Smt. Kali W/O Shri Jai Narayan	Padasoli, Bassi, Jaipur	25	0	0	1500
142	Tara Chand S/O Shri Jai Narayan	Padasoli, Bassi, Jaipur	25	0	0	1700
143	Smt. Kamala W/O Shri Kalu Ram	Padasoli, Bassi, Jaipur	25	0	0	1680
144	Girraj S/O Shri Narasi Meena	Padasoli, Bassi, Jaipur	25	0	0	1780

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
145	Gopal S/O Shri Narasi Meena	Padasoli, Bassi, Jaipur	25	0	0	1650
146	Satpal S/O Shri Narasi Meena	Padasoli, Bassi, Jaipur	25	0	0	1500
147	Narasi S/O Shri Kana Meena	Padasoli, Bassi, Jaipur	25	0	0	1640
148	Hanuman S/O Shri Galpal Meena	Padasoli, Bassi, Jaipur	25	0	0	1500
149	Badri Prasad S/O Shri Sooja Ram Meena	Padasoli, Bassi, Jaipur	25	0	0	1480
150	Gopal S/O Shri Srawan Lal	Padasoli, Bassi, Jaipur	25	0	0	1420
151	Mool Chand S/O Shri Sita Ram	Padasoli, Bassi, Jaipur	25	0	0	1800
152	Kalyan Sahay S/O Shri Babulal Meena	Padasoli, Bassi, Jaipur	25	0	0	1700
153	Ravi Shankar S/O Kalyan Sahay Meena	Padasoli, Bassi, Jaipur	25	0	0	1900
154	Kamali Bai W/O Indraraj	Padasoli, Bassi, Jaipur	25	0	0	1600
155	Mool Chand S/O Shri Sedu Bairva	Padasoli, Bassi, Jaipur	25	0	0	1580
156	Genda S/O Shri Ram Sahay Gurjar	Padasoli, Bassi, Jaipur	25	0	0	1390
157	Chittar S/O Shri Ram Sahay Gurjar	Padasoli, Bassi, Jaipur	25	0	0	1350
158	Ramdhan S/O Shri Mangala Gurjar	Padasoli, Bassi, Jaipur	25	0	0	1400
159	Mukesh S/O Shri Ramdhan Gurjar	Padasoli, Bassi, Jaipur	25	0	0	1440
160	Radheshyam S/O Shri Ramanand	Padasoli, Bassi, Jaipur	25	0	0	1450
161	Smt. Santara W/O Shri Ganga Sahay	Padasoli, Bassi, Jaipur	25	0	0	1440
162	Murari S/O Shri Prabhati Lal	Padasoli, Bassi, Jaipur	25	0	0	1500
163	Suresh S/O Shri Sita Ram	Padasoli, Bassi, Jaipur	25	0	0	1200
164	Raghav Das S/O Shri Bharat Das	Padasoli, Bassi, Jaipur	25	0	0	1000
165	Amar Singh S/O Shri Keshar Singh	Padasoli, Bassi, Jaipur	25	0	0	1120
166	Prethavi Singh S/O Shri Amar Singh	Padasoli, Bassi, Jaipur	25	0	0	1240
167	Madho Lal S/O Shri Ram Sahay Bairwa	Padasoli, Bassi, Jaipur	25	0	0	1280
168	Kalu S/O Shri Ladu Ram	Padasoli, Bassi, Jaipur	25	0	0	1780

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
169	Satyanarayan S/O Shri Kalu Ram	Padasoli, Bassi, Jaipur	25	0	0	1800
170	Moti Lal S/O Shri Kalu Ram Meena	Padasoli, Bassi, Jaipur	25	0	0	1600
171	Guddu S/O Shri Kalu Ram Meena	Padasoli, Bassi, Jaipur	25	0	0	1580
172	Smt.Sunita W/O Shri Satya Narayan	Padasoli, Bassi, Jaipur	25	0	0	1650
173	Ram Niwas S/O Shri Chotu	Padasoli, Bassi, Jaipur	25	0	0	1700
174	Sita Ram S/O Shri Ram Niwas	Padasoli, Bassi, Jaipur	25	0	0	1520
175	Hari Mohan S/O Shri Choth Mal	Padasoli, Bassi, Jaipur	25	0	0	1500
176	Mangala S/O Shri Sola Ram	Padasoli, Bassi, Jaipur	25	0	0	1700
177	Pappu S/O Shri Sola Ram	Padasoli, Bassi, Jaipur	25	0	0	1600
Padasoli Total Production (A):						202190
Padasoli productivity (a):						1142.3

**Note: S.No. 91-110 = 2% Urea spray; 111-140 = 2kg/ha Acephate spray; 141-155 = NSKE**

<b>Average Padasoli productivity</b>	=	<b>1142 kg/ha</b>
<b>Gross profit</b>	=	<b>1142 × 35 = Rs. 39970/- (Rs. 35 /kg of seed)</b>
<b>Total expenses</b>	=	<b>Rs. 2800/- (Including seed and fertilizer cost)</b>
<b>Net profit</b>	=	<b>Gross profit – Total expenditure</b>
	=	<b>Rs. 39970.00-Rs. 2800.00</b>
	=	<b>Rs. 37170.00</b>

## 2. Lalwas

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO <sub>4</sub> (kg)	Seed Yield (kg/ha)
1	Kalyan Singh S/O Shri Mahtab Singh	Lalwas, Jamuarangarh, Jaipur	20	0	0	900
2	Kasmir Singh S/O Shri Mahtab Singh	Lalwas, Jamuarangarh, Jaipur	20	0	0	840
3	Jeet Ram S/O Shri Ram Lal Choudhari	Lalwas, Jamuarangarh, Jaipur	20	0	0	920
4	Sonu Singh S/O Shri Kailash Singh	Lalwas, Jamuarangarh, Jaipur	20	0	0	900
5	Bhag Chandra S/O Shri Ram Pratap	Lalwas, Jamuarangarh, Jaipur	20	0	0	830
6	Himmat Singh S/O Shri Vijay Singh	Lalwas, Jamuarangarh, Jaipur	20	0	0	1100

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
7	Poornima Singh W/O Shri Deep Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1050
8	Priyangni Singh W/O Shri Himmat Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1160
9	Ritu Singh W/O Shri Randeer Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1000
10	Kajod Singh S/O Shri Dan Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	980
11	Girraj S/O Shri Prabhati Lal	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1470
12	Vijay Singh S/O Shri Gulab Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1340
13	Deep Singh S/O Shri Vijay Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1480
14	Shyam Singh S/O Shri Kajod Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1000
15	Kamni Singh W/O Shri Rajendra Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1100
16	Amar Singh S/O Shri Keshar Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1060
17	Priti Singh W/O Shri Amar Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1100
18	Prahalad Singh S/O Shri Mahtab Singh	Lalwas, Jamuaramgarh, Jaipur	20	0	0	1000
19	Jansi Ram S/O Shri Chandra Lal Mali	Lalwas, Jamuaramgarh, Jaipur	20	0	0	800
20	Ramkesh S/O Shri Ram Phool	Lalwas, Jamuaramgarh, Jaipur	20	0	0	880
Lalwas total production (B):						20910
Lalwas productivity (b):						1046
Average Lalwas productivity		=	1046 kg/ha			
Gross profit		=	1046 × 35 = Rs. 36610/- (Rs. 35 /kg of seed)			

Total expenses	=	Rs. 2800/- (Including seed and fertilizer cost)
Net profit	=	Gross profit - Total expenditure
	=	Rs. 36,610.00 - Rs. 2800.00
<b>Net profit</b>	=	<b>Rs. 33,810.00</b>

### 3. Sarpanch ki Dhani

S. No	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Badri Meena S/O Shri Kalyan Meena	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	660
2	Mool Chand S/O Shri Nanak Meena	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	780
3	Seema Sharma W/O Shri Ram Avtar sharma	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	720
4	Ram Gopal S/O Shri Laxami Narayan Meena	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	750
5	Sita Ram S/O Shri Bhagwan Sahay Meena	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	720
6	Prahalad Kharwal S/O Shri Ram Niwas	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1300
7	Sedu Ram Meena S/O Shri Sher Singh	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1350
8	Dugarsi Lal S/O Shri Ganga Ram Meena	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1435
9	Madho S/O Shri Kalyan	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1350
10	Rang Lal S/O Shri Madho Lal	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1510
11	Ashok S/O Shri Madho Lal	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1500
12	Rakesh S/O Shri Ram Phool	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1300
13	Ram Phool S/O Shri Kalyan	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1320
14	Kamlesh S/O Shri Ram Phool	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1400
15	Ram Karan S/O Shri Kalyan Meena	Sarpanch Ki Dhani, J. Ramgarh, Jaipur	20	0	0	1325
Sarpanch ki Dhani total production (C) (kg):						17420
Sarpanch ki Dhani productivity (c) (kg/ha):						1161
Jaipur total production (A+B+C) (kg):						240520
Jaipur productivity (a+b+c) (kg/ha):						1119

<b>Average Sarpanch ki Dhani productivity</b>	=	1161 kg/ha
Gross profit	=	1161 × 35 = Rs. 40635/- (Rs. 35 /kg of seed)
Total expenses	=	Rs. 2800/- (Including seed and fertilizer cost)
Net profit	=	Gross profit - Total expenditure
	=	Rs. 40,635.00 - Rs. 2800.00
<b>Net profit</b>	=	<b>Rs. 37,835.00</b>



<b>Average Jaipur productivity</b>	=	1119 kg/ha
Gross profit	=	1119 × 35 = Rs. 39165/- (Rs. 35 /kg of seed)
Total expenses	=	Rs. 2800/- (Including seed and fertilizer cost)
Net profit	=	Gross profit - Total expenditure
	=	Rs. 39,165.00 - Rs. 2800.00
<b>Net profit</b>	=	<b>Rs. 36,365.00</b>

## II. Pigeonpea on-farm varietal trials conducted during Kharif 2012 in villages of Alwar District

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
<b>Milakpura</b>						
1	Noor Mohamad S/O Shri Hakmu	Milak Pur, Gotoli, Alwar	25	25	5	1540
2	Smt. Jubaida W/O Shri Maqsud	Milak Pur, Gotoli, Alwar	25	25	5	1450
3	Ramkishor S/O Shri Ratan	Milak Pur, Gotoli, Alwar	25	25	5	1530
4	Hakmu S/O Shri Mussa	Milak Pur, Gotoli, Alwar	25	25	5	1280
5	Illeyas S/O Shri Changga	Milak Pur, Gotoli, Alwar	25	25	5	1470
6	Waqil S/O Shri Illeyas Ahmad	Milak Pur, Gotoli, Alwar	25	25	5	1320
7	Naseeb S/O Shri Jumman	Milak Pur, Gotoli, Alwar	25	25	5	1350
Milakpur total production (D) (kg):						9940
Milakpur productivity (d) (kg/ha):						1420
<b>Daulatpura</b>						
1	Bhagwan S/O Shri Gheesa Ram	Daulatpra, Bansur, Alwar	25	25	5	900
2	Narendra S/O Shri Mohan Lal	Daulatpra, Bansur, Alwar	25	25	5	1340
3	J.S.Shekhawat S/O Shri Gokul Singh	Daulatpra, Bansur, Alwar	25	25	5	1450
4	Mahendra Singh S/O Shri Jagdish Singh	Daulatpra, Bansur, Alwar	25	25	5	1300
5	Deepak S/O Shri Chotu Ram	Daulatpra, Bansur, Alwar	25	25	5	1205
Daulatpura total production (E) (kg):						6195
Daulatpura productivity (e) (kg/ha):						1239
Alwar total Production (D+E) (kg):						16135
Alwar productivity (d+e) (kg/ha):						1076

### III. Pigeonpea on-farm varietal trials conducted during Kharif 2012 in villages of Karauli District

#### 1. Bagaur

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Bijendra S/O Shri Ram Charan	Bagaur Bass, Nadauti, Karauli	0	0	5	0
2	Manoj S/O Shri Bali Chand Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	5	0
3	Chetram S/O Shri Ram babu	Bagaur Bass, Nadauti, Karauli	0	0	5	0
4	Mawasi S/O Shri Chittar Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	5	0
5	Ram Khiladi S/O Shri Hira Lal Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	5	0
6	Ram Ji Lal S/O Shri Mangi Lal Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	5	0
7	Ramkishor S/O Shri Mangi Lal Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	5	0
8	Kishan Singh S/O Shri Kaniya Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	0
9	Shyam Lal S/O Shri Bali Chand	Bagaur Bass, Nadauti, Karauli	0	0	0	0
10	Mawasi Ram S/O Shri Bori Lal Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	0
11	Ram Niwas S/O Shri Ram Singh Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	0
12	Hari Om S/O Shri Ram Singh Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	0
13	Shiv Dayal S/O Shri Roopram Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	0
14	Bajarang S/O Shri Kana Ram Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	0
15	Yadram S/O Shri Ram Narayan	Bagaur Bass, Nadauti, Karauli	0	0	0	0
16	Mawasi S/O Shri Kishan Lal	Bagaur Bass, Nadauti, Karauli	0	0	0	0
17	Roshan S/O Shri Hari Ram Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	280
18	Ramdayal S/O Shri Tikaram Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	330
19	Jagdish S/O Shri Sita Ram	Bagaur Bass, Nadauti, Karauli	40	0	0	400
20	Ram Kishan S/O Shri Sita Ram	Bagaur Bass, Nadauti, Karauli	40	0	0	405
21	Suresh S/O Shri Shrawan	Bagaur Bass, Nadauti, Karauli	40	0	0	416
22	Badan Singh S/O Shri Dharam Singh	Bagaur Bass, Nadauti, Karauli	40	0	0	422
23	Dharam Singh S/O Shri Bhouri Lal Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	425
24	Ramesh S/O Shri Rambabu Dhakad	Bagaur Bass, Nadauti, Karauli	40	0	0	430

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
25	Rambabu S/O Shri Ramji Lal	Bagaur Bass, Nadauti, Karauli	0	50	5	430
26	Mukut S/O Shri Roshan Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	440
27	Niranjan S/O Shri Ramsaroop	Bagaur Bass, Nadauti, Karauli	0	50	5	440
28	Anup S/O Shri Rambabu Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	442
29	Ashok S/O Shri Ram Kishan Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	450
30	Bachchu S/O Shri Mangal Ram	Bagaur Bass, Nadauti, Karauli	40	0	0	450
31	Prem Singh S/O Shri. Mool Chand	Bagaur Bass, Nadauti, Karauli	0	50	5	460
32	Anil S/O Shri Ram babu Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	460
33	Kedar S/O Shri Ramji Lal Dhakad	Bagaur Bass, Nadauti, Karauli	40	0	0	465
34	Sonpal S/O Shri Prasadi Lal Dhakad	Bagaur Bass, Nadauti, Karauli	40	0	0	470
35	Binnu S/O Shri Ramroop	Bagaur Bass, Nadauti, Karauli	0	50	5	470
36	Gyasi Ram S/O Shri Guru Dhakad	Bagaur Bass, Nadauti, Karauli	40	0	0	478
37	Ramdhan S/O Shri Ram Ji Lal Dhakad	Bagaur Bass, Nadauti, Karauli	40	0	0	481
38	Kunj Bihari S/O Shri Ram Bharoshe Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	505
39	Ramesh S/O Shri Kishan Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	505
40	Ramesh Chand S/O Shri Kishor Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	517
41	Ram Khiladi S/O Shri Narayn Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	519
42	Mukesh S/O Shri Jagan Dhakad	Bagaur Bass, Nadauti, Karauli	0	50	5	525
43	Ramkishan S/O Shri Jhori Lal Dhakad	Bagaur Bass, Nadauti, Karauli	0	0	0	528

Bagaur total production (F) (kg): 12143

Bagaur productivity (f) (kg/ha): 449.7

## 2. Gudli

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Shailendra Singh S/O Shri Govind Singh	Gudli, Nadauti, Karauli	0	0	0	0
2	Bhawani Singh S/O Shri Narayan Singh	Gudli, Nadauti, Karauli	0	0	0	0
3	Kamlesh S/O Shri Prabhu Meena	Gudli, Nadauti, Karauli	0	0	0	0
4	Jagdish S/O Shri Kalyan Singh	Gudli, Nadauti, Karauli	0	0	0	0
5	Babu Singh S/O Shri Kalyan Singh	Gudli, Nadauti, Karauli	0	0	0	0
6	Pooran Singh S/O Shri Gend Singh	Gudli, Nadauti, Karauli	0	0	0	0
7	Himmat Singh S/O Shri Gend Singh	Gudli, Nadauti, Karauli	0	0	0	0
8	Jitendra Singh S/O Shri Himmat Singh	Gudli, Nadauti, Karauli	0	0	0	0
9	Nand Singh S/O Shri Pooran Singh	Gudli, Nadauti, Karauli	0	0	0	0
10	Govind Singh S/O Shri Surgyan Singh	Gudli, Nadauti, Karauli	0	0	0	0
11	Nawal S/O Shri Gopi Kharwad	Gudli, Nadauti, Karauli	0	0	0	0
12	Bhagwan Singh S/O Shri Gend Singh	Gudli, Nadauti, Karauli	0	0	0	538
Gudli total production (G) (kg):						538
Gudli productivity (g) (kg/ha):						538

## 3. Jeetkipur

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Nootan Singh S/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
2	Jaisingh S/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
3	Smt.SavroopKanwar W/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
4	Prabhati Bairawa S/O Shri Sukhram Bairwa	Jeet Ki, Nadauti, Karauli	0	0	0	0
5	Mohan Singh S/O Shri Gokul Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
6	Smt. Shanti Devi W/O Shri Mohan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
7	Mahesh Singh S/O Shri Mohan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
8	Balveer Singh S/O Shri Mohan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
9	Manveer Singh S/O Shri Mohan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
10	Bag Singh S/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
11	Dileep Singh S/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
12	Mahedra Singh S/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
13	Mahaveer Singh S/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
14	Dharmendra Singh S/O Shri Narayan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
15	Babu Singh S/O Shri Gokul Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
16	Hari Om Singh S/O Shri Babu Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
17	Kishan Singh S/O Shri Babu Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
18	Raghuveer Singh S/O Shri Gokul Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
19	Smt. Manju Kanwar W/O Shri Mahesh Singh	Jeet Ki, Nadauti, Karauli	0	0	0	0
20	Rajesh Jain S/O Shri Ganesh Jain	Jeet Ki, Nadauti, Karauli	0	0	0	0
21	Mulk Raj S/O Shri Harsai Prajapati	Jeet Ki, Nadauti, Karauli	0	0	0	0
22	Ram Nari S/O Shri Mulk Raj Prajapati	Jeet Ki, Nadauti, Karauli	0	0	0	0
23	Chandra Shekhar S/O Shri Ganesh Jain	Jeet Ki, Nadauti, Karauli	0	0	0	0
24	Smt. Kamla Devi W/O Shri Narayn Singh	Jeet Ki, Nadauti, Karauli	0	0	0	250
25	Ganpat Singh S/O Shri Narayn Singh	Jeet Ki, Nadauti, Karauli	0	0	0	350
26	Smt. Sanju Kanwar W/O Shri Manveer Singh	Jeet Ki, Nadauti, Karauli	0	0	0	360
27	Narayan Singh S/O Shri Gokul Singh	Jeet Ki, Nadauti, Karauli	0	0	0	430
28	Khem Singh S/O Shri Mohan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	450
29	Dheer Singh S/O Shri Mohan Singh	Jeet Ki, Nadauti, Karauli	0	0	0	520
<b>Jeetkipur total production (H) (kg):</b>						<b>2920</b>
<b>Jeekipur productivity (h) (kg/ha):</b>						<b>417.14</b>

#### 4. Nadauti

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Madan Mohan Singh S/O Shri Chhitar Singh	Nadauti, Nadauti, Karauli	40	0	0	0
2	Lakhan Singh S/O Shri Chhitar Singh	Nadauti, Nadauti, Karauli	40	0	0	0
3	Kamod Singh S/O Shri Laxman Singh	Nadauti, Nadauti, Karauli	40	0	0	0
4	Smt. Rampyari Devi W/O Shri Laxman Singh	Nadauti, Nadauti, Karauli	40	0	0	0
5	Mool Singh S/O Shri Pratap Singh	Nadauti, Nadauti, Karauli	40	0	0	0
6	Shyam Singh S/O Shri Chhitar Singh	Nadauti, Nadauti, Karauli	0	0	0	0
7	Ram Chandra S/O Shri Chhitar Singh	Nadauti, Nadauti, Karauli	0	0	0	0
8	Smt. Munni Devi W/O Shri Bhawani Singh	Nadauti, Nadauti, Karauli	0	0	0	0
9	Smt. Munni Devi W/O Shri Mool Singh	Nadauti, Nadauti, Karauli	0	0	0	0
10	Mool Singh S/O Shri Chhitar Singh	Nadauti, Nadauti, Karauli	0	0	0	0

Total crop loss due to rain

#### 5. Garhkhera

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Ashok Kumar S/O Shri Bhorilal Sharma	Garhkhera, Nadauti, Karauli	0	0	0	0
2	Girraj S/O Shri Bhorilal Sharma	Garhkhera, Nadauti, Karauli	0	0	0	0
3	Smt. Manorama Devi W/O Shri Bhorilal Sharma	Garhkhera, Nadauti, Karauli	0	0	0	0

Total crop loss due to rain

#### 6. Saher

S.No.	Farmer name	Address	Manure(kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Shriphal S/O Shri Jaila Meena	Saher, Nadauti, Karauli	0	0	0	0
2	Ramphool S/O Shri Jaila Meena	Saher, Nadauti, Karauli	0	0	0	0
3	Kamal S/O Shri Jaila Meena	Saher, Nadauti, Karauli	0	0	0	0

Total crop loss due to rain

## 7. Salawad

S.No.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Girraj S/O Shri Bhoari Lal Meena	Salawad, Nadauti, Karauli	0	0	0	0
2	Bhawani S/O Shri Girraj Meena	Salawad, Nadauti, Karauli	0	50	5	565
3	Govind S/O Shri Bhoari Lal Meena	Salawad, Nadauti, Karauli	0	50	5	570
4	Ramesh Chand S/O Shri Bharat Lal Meena	Salawad, Nadauti, Karauli	0	50	5	575
5	Suresh S/O Shri Bharat Lal	Salawad, Nadauti, Karauli	0	50	5	582
6	Jasram S/O Shri Keshari Lal Meena	Salawad, Nadauti, Karauli	0	50	5	585
<b>Salawad Total production (I) (kg):</b>						<b>2877</b>
<b>Salawad productivity (i) (kg/ha):</b>						<b>479.5</b>
<b>karoli total production (F+G+H+I) (kg):</b>						<b>18478</b>
<b>karoli total productivity (f+g+h+i) (kg/ha):</b>						<b>450.68</b>

## IV. Pigeonpea on-farm varietal trials conducted during Kharif 2012 in villages of Dausa district

### 1. Kailai

S.N.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Amar Singh S/O Shri Kan Singh	Kailai, Shikrai, Dausa	0	0	0	0
2	Samandra Singh S/O Shri Kan Singh	Kailai, Shikrai, Dausa	0	0	0	0
3	Hanuman Singh S/O Shri Padam Singh	Kailai, Shikrai, Dausa	0	0	0	125
4	Manohar Gurjar S/O Shri Radhakishan	Kailai, Shikrai, Dausa	0	0	0	0

Rain causes crop loss

### 2. Malakhera

S.N.	Farmer name	Address	Manure (kg)	Fertilizer (kg)	ZnSO4 (kg)	Seed Yield (kg/ha)
1	Om Prakash S/O Shri Mitthan Lal	Malakhera, Rajgarh, Dausa	0	0	0	0
2	Mool singh S/O Shri Kan Singh	Malakhera, Rajgarh, Dausa	0	0	0	0

Rain causes crop loss

**Rajasthan Total Production (A+B+C+D+E+F+G+H+I) (Kg) : 275258**

**Rajasthan Total Productivity (a+b+c+d+e+f+g+h+i) (kg/ha) : 1015.7**

## ANNEXURE – III

**Table 1. Performance of short duration hybrid pigeonpea Trial -1 at ARS, Durgapura, Rajasthan during rainy 2012**

Entry Name	Days to 50% flowering	Days to maturity	Plant height (cm)	100 seed Mass (g)
<b>ICPH 3630</b>	<b>97</b>	<b>143</b>	<b>97.9</b>	<b>7.7</b>
ICPH 3629	97	143	101.3	6.8
<b>ICPH 3311</b>	<b>90</b>	<b>135</b>	<b>87.1</b>	<b>7.2</b>
ICPH 3323	94	136	86.8	7.75
<b>ICPH 3313</b>	<b>95</b>	<b>135</b>	<b>99</b>	<b>6.95</b>
<b>ICPH 3633</b>	<b>97</b>	<b>138</b>	<b>88</b>	<b>7.1</b>
ICPH 3316	97	147	98	8.35
ICPH 4394	94	137	85.2	7
<b>CHECK</b>				
ICPL 88039	96	133	85.8	5.7
ICPL 86022	97	139	96.3	6.4
<b>Mean</b>	<b>95.25</b>	<b>138.4</b>	<b>92.54</b>	<b>7.09</b>

**Table 2. Performance of short duration hybrid pigeonpea Trial – 2 at ARS, Durgapura, Rajasthan during rainy, 2012**

Entry Name	Days to 50% flowering	Days to maturity	Plant height (cm)	100 seed Mass (g)
<b>ICPH 4534</b>	<b>97</b>	<b>143</b>	<b>104.3</b>	<b>11.1</b>
ICPH 4535	94	146	96	11.4
ICPH 4536	94	142	102.6	11.85
ICPH 3318	94	138	99.4	10.45
<b>ICPH 4537</b>	<b>94</b>	<b>140</b>	<b>102.2</b>	<b>11.15</b>
<b>ICPH 3651</b>	<b>94</b>	<b>141</b>	<b>93.5</b>	<b>10.35</b>
ICPH 4538	96	142	90.5	10.2
ICPH 3631	95	136	102.1	10.95
<b>CHECK</b>				
ICPL 86022	95	144	99.8	11.25
ICPL 88039	96	140	82.9	10.7
<b>GRAND MEAN</b>	<b>94.65</b>	<b>140.95</b>	<b>97.33</b>	<b>10.94</b>

**Table 3. Performance of short duration hybrid pigeonpea Trial - 3 at ARS, Durgapura, Rajasthan during rainy, 2012**

Entry Name	Days to 50% flowering	Days to maturity	Plant height (cm)	100 seed mass (g)
ICPH 3674	97	140	88.7	11.15
ICPH 3675	98	139	101	9.55
ICPH 4482	98	136	100.7	11.25
<b>ICPH 3685</b>	<b>99</b>	<b>143</b>	<b>79.6</b>	<b>10.95</b>
ICPH 3683	98	142	100.2	9.5
ICPH 3679	97	142	83	9.85
ASJH 101	99	142	84.6	10.65
ASJH 102	104	141	74.8	13.4
<b>CHECK</b>				
ICPL 88039	106	145	87.2	10.55
ICPL 86022	101	145	78.1	11.9
<b>Mean</b>	<b>99.5</b>	<b>141.3</b>	<b>87.79</b>	<b>10.88</b>



## ANNEXURE – IV

**Table 1. Performance of state's advanced pigeonpea hybrid trial-1 (NDT) at ARS, Durgapura, Rajasthan during rainy 2012**

S.No.	Entry Name	Days to 50% flowering	Days to maturity	Plant height (cm)	100 Seed mass (g)
1	SJPH-101	85.0	141.0	122.5	8.1
2	SJPH-102	83.0	143.3	125.2	7.3
3	<b>SJPH-103</b>	<b>88.0</b>	<b>148.0</b>	<b>124.3</b>	<b>8.9</b>
4	SJPH-104	88.0	142.0	128.9	8.9
5	<b>SJPH-105</b>	<b>87.3</b>	<b>143.3</b>	<b>125.6</b>	<b>8.3</b>
6	SJPH-106	88.3	145.3	122.5	7.9
7	<b>SJPH-107</b>	<b>86.0</b>	<b>142.7</b>	<b>127.6</b>	<b>8.6</b>
8	SJPH-108	86.3	145.0	130.3	7.1
9	SJPH-109	85.3	146.7	120.0	8.1
<b>CHECK</b>					
10	<b>UPAS-120 ( C)</b>	<b>81.7</b>	<b>143.7</b>	<b>133.1</b>	<b>7.4</b>

**Table 2. Performance of state's advanced pigeonpea hybrid trial-2 (DT) at ARS, Durgapura, Rajasthan during rainy 2012**

S. No.	Entry Name	Days to 50% flowering	Days to maturity	Plant height (cm)	100 Seed mass (g)
1	SJPH-201	77	125.3	62.3	9.9
2	SJPH-202	68	124.7	70.4	9.0
3	SJPH-203	70	126.7	71	9.1
4	SJPH-204	80	124.3	79.4	9.2
5	SJPH-205	70	121	62.4	9.6
6	SJPH-206	66	122.3	76.6	9.2
7	SJPH-207	89	126.7	63.8	9.0
8	SJPH-208	86	130	51.8	9.3
9	<b>SJPH-209</b>	<b>84</b>	<b>125.7</b>	<b>78.4</b>	<b>8.8</b>
<b>CHECK</b>					
10	<b>UPAS-120©</b>	<b>77</b>	<b>124.7</b>	<b>72.2</b>	<b>9.5</b>

**Table 3. Performance of state's initial pigeonpea hybrid trial-3 (NDT) at ARS, Durgapura, Rajasthan during rainy 2012**

S. No.	Entry Name	Days to 50% flowering	Days to maturity	Plant height (cm)	100 Seed mass (g)
<b>1</b>	<b>SJPH-301</b>	<b>85.3</b>	<b>141.0</b>	<b>127.7</b>	<b>8.3</b>
2	SJPH-302	94.6	146.3	138.0	6.8
3	SJPH-303	95.3	147.7	111.1	6.6
<b>4</b>	<b>SJPH-304</b>	<b>91.3</b>	<b>145.3</b>	<b>122.0</b>	<b>7.6</b>
5	SJPH-305	94.6	145.0	102.2	6.9
6	SJPH-306	93.0	144.7	130.1	7.1
7	SJPH-307	96.0	146.3	97.4	7.9
8	SJPH-308	89.0	145.0	121.8	7.3
<b>CHECK</b>					
<b>9</b>	<b>MN-5 ( C )</b>	<b>95.0</b>	<b>142.0</b>	<b>120.5</b>	<b>8.1</b>
<b>10</b>	<b>ICPH-2438 ( C )</b>	<b>92.3</b>	<b>143.0</b>	<b>128.9</b>	<b>6.8</b>

**Table 4. Performance of state's initial pigeonpea hybrid trial-4 (DT) at ARS, Durgapura, Rajasthan during rainy 2012**

S. No.	Entry Name	Days to 50% flowering	Days to maturity	Plant height (cm)	100 Seed mass (g)
1	SJPH-401	74.0	124.3	69.7	9.1
2	SJPH-402	74.3	128.7	74.8	8.1
3	SJPH-403	74.3	125.7	79.8	7.8
<b>4</b>	<b>SJPH-404</b>	<b>73.3</b>	<b>121.3</b>	<b>74.9</b>	<b>7.5</b>
5	SJPH-405	75.0	121.3	83.2	7.7
6	SJPH-406	74.0	124.0	72.2	7.9
7	SJPH-407	73.6	128.0	74.5	8.2
8	SJPH-408	74.6	127.7	63.3	7.6
<b>CHECK</b>					
<b>9</b>	<b>MN-5 ( C )</b>	<b>72.6</b>	<b>123.7</b>	<b>69.0</b>	<b>9.4</b>
<b>10</b>	<b>ASJ-105 (LC)</b>	<b>74.6</b>	<b>124.3</b>	<b>81.0</b>	<b>7.7</b>