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Chickpea Breeding
Progress Report 37B

International Chickpea Nurseries

Project: C-102(85)IC: International trials for the semi-arid tropics

Report of the
Thirteenth International Chickpea Trials and Nurseries
1987-88

ICRISAT

International Crops Research Institute for the Semi-Arid Tropics
Patancheru, Andhra Pradesh 502 324, India

Foreword

Progress Report 37B on International Chickpea Nurseries forms part of a series of four volumes:

No. 36 covers the actual breeding research aspects of the program

No. 37A presents the details of chickpea materials distributed to cooperators during June 1987-May 1988

No. 37B reports on the results of the International Chickpea Nurseries during June 1987-May 1988

No. 37C gives appendices to reports 37A and B.

In addition to the trial results, this report gives experimental details, and information on cooperation with AICPIP, ICARDA and other countries, while it also lists the visitors for consultancy and the locations visited by chickpea breeders of ICRISAT.

Again we acknowledge most thankfully the enormous contribution of all cooperators both within and outside ICRISAT; without their assistance the achievements could not have been made, and the report could not have been published.

This is an informal publication and the data presented herein should not be reported.

Contents

Project C-102(85)IC: International trials for the semi-arid tropics

Objectives

1. To strengthen national and regional programs; to supply cultivars, segregating populations and advanced breeding lines having specific characters (disease resistance, high yield, high protein etc.) to cooperators for evaluation, use in breeding and for release.

2. To identify among lines, differences in adaptation regionally and internationally through multilocational testing and to characterize environments in which chickpeas are grown.

3. To promote international cooperation through personal visits, meetings, and information exchange.

International Trials and Nurseries

One hundred twentyfour sets of 7 types of trials and nurseries were distributed to cooperators in 13 countries. The results are summarized in this report.

Other materials distributed

We supply breeding materials and parental lines against specific requests made by cooperators every year. This year we supplied 1731 samples to cooperators. The details of seed supply are in chickpea breeding report no 37a.

In addition to these we supplied ICCC 37, ICCC 42, ICCV 2 and ICCV 6 in large quantities to Maharashtra, Orissa, Andhra Pradesh and Tamil Nadu.

Cooperation with AICPIP

This year ICCV 10, -13, -14, -19, ICCC 36, -37, -42 and -48 performed well in AICPIP trials. The important ICRISAT entries in AICPIP trials and zones are listed below:

GCVT:	ICCC 36	South zone (SZ)
	ICCC 37	South east zone (SEZ) and South Zone (SZ)
	ICCC 38	South east zone (SEZ)
	ICCC 42	South zone (SZ)
	ICCC 43	Central zone (CZ)
	ICCC 47	Central zone (CZ)
	ICCC 48	Central & South zone (CZ, SZ)
GIET	ICCC 48	North west hill zone (NWHZ)
	ICCV 8	South zone (SZ)
	ICCV 9	South zone (SZ)
	ICCV 10	Central zone (CZ), Southeast zone (SEZ), South zone (SZ), West Zone (WZ)
	ICCV 11	North west hill zone (NWHZ)
	ICCV 12	North west hill zone (NWHZ), North west

		plain zone (NWPZ)
	ICCV 18	West zone (WZ), Central zone (CZ), Southeast zone (SEZ), South zone (SZ), North west plain zone (NWPZ), North East plain zone (NEPZ), East zone (EZ)
	ICCV 19	- do -
OCVT-Kabuli	ICCC 34	Central zone (CZ), Southeast zone (SEZ), South zone (SZ)
	ICCC 49	Northwest Hill zone (NWHZ), Northeast plain zone (NEPZ), West zone (WZ), Northwest plain zone (NWPZ), Central Zone (CZ), Southeast zone (SEZ), South zone (SZ)
	ICCV 13	-do-
	ICCV 14	-do-
OCVT-Late	ICCC 41	WZ, CZ, SEZ, SZ
	ICCV 14	WZ, NWPZ, EZ, NEPZ, CZ, SEZ, SZ
	ICCV 15	NWPZ, EZ, NEPZ
	ICCV 16	NEPZ
OCVT-Bold seeded	ICCC 42	WZ. NWPZ. NEPZ. EZ. DZ. SZ

Cooperation with ICARDA and other countries

We continued our cooperation with ICARDA in information exchange and visits.

Visitors to ICRISAT

Mr Abebe Tullu, Coordinator of Chickpea Research, Agricultural Research Center, Debre Zeit, Ethiopia visited ICRISAT between 27th January and 16th February 1988 to discuss work plans and collaboration. During his stay, Mr Tullu also visited chickpea breeding trials in Maharashtra and Madhya Pradesh alongwith Dr van Rheenen.

Dr V.K. Shinde, Senior Scientist (Pulses) of Agricultural Research Station, Badnapur, Maharashtra; and Dr P. Rangasamy, Sr Scientist (Pulses) of School of Genetics, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu visited ICRISAT Center between 26th and 27th January 1988 to look at joint chickpea trials.

Visits by ICRISAT staff

It is vital to visit and maintain contacts with cooperators in and outside India. The visits made by chickpea breeders during this year are highlighted in tables 1.1 and 1.2.

Workshops attended

Dr H.A. van Rheenen attended the XIV International Botanical Congress at Berlin, West Germany between 23 July-1 August 1987 and read a paper on the Genetic Improvement of Tropical and Sub-tropical Grain Legumes.

Dr Y.L. Nene attended the Group Meet on Rabi and Spring/Summer Pulses, 1986-87 on behalf of the chickpea group which was held at the Directorate of Pulses Research, Kanpur, U.P. between 26-27 September 1987.

Dr H.A. van Rheenen participated in the "Chickpea, pigeonpea and lentil training course for research and extension workers" at Parwanipur Agricultural Station, Bara District, Nepal between 20-30 March 1988.

Table 1.1. Visits by ICRISAT Chickpea Breeders to different locations in India, 1987/88.

Location	Person(s) contacted	Institution	Visiting Scientist	Date/s
Tapparwaripora	M.I. Bandoo (Srinagar)	Directorate of Agriculture	SCS	1/13-6-87
Bhavanisagar	Dr A. Chamy	T.N.A.U. Regl. Stn.	HAvR	29/8-1/9/87
Coimbatore	Dr U. Salvaraj	T.N.A.U.	HAvR	-do-
Pantnagar	Dr Y.P.S. Rathi Dr H.S. Tripathi	GBPUAT	JK	2-6/11/87
Nandyal	Dr M.S.S. Reddy	APAU Regl Station	HAvR	21-26/1/88
Coimbatore	Dr P. Rangasamy	T.N.A.U.	HAvR	21-26/1/88
Nawgaon		Agril Res. Stn.	SCS	21/2-3/3/88
Kota		-do-	SCS	-do-
Indore }				
Sehore }		-do-	SCS	-do-
Jabalpur }				
Jhansi		-do-	SCS	-do-
Gwalior	Dr M.P. Srivastava & Dr M.K. Misra	College of Agriculture	HAvR	2-29/3/88
Hisar	Dr Ahlawat	Director, GLF	HAvR	-do-
	Dr B.L. Jalali, & Dr B.S. Dahiya etc	H.A.U.	HAvR	-do-
Sampla	Dr K.V.G.K. Rao etc	C.S.S.R.I.	HAvR	-do-
Pantnagar	Dr B.P. Pandya, Y.P.S. Rathi, I.S. Singh etc	G.B.P.U.A.T.	HAvR	-do-
Hisar	H.S. Singh	V.C., HAU	HAvR	8/14-4-88
	Mahender Singh	D.R., HAU	HAvR	-do-
	Dr M.C. Agarwal	Sr Scientist, HAU	HAvR	-do-
Barthin	B.C. Sood etc	HP Krishi Vishavidyalaya	HAvR	-do-
Karnal	N.T. Singh, R.P. Das	C.S.S.R.I.	HAvR	-do-
Kaul	S.K. Agarwal	College of Agriculture	HAvR	-do-
Modipuram	H.N. Shahi	G.B.P.U.A.T.	JK	5/15-4-88
Meerut		Meerut University	JK	-do-
Pantnagar	P.P. Arora	G.B.P.U.A.T.	JK	-do-
Garampani		GBPUAT Research Stn.	JK	-do-

Table 1.2. Visits by ICRISAT Chickpea Breeders to different locations outside India, 1987/88.

Location	Person(s) contacted	Institution	Visiting Scientist	Date/s
Larissa	Halen Kontsiotoy	Fodder Crops & Pastures Institute	HAvR	23-5/16.6.87
Cordoba	R.M.J. Dias etc	INTA	HAvR	-do-
Stuttgart	Dieter Hess	Hohenheim University	HAvR	-do-
Wageningen	R. Th. Weiringa	I.A.C.	HAvR	-do-
Berlin	XIV International Botanical Congress		HAvR	23/7-1/8/87
Rangoon	U Tin Hlaing	A.R.I.	CLLG	15-23/7/87
Yezin	Dr Tun Saing	A.R.I.	CLLG	-do-
Mandalay	U Sein Win	A.R.I.	CLLG	-do-
Dhaka	M.H. Mondal	B.A.R.I.	CLLG,JK	19-25/7/87
Dhaka	M.A. Hamid	B.A.R.I.	CLLG,JK	-do-
Isturdi	M. Matiur Rahman	BARI, RARS	CLLG,JK	-do-
Joydebpur	Anwarul Islam	Pulses Review Meeting	CLLG,JK	-do-
Holetta	Seme Debela, S.P.S. Beniwal	Institute for Agril. Research	HAvR	19/10-18/11/87
Debre Zeit	Gashu Mekonnen, Abebe Tullu, Seid Ahmed, Million Eshete etc	Agricultural Res. Stn.	HAvR	-do-
Katumani	P.K. Kuseme, P. Omanga	N.D.F.R.S.	HAvR	-do-
Nairobi	A.A. Seiff, B. Odhiambo	N.A.L.	HAvR	-do-
Nairobi	W.W. Wapakala	K.A.R.I.	HAvR	-do-
Nairobi	B.M. Desai	East African Seed Co.	HAvR	-do-
Debre Zeit	Abebe Tullu, Seifu Tsegaye Kebede Alemu	Agril Res. Center	HAvR	30/11-11/12/87
Holetta	Dereje Gorfu	I.A.R.	HAvR	-do-
Dhaka	M.H. Mondal	B.A.R.I.	JK	9-20/3/88
Isturdi	M. Matiur Rahman	BARI, RARS	JK	-do-
Rajshahi		RARS	JK	-do-
Joydebpur		RARS	JK	-do-
Jessore		RARS	JK	-do-
Nepalganj	T.P. Giri etc	Agril Res. Stn.	HAvR	16/28-3-88
Khairahwa	P.P. Regmi etc	Agril Res. Stn.	HAvR	-do-

contd.

Table 12. contd.

Location	Person(s) contacted	Institution	Visiting Scientist	Date/s
Rampur	K.N. Tiwari, R.P. Sah etc	Agril Res. Stn.	HAvR	-do-
Parwanipur	D.N. Manandhar etc.	Agril Res. Stn.	HAvR	-do-
Parwanipur	Training Course for Research and Extension Workers on Chickpea, pigeonpea and lentil		HAvR	20-30/3/88
Ankara	Didar Ener	Univ. of Ankara	HAvR	24/5-26/5/88

Thirteenth International Chickpea Trials and Nurseries, 1987/88

This report covers the results of Thirteenth International Chickpea Cooperative Trials and Nurseries distributed by ICRISAT in 1987/88.

The results are presented as in the previous seasons. Seventeen sets of screening nurseries and twenty sets of cooperative trials of short, medium and long duration were distributed to cooperators in 12 countries outside India (Table 2.1). Within India, 39 sets of nurseries, 40 sets of trials and 8 sets of kabuli trial were distributed to 40 cooperators in 15 states (Table 2.2). In addition 5 sets of International Chickpea Adatpation Trial was also sent to cooperators in 4 states.

Environmental data, soil types and management practices adopted in each locations are presented in tables 3 and 4. Combined tables for each trial and nursery set, correlation matrices and stability parameters are included in this report. Individual location data tables are in a seperate report.

This is only a preliminary report and only basic analysis has been completed. We thank all cooperators for conducting these trials and nurseries successfully.

Layout and management

The ICSNs (ICSN-DS, -DM, -DL) were arranged in a duplicated augmented design with 4 rows of 4 m long, 30 cm apart with 7-10 cm between plants. There were 40 test entries and one check cultivar in each of the nurseries.

The ICCT's (ICCT-DS, -DM, -DL and -K) were arranged in a randomized block design with four replications. Plot sizes of 6 rows, 4 m long, 30 cm between rows and 7-10 cm between plants were recommended. There were 16 entries in each trial.

Days to 50% flowering, plant height (cm), days to maturity, 100-seed mass, and seed yields are reported here.

International Chickpea Screening Nursery - Desi Short Duration (ICSN-DS)

Entries

There were 40 test entries, 32 selected from advanced yield trials conducted at Patancheru in 1986/87 and 8 entries from ICSN-DS 1986-87. Annigeri was included as check cultivar (Table 5).

Locations

Twenty five sets were distributed, 10 abroad and 15 within India. Results were received from 10 locations from India and one location from abroad.

Results

Mean days to 50% flowering and maturity were highest at Gurdaspur and

lowest at Akola and Gulbarga respectively. Plant height was highest at Ludhiana and lowest at Junagadh. Mean 100-seed mass (g) was highest at Junagadh whereas seed yield was highest at Ludhiana (1735 kg ha^{-1}) among Indian locations. Dokri in Pakistan recorded a mean seed yield of 2522 kg ha^{-1}.

Days to 50% flowering

There was considerable difference for this character among entries in most of the locations. Most of the entries were similar to check cultivar, Annigeri (Table 6) in the overall mean.

Plant height

There was not much variation among entries in the overall mean. However ICCL 87206 was the tallest entry (Table 7).

Days to maturity

There was not much variation among entries. All the entries were almost similar in maturity (Table 8).

100 seed mass (g)

The overall mean showed a range of 16-25 (g) per 100 seeds. ICCL 87206 was the heaviest with 25 g/100 seed (Table 9).

Seed yield

The overall mean showed considerable variation among entries. The highest yielder was ICCL 87208 with 1767 kg ha^{-1} (Table 10).

International Chickpea Screening Nursery - Desi Medium Duration (ICSN-DM)

Entries

The entries included 3 repeats from ICSN-DM, 1986/87, 37 advanced lines selected from advanced yield trials conducted at Patancheru and Hisar and one check cultivar K 850 (Table 11).

Locations

Fourteen sets were distributed, 5 abroad and 9 within India. Data were received from 8 locations.

Results

Days to 50% flowering was highest at Faridkot and lowest at Junagadh. Plant height ranged from 26.3 cm at Junagadh to 60.5 cm at Gwalior. Nursery matured in 98 days at Junagadh and 145 days at Parwanipur. Seed size ranged from 21.6 g/100 seed at Gwalior to 31.1 g/100 seed at Patancheru. Parwanipur in Nepal produced highest yield (3570 kg ha^{-1}) whereas Junagadh produced the lowest yield (590 kg ha^{-1}).

Days to 50% flowering

There were differences among entries. ICCL 87316 took 75 days compared to 69 days taken by check cultivar (Table 12).

Plant height

There were considerable differences among entries (Table 13).

Days to maturity

There was not much variation among entries. All entries were almost similar in maturity (Table 14).

100-seed mass (g) There were considerable differences among entries, ICCL 87319 was the heaviest with 28 g whereas ICCL 87330, 87331 and 87334 were the smallest with 13 g/100 seed (Table 15).

Seed yield

ICCL 87329 ranked first with 2040 kg ha^{-1}. There was considerable variation among entries in the overall mean (Table 16).

International Chickpea Screening Nursery - Desi Long Duration (ICSN-DL)

Entries

This nursery consisted of 40 advanced lines, selected from advanced yield trials at Hisar with one check cultivar (Table 17).

Locations

A total fo 17 sets were distributed to cooperators. Results were received from 9 locations.

Results

The nursery took 107 days to flowering at Gurdaspur whereas at Gwalior it took only 71 days. Plants were tallest at Sriganganagar (65 cm) and shortest at Hisar (37 cm). Days to maturity ranged from 123 days at Faridkot to 168 days at Gurdaspur. Seeds were smaller at Gwalior 11.7 g/100 seed) and bigger at Hisar (17.5 g/100 seed). Sriganganagar produced the highest yield of 3596 kg ha^{-1}.

Days to 50% flowering

There were differences among entries in all locations. Overall it ranged from 83 to 91 days (Table 18).

Plant height

There was considerable variation among entries in all locations. Overall mean ranged from 47 cm to 63 cm (Table 19).

Days to maturity

The variation among entries was considerably low and overall mean ranged from 143-147 days (Table 20).

100-seed mass (g)

Variability existed among entries in all the locations (Table 21).

Seed yield

ICCL 87402 ranked first in the overall mean. Seed yield ranged from 1415 kg ha^{-1} to 1941 kg ha^{-1} (Table 22).

International Chickpea Cooperative Trial - Desi Short Duration (ICCT-DS)

Entries

There were 12 test entries with 3 regular checks and a local check (Table 23).

Locations

Twenty five sets were distributed, 10 to outside India and 15 within India. Data were received from 11 locations.

Results

There were not much differences in the overall mean of days to flowering. Mean plant height was 49 cm at Raipur and 18 cm at Junagadh. The trial matured in 84 days at Nayagarh whereas it took 137 days at Kota. Mean seed yield was highest at Kota 3086 kg ha^{-1} and lowest at Nayagarh 175 kg ha^{-1}.

Days to 50% flowering

It ranged from 43 days (Junagadh) to 82 days (Kota). Annigeri flowered in 55 days (Table 24).

Plant height

Considerable differences did not exist among entries in the overall mean (Table 25).

Days to maturity

Differences in days to maturity existed in some locations. However, there was not much variation in the overall mean (Table 26).

100-seed mass (g)

Variation existed among entries at all locations. Overall mean ranged from 13 g/100 seeds to 25 g/100 seeds (Table 27).

Seed yield

There were differences among entries at all locations. ICCL 83227 produced the highest mean seed yield of 1313 kg ha^{-1}. Annigeri produced 1094 kg ha^{-1} (Table 28).

International Chickpea Cooperative Trial - Desi Medium Duration (ICCT-DM)

Entries

There were 12 test entries with 3 regular check and one local check (Table 29).

Locations

Six sets were sent to six countries and 12 sets were distributed in 10 states of India. Results were received from 7 locations.

Results

The trial was tallest, matured in 145 days and produced highest seed yields at Nepalganj with smallest seed size among the locations. The trial matured early in Patancheru but produced heaviest seeds.

Days to 50% flowering

There was considerable variation among entries for this character at most of the locations (Table 30).

Plant height

Differences existed among entries at all locations. ICCL 85307 and 85309 were the tallest entries among test entries (Table 31).

Days to maturity

Considerable variation existed at few locations. There was not much difference in days to maturity in the overall mean (Table 32).

100-seed mass (g)

Considerable varation existed among entries at all locations. ICCL 85309 produced the heaviest seeds among test entries (Table 33).

Seed yield

ICCL 85309 ranked first in seed yield. It ranged from 1134 kg ha^{-1} (ICCV 1, check) to 1732 kg ha^{-1} (Table 34).

International Chickpea Cooperative Trial - Desi Long Duration (ICCT-DL)

Entries

Entries consisted of 12 test entries, 3 regular checks and one local check (Table 35).

Locations

Four sets were sent to 4 cooperators in 4 countries outside India and 13 sets to cooperators within India. Results were received from 11 locations.

Results

Days to 50% flowering was highest at Meerut (110 days) and lowest at Gwalior. Mean plant height ranged from 38.5 cm (Hisar) to 69.7 cm (Sriganganagar). Days to maturity ranged from 128.8 days (Sabour) to 169.9 days (Gurdaspur). Mean seed yield was highest at Sriganganagar (2487 kg ha^{-1}) and lowest at Faridkot (822 kg ha^{-1}).

Days to 50% flowering

There were considerable differences among entries at most of the locations (Table 36).

Plant height

ICCL 86428 was the tallest line and ICCL 86456 was the shortest line among test entries. Check cultivar G 130 was 55 cm tall (Table 37).

Days to maturity

There was no variation among entries (Table 38).

100-seed mass (g)

There were considerable differences among entries at all locations. 100-seed mass ranged from 12 g/100 seed (ICC 10136) to 17 g/100 seed (ICCL 86446) (Table 39).

Seed yield

Seed yield ranged from 1198 kg ha^{-1} (ICCL 86428) to 1778 kg ha^{-1} (local check). ICCL 86453 produced the highest yield (1771 kg ha^{-1}) among test entries (Table 40).

International Chickpea Cooperative Trial - Kabuli (ICCT-K)

Location

Eight sets were sent to Indian locations. Data was received from 7 locations.

Entries

There were 15 test entries and a check cultivar, L 550. All these test entries originated from ICRISAT breeding program (Table 41).

Results

Days to 50% flowering was highest at Sriganganagar (89 days) and lowest at Lam (48.5 days). Sriganganagar produced tallest crop and matured late compared to other locations. Seed yield was highest at Hisar (3016 kg ha^{-1}) and lowest at Lam (599 kg ha^{-1}).

Days to 50% flowering

ICC 12970 flowered in shortest time (54 days) whereas ICCL 86503 and 86508 took longest time (80 days). There was considerable variation among entries at many locations (Table 42).

Plant height

It ranged from 43 cm (ICC 12970) to 61 cm (ICCL 86503) (Table 43).

Days to maturity

The differences in days to maturity were not considerable at many locations (Table 44).

100-seed mass (g)

There were considerable differences among entries at all locations. ICC 12975 produced the biggest seeds (30 g/100 seeds) and ICC 12339 produced the smallest seeds (20 g/100 seed) (Table 45).

Seed yield

Two entries ICCL 86509 and 86510 outyielded the check cultivar, L 550. ICCL 86508 was the lowest yielder with 1292 kg ha^{-1} (Table 46).

Correlation among characters

Correlations among characters for all types of nurseries and trials were computed and presented in tables 47-110.

There was significant positive correlation between days to 50% flowering and days to maturity in 25 locations out of 55 locations computed; 9 in short, 8 in medium and 5 in long duration maturity groups and 3 in kabuli trial. Days to 50% flowering was significantly positively correlated with plant height at 10 locations, with 100-seed mass at 6 locations, and with seed yield at 6 locations. There was significant negative correlation between days to 50% flowering and 100-seed mass at 2 locations, days to 50% flowering and seed yield at 8 locations.

There was significant positive correlation between days to maturity and plant height at 14 locations and significant negative correlation at one location. Correlation was significantly positive between days to maturity and 100-seed mass at 7 locations and between days to maturity and seed yield at 4 locations. There was negative significant correlation between days to mature and seed yield at 8 locations. There was significant positive correlations between plantheight and 100-seed mass at 10 locations. Positive significant correlaton was observed between plant

neight and seed yield at 6 locations and negative correlation at 6 locations. Significant negative correlation was found between 100-seed mass and seed yield at 6 locations and significant positive correlation between 100-seed mass and seed yield at 3 locations. These associations between characters need to be studied in detail for valid conclusions.

Correlations among locations

Correlations were computed for seed yield and yield ranks of entries among all possible pairs of locations for ICSN-DS, -DM, -DL and ICCT-DS, -DM, -DL and -K and are presented in tables 111 to 124. Among locations Patancheru and Dokri were positively correlated in ICSN-DS. Patancheru and Navgaon, Junagadh and Delhi, Gwalior and Delhi, Navgaon and Faridkot were positively correlated in ICSN-DM. In ICCT-DS, Gulbarga and Raipur, Navgaon and Nayagarh were positively correlated. In ICCT-DL, Sabour and Gwalior, Sabour and Garampani, Hisar and Gwalior, Hisar and Garampani, Gwalior and Ludhiana, Gwalior and Sriganganagar, Gwalior and Garampani, Ludhiana and Garampani, Sriganganagar and Meerut, Sriganganagar and Garampani, Meerut and Garampani, were positively correlated. In ICCT-K, Lam and Patancheru, Lam and Sriganganagar, and Lam and Gwalior were positively correlated.

Genotype x Environment interactions

Data from ICCT-DS, -DM, -DL and -K were subjected to stability analysis and the stability parameters are given in tables 125-128. There are very few stable varieties in all the above trials. As in previous seasons the G x E interaction was significant in all the trials indicating need of further analysis and grouping of environments.

Summary and Conclusions

This is the 13th Report on International Chickpea Cooperative Trials and Nurseries distributed by ICRISAT in 1987/88.

The trials were successful in most of the locations. Plant stands were average and major disease was wilt. There were few to many entries which yielded better than the best check at each location. Genotype x environment interactions were significantly higher for all types of trials and there were many locations which were closely associated for yield.

Table 2.1. The numbers of International Chickpea Trials and Nurseries distributed outside India, 1987/88.

Country	Location	Cooperator	ICSN DS	ICSN DM	ICSN DL	ICCT DS	ICCT DM	ICCT DL
Bangladesh	Ishurdi	Matiur Rahman	2			1		
Ethiopia	Debre Zeit	Gashu Mekonnen	1	1		1	1	
France	La Batie Rolland	Top Semence/UCCS	1			1		1
Iran	Ahvaz	Jamshid Hayati						1
Libya	Tripoli	Fawzi A. Tahov					1	1
Mexico	Celaya	E.A. Arias					1	1
Nepal	Kathmandu	M.P. Bharati	2	1		1	1	
Pakistan	Islamabad	M.S. Rahman	1	1			1	
	Islamabad	M. Bashir	1	1	2	1		
Philippines	Manila	V.R. Carangal				1		
	Isabela	M. Bayucan				1		
Rep. of Guinea	Kindia	H. Rahman				1		
Sri Lanka		S.D.I.E. Gunawardena	1			1		
Vietnam		V.U. Tuyen Hong	1	1		1	1	
		Total:	10	5	2	10	6	4

Table 2.2. The numbers of International Chickpea Trials and Nurseries distributed within India, 1987/88.

State	Location	Cooperator	ICSN DS	ICSN DM	ICSN DL	ICCT DS	ICCT DM	ICCT DL	ICCT K	ICAT
Andhra Pradesh	LAM	A. Satyanarayana	1			1				
	Patancheru	ICRISAT	1	1		1	1		1	
Bihar	Ranchi (Kanke)	M.F. Haque						1		
	Dholi	S.K. Choudhury			1			1		
	Sabour	N.B. Singh			1			1		
	Ranchi	C.M. Sharma	1							
Gujarat	Sardar Krishinagar	R.M. Shah		1			1			
	Junagadh	J.P. Yadavendra	1	1		1	2			1
Haryana	Hisar	B.S. Dahiya							1	
	Hisar	ICRISAT			1			1	1	
Himachal Pradesh	Berthin	B.C. Sood			2					
Karnataka	Dharwar	P.M. Salimath			1			1		
	Gulbarga	T. Sweny Rao	1			1				
Madhya Pradesh	Raipur	B.B. Agrawal	1			1				
	Sehore	M.S. Lal	1			1	2			2
	Indore	S.W. Telang		1			1			
	Gwalior	ICRISAT		1	1		1	1	1	
	Ambikapur	R.L. Pandey		1						
Maharashtra	Rahuri	R.B. Deshmukh	1							
	Badnapur	V.K. Shinde			1			1		
	Akola	S.T. Khade			1					

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Table ... contd.

State	Location	Cooperator	ICSN DS	ICSN DM	ICSN DL	ICCT DS	ICCT DM	ICCT DL	ICCT K	ICAT
New Delhi	I.A.R.I.	P.N. Bahl		1	1				1	
Orissa	Bhawanipatna	D. Sahu				1				
	Keonjhar	K.M. Sunal				1				
	Keonjhar	Jere				1				
	Rayagarh	K.C. Panda				1				
Punjab	Ludhiana	M.M. Verma	1		1			1		
	Faridkot	T.S. Sandhu		1	1		1	1	1	
	Gurdaspur	A.S. Gill	1		1			1		
Rajasthan	Kota	P.K. Dixit	1							
	Navgaon	A.K. Sanghi	1	1		1	1			
	Sriganganagar	R.V. Maheswari			1			1		
Tamil Nadu	Coimbatore	C.K. Rajagopalan	1							
Uttar Pradesh	Kanpur	R.P. Katiyar			2			2		
	Meerut	P.K. Gupta						1		
	Faizabad	Ramakrishna	1			1				1
	Pantnagar	B.P. Pandey			1					
	Varanasi	R.M. Singh			1			1		
	Ghirampani	B.V. Singh						1		
West Bengal	Berhampore	S.N. Sen					1			
		Total:	15	9	15	15	12	13	8	5

Table 3. Environmental data for locations of international trials and nurseries conducted in 1987/88.

Location	State/Country	latitude	longitude	Altitude (m)	Total Rainfall (mm)	Mean Temperature Max.	Mean Temperature Min.	Soil type
Nepalgunj	Nepal	28 06	81 37	181	58.70	27.91	11.27	Clay loam
Manila	Philippines	—	—	-	658.80	27.07	21.40	—
—	Sri Lanka	9 22	8 22	490	446.00	27.99	22.99	Non-calcareous brown soil
Dokri, Sind	Pakistan	27 50	68 70	-	0.75	29.62	11.53	Texture clay loam
Lam, Guntur	Andhra Pradesh	—	—	-	264.8	30.17	18.54	Black clay loamy
Patancheru	Andhra Pradesh	22 30	78	509	244.8	29.96	16.74	Black soil
Ranchi (Kanke)	Bihar	23 17	85 19	625	230.70	25.62	10 39	Red sandy loam
Sabour	Bihar	25 15	87 2	45.75	46.80	27.16	11.21	Loam
Junagadh	Gujarat	21 50	70 51	60.0	-	35.34	15.99	Medium black soil
Hisar	Haryana	29 10	75 46	215.2	26.50	26.94	8.76	Loamy sand
Hisar (ICRISAT)	Haryana	29 10	75 46	215.2	34.30	25.73	7.95	Loamy sand
Berthin	Himachal Pradesh	--	—	540	-	-	-	Loamy sand
Gulbarga	Karnataka	17 2	76 5	443.88	121.9	-	-	Medium black
Raipur	Madhya Pradesh	21	80	293	91.40	30.17	13.89	Kariher
Gwalior	Madhya Pradesh	26.13	78.14	211.52	32.40	27.46	7.97	Inceptisol
Akola	Maharashtra	—	—	-	60.20	31.62	13.13	Medium type of soil
Rahuri	Maharashtra	—	—	-	47.80	29.82	13.09	Medium black
IARI	New Delhi	28 4	77 1	227	3.8	27.75	11.19	Sandy loam
Keonjhar	Orissa	21 55	85 35	615	199.8	27.16	13.28	Clay loam
Nayagarh	Orissa	20 15	85 05	90	80	31.30	20.50	Clay loam
Ludhiana	Punjab	30 54	75 48	244	-	-	-	Light soil medium
Faridkot	Punjab	—	—	-	-	-	-	Sandy loam
Gurdaspur	Punjab	32 02	75 24	407	174.50	27.40	8.77	Loamy medium
Kota	Rajasthan	—	—	-	292.38	29.37	16.39	Heavy clay type
Navgaon	Rajasthan	—	--	-	-	-	-	Alluvial
Sriganganagar	Rajasthan	29 5	73 8	176.4	36.90	27.49	10.34	Sandy soil
Kanpur	Uttar Pradesh	25 26	79 3	180	-	-	-	Sandy loam
Meerut	Uttar Pradesh	-	-	-	-	-	-	Sandy loam
Garampani	Uttar Pradesh	29 28	79 32	900	241.62	22.22	6.83	Sandy loam
Berhampore	West Bengal	24 5	88 13	-	133.40	34.97	15.32	Clay loam

Table 4. Management practices and general observations on international chickpea trials and nurseries, at different locations, 1987-88.

Location	Sowing date	Fertilizer kg ha^{-1} N	P	K	Insecticide	Irrigations	Local check	Plant stand score	Remarks
Pantnagar	7-11-1987	20	40	20	Sumicidine	0	K 850	-	
Patiala	28-12-1987	14	14	14	Lannate Nuvacron	-	-	-	Heavy rain spoilt crop
Sri Lanka	5-12-1987	-	-	-	Monocrotophos	3	-	2	
Dakri	7-12-1987	14	28	0	Thiodan	0	C 612	4	
Iari	28-10-1987	20	50	0	Endosulfan	0	Jothi	3	
Patancheru	28-10-1987	18	46	-	Thiodan	0	ICCC 37	3	
Sabour	6-11-1987	20	40	0	Endosulfan	-	C 235	1	
Junagadh	31-11-1987	20	40	0	Endosulfan	6	Chaffa	4	Insect problem very high
Hisar	4-12-1987	0	0	0	Endosulfan	2	0	2	
Hissar (HAU)	7-11-1987	-	-	-	Thiodan	2	H 208	2	
Delhi	3-11-1987	20	40	0	0	0	C 235	5	Very poor plant stand
Gulbarga	22-10-1987	25	50	0	Endosulfan Monocrotophos	0	Annigeri 1	2	
Raipur	9-11-1987	18	46	0	0	0	JG 74	4	Insect problem
Gwalior	20-10-1987	-	-	-	Thiodan	3	Gwalior 2	-	
Rahuri	31-10-1987	25	50	0	Endosulfan	4	-	3	
Akola	29-10-1987	25	40	0	Endosulfan	0	Chaffa	4	
IARI	18-11-1987	20	40	0	Endosulfan	1	BG 209	1	
Keonjhar	18-11-1987	-	-	-	Thiodan	1	ICCL 85229	3	Poor growth
Nayagarh	9-12-1987	20	40	0	Democron	3	Moti	4	Pest problem
Ludhiana	2-11-1987	12	50	0	-	-	GL 769	3	
Faridkot	24-11-1987	-	-	-	Deci Sumicidine	2	GL 769	-	
Gurdaspur	4-11-1987	16	46	0	Thiodan	0	-	1	
Kota	9-11-1987	20	40	0	Thimet	-	C 235	-	Salinity
Nayagaon	28-10-1987	20	40	0	-	1	RSG 2	1	
Sriganganagar	7-11-1987	20	40	0	Endosulfan	1	GNG 146	-	
Kanpur	31-10-1987	15	40	0	-	1	K 468	3	
Meerut	5-11-1987	20	40	40	Endosulfan	3	C 235	2	
Ranaghat	13-11-1987	60	SSP		-	0	Local	1	
Berhampore	24-11-1987	40	SSP		-	1	Anuradha	3	Trial damaged due to rain

Table 5. Details of entries in ICSN-DS, 1987/88.

Entry	ICCL No	Selection	Parentage
1	87233	ICCX-761687-BP-BP-61P-3P-1P-1P-BP	ICCX-730170-F_5 x ICCX-730662-F_5
2	86221	ICCX-800003-BP-BP-19P-BP	JG-74 x ICCC-9
3	86223	ICCX-800494-5P-1P-1P-BP	MMS 4 x Annigeri
4	86203	ICCX-800007-BP-BP-48P-BP	JG-74 x Phule G-4
5	86229	ICCX-780172-3BP-2P-BP-BP-3P-BP	T3 Gwalior x C-104
6	86205	ICCX-800066-BP-BP-9P-BP	ICCL-78043 x BDN 9-3
7	86214	ICCX-790047-BP-BP-15P-BP	Annigeri x ICCC-9
8	86211	ICCX-800082-BP-BP-36P-BP	ICCL-78073 x BDN 9-3
9	87201	ICCX-800001-BP-BP-19P-BP	JG-74 x Annigeri
10	87202	ICCX-800002-BP-BP-24P-BP	JG-74 x BDN 9-3
11	87203	ICCX-800034-BP-BP-9P-BP	ICCL-78004 x BDN 9-3
12	87204	ICCX-800041-BP-BP-15P-BP	ICCL-78005 x Annigeri
13	87205	ICCX-810014-BP-BP-14P-BP	BDN 9-3 x ICCL-80074
14	87206	ICCX-810034-BP-BP-1P-BP	ICCC-22 x Phule G-7
15	87207	ICCX-810070-BP-BP-10P-BP	K-850 x ICCL 80074
16	87208	ICCX-810070-BP-BP-11P-BP	K-850 x ICCL-80074
17	87209	ICCX-800019-BP-BP-17P-BP	P-324 x ICCC-9
18	87210	ICCX-810663-35P-1P-1P-BP	Annigeri x Phule G-5
19	87211	ICCX-810844-BP-18P-1P-BP	(Annigeri x JG-74) x Annigeri) x Annigeri
20	87212	ICCX-810713-22P-1P-1P-BP	Annigeri x P 436-2
21	87213	ICCX-810713-22P-3P-1P-BP	Annigeri x P 436-2
22	87214	ICCX-810713-39P-2P-3P-BP	Annigeri x P 436-2

Table 5 (contd)

23	87215	ICCX-780073-BP-BP-20P-1P-1P-BP	ICCX-730089-20-3-B-BP x P-180-1
24	87216	ICCX-780073-BP-BP-34P-1P-2P-BP	ICCX-730089-20-3-B-BP x P-180-1
25	87217	ICCX-780073-BP-BP-44P-1P-2P-BP	ICCX-730089-20-3-B-BP x P-180-1
26	87218	ICCX-770027-BP-BP-7P-1P-1P-1P-BP	Annigeri x ICCC 2
27	87219	ICCX-770019-BP-BP-14P-1P-1P-1P-BP	Annigeri x K-850
28	87220	ICCX-800034-BP-BP-13P-1P-BP	ICCL-78004 x BDN 9-3
29	87221	ICCX-800002-BP-BP-34P-1P-BP	JG-74 x BDN 9-3
30	87222	ICCX-800017-BP-BP-3P-2P-BP	P 324 x Annigeri
31	87223	ICCX-800066-BP-BP-55P-3P-BP	ICCL-78043 x BDN 9-3
32	87224	ICCX-800004-BP-BP-38P-1P-BP	JG-74 x K-850
33	87225	ICCX-800066-BP-BP-59P-2P-BP	ICCL-78043 x BDN 9-3
34	87226	ICCX-800066-BP-BP-76P-1P-BP	ICCL-78043 x BDN 9-3
35	87227	ICCX-800081-BP-BP-15P-2P-BP	ICCL-78043 x Annigeri
36	87228	ICCX-770026-BP-BP-40P-1P-BP	Annigeri x E-100
37	87229	ICCX-800066-BP-BP-34P-BP	ICCL-78043 x BDN 9-3
38	87230	ICCX-800066-BP-BP-62P-BP	ICCL-78043 x BDN 9-3
39	87231	ICCX-780073-BP-BP-17P-1P-BP	ICCX-730089-20-3-B-BP x P-180-1
40	87232	ICCX-790055-BP-BP-20P-1P-BP	Annigeri x ICCX-730041-8-1-B-BP
41	4918	Annigeri	

Table 6. Mean days to 50% flowering of entries in ICSN DS at 10 locations, 1987-88

S.No.	Entry	Patan cheru	Ranchi	Junagadh	Gulbarga	Rahuri	Akola	Ludhiana	Gurdaspur	Nawagoan	Dokri	Mean
1	87233	52	61	45	54	45	44	74	100	53	78	61
2	86221	56	66	46	52	49	48	69	100	66	79	63
3	86223	55	64	48	57	49	54	84	103	55	77	65
4	86203	55	66	51	57	53	53	75	101	58	76	65
5	86229	55	66	47	56	53	55	84	98	71	78	66
6	86205	54	62	45	54	49	43	75	100	51	76	61
7	86214	54	64	46	55	49	46	76	97	58	74	62
8	86211	54	66	48	55	49	50	75	99	56	77	63
9	87201	52	62	46	55	46	41	73	96	55	75	60
10	87202	55	64	47	56	53	53	89	100	65	77	66
11	87203	54	65	45	53	45	43	81	96	60	76	62
12	87204	55	66	45	52	53	43	73	105	53	77	62
13	87205	53	61	48	58	45	43	84	98	54	75	62
14	87206	54	62	46	53	45	42	76	100	60	74	61
15	87207	54	67	44	51	49	44	76	98	63	76	62
16	87208	56	66	46	59	49	53	79	100	53	78	64
17	87209	55	66	47	56	45	48	74	97	55	76	62
18	87210	55	65	47	53	46	50	76	98	52	77	62
19	87211	54	59	46	58	45	44	75	101	51	77	61
20	87212	53	66	47	57	45	43	72	101	53	78	62
21	87213	51	60	47	54	45	43	72	99	53	76	60
22	87214	54	65	46	55	48	43	72	100	51	77	61
23	87215	54	59	46	54	46	46	71	97	62	75	61
24	87216	56	63	46	56	45	48	84	100	55	75	63
25	87217	54	64	47	55	46	51	89	102	64	77	65
26	87218	56	64	46	58	53	50	84	100	57	75	64
27	87219	53	64	45	53	48	45	84	100	56	77	63
28	87220	56	64	45	53	46	53	74	98	54	77	62
29	87221	54	67	46	52	51	52	89	103	60	76	65
30	87222	55	64	46	52	46	51	76	100	53	75	62
31	87223	55	59	48	51	50	47	74	98	53	76	61
32	87224	54	66	47	53	51	49	89	98	65	76	65
33	87225	55	63	46	53	45	43	74	98	54	77	61
34	87226	55	62	46	56	49	45	73	98	53	76	61
35	87227	54	63	45	51	45	42	77	100	57	76	61
36	87228	55	63	47	58	44	47	69	96	57	78	61
37	87229	54	61	46	57	45	44	85	97	54	77	62
38	87230	54	59	46	56	45	43	71	101	56	74	61
39	87231	55	64	51	57	49	47	85	106	58	77	65
40	87232	54	63	47	55	45	46	73	100	55	78	62
41	4918	54	63	46	54	47	46	77	101	56	77	62
	SE	0.6	0.3	1.6	0.6	2.0	1.9	-	0.5	3.7	1.5	
	Mean	54.4	63.5	50.4	56.7	49.0	46.0	77.6	99.4	55.5	76.4	
	CV	1.5	0.6	4.8	1.4	6.1	5.7	-	0.7	9.1	2.8	

Table 7. Mean plant height (cm) of entries in ICSN 05 at 9 locations, 1987-88

S.No.	Entry	Patancheru	Ranchi	Junagadh	Raipur	Rahuri	Akola	Ludhiana	Gurdaspur	Dokri	Mean
1	87233	30	35	27	42	26	29	62	62	43	40
2	86221	32	41	25	42	27	33	60	58	40	40
3	86223	31	39	28	41	26	34	63	54	38	39
4	86703	32	35	28	42	27	37	50	59	42	39
5	86229	33	41	26	43	29	39	68	58	48	43
6	86205	32	41	27	43	27	32	57	57	41	39
7	86214	32	32	28	46	25	31	53	58	42	39
8	86211	26	40	25	43	28	34	46	56	42	38
9	87201	28	42	28	37	29	29	61	54	59	41
10	87202	32	38	26	49	28	35	72	41	60	42
11	87203	34	46	27	44	27	35	65	64	41	42
12	87204	26	36	27	39	25	27	65	50	57	39
13	87205	31	36	30	32	29	37	58	63	47	40
14	87206	37	48	27	44	30	39	72	70	52	47
15	87207	32	39	27	43	33	39	63	61	48	43
16	87208	31	44	25	43	31	36	59	52	35	40
17	87209	29	42	31	43	26	36	69	53	45	42
18	87210	28	33	23	43	24	25	41	54	46	35
19	87211	28	48	23	42	30	29	54	56	35	38
20	87212	32	41	28	43	31	36	78	54	42	43
21	87213	30	36	23	44	26	33	72	50	41	39
22	87214	33	50	23	43	27	31	65	55	48	42
23	87215	30	35	25	43	30	36	70	56	42	41
24	87216	28	43	23	39	27	35	43	61	40	38
25	87217	26	49	25	46	30	38	56	73	45	43
26	87218	24	37	25	42	25	32	57	63	44	39
27	87219	29	50	27	43	25	32	61	52	50	41
28	87220	33	35	27	43	27	39	67	62	43	42
29	87221	33	41	28	44	30	38	67	61	37	42
30	87222	33	45	24	40	23	31	36	59	41	37
31	87223	33	32	26	49	28	34	55	63	36	40
32	87224	30	40	20	47	28	32	60	54	45	40
33	87225	25	37	21	43	25	34	60	60	52	40
34	87226	30	43	24	44	27	38	70	62	46	43
35	87227	32	48	23	43	28	32	71	71	45	44
36	87228	29	41	23	43	30	28	71	57	53	42
37	87229	30	34	24	46	25	31	49	51	47	37
38	87230	29	35	24	42	27	35	70	55	37	39
39	87231	27	35	28	40	28	38	50	65	46	40
40	87232	31	45	22	47	28	35	66	62	58	44
41	4918 .S1	30	43	25	42	27	33	62	57	42	40
	SE	2.0	1.6	2.5	2.1	1.8	3.5	-	1.9	3.9	
	Mean	30.2	40.2	25.7	42.9	29.4	34.4	60.7	58.0	44.9	
	CV	9.3	5.6	13.9	6.9	9.0	14.6	-	4.7	12.2	

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Table 8. Mean days to maturity of entries in ICSN OS at 9 locations, 1987-88

S.No.	Entry	Patancheru	Ranchi	Junagadh	Gulbarga	Raipur	Rahuri	Akola	Ludhiana	Gurdaspur	Mean
1	87233	100	132	94	95	109	96	99	168	174	119
2	86221	105	133	97	92	108	102	98	168	168	122
3	86223	105	137	95	99	108	101	100	168	168	120
4	86703	104	129	91	95	108	103	100	169	168	119
5	86229	107	136	95	96	110	100	98	170	169	120
6	86705	104	130	96	98	108	97	97	168	171	118
7	86214	101	127	98	93	109	101	99	167	169	118
8	86211	101	130	88	95	109	96	99	168	171	116
9	87201	101	137	102	96	108	97	94	167	169	119
10	87202	105	132	95	96	107	102	97	170	169	119
11	87203	101	133	92	94	106	97	99	169	167	117
12	87204	100	139	95	100	110	97	92	169	170	119
13	87205	100	134	98	93	112	96	96	167	167	118
14	87206	100	129	92	98	108	99	94	167	168	117
15	87207	101	135	92	100	108	102	98	168	168	120
16	87208	102	134	86	97	108	101	99	169	172	118
17	87209	103	138	97	95	107	101	97	168	170	119
18	87210	104	132	92	96	108	99	93	165	171	118
19	87211	100	136	98	94	105	98	98	169	168	118
20	87212	100	131	102	95	108	98	95	169	168	119
21	87213	102	134	89	94	107	102	101	169	168	119
22	87214	100	140	101	99	110	100	96	168	168	120
23	87215	103	128	101	98	108	101	96	169	170	119
24	87216	101	129	102	97	108	99	98	168	168	119
25	87217	101	129	96	102	108	99	101	170	169	119
26	87218	101	136	94	101	107	100	97	169	168	119
27	87219	101	137	95	96	110	97	95	168	169	118
28	87220	101	128	102	93	109	99	96	171	170	119
29	87221	100	133	92	92	108	98	95	171	169	118
30	87222	101	138	96	96	109	96	96	167	168	118
31	87223	100	127	92	93	108	97	95	168	169	116
32	87224	100	127	88	97	107	101	92	168	167	117
33	87225	100	137	100	98	105	99	93	168	171	119
34	87226	101	130	100	92	106	96	103	171	170	119
35	87227	100	133	91	94	111	97	98	168	170	118
36	87228	101	128	92	96	108	96	92	169	169	117
37	87229	100	129	96	92	106	98	97	167	169	117
38	87230	101	125	95	93	112	96	98	168	171	118
39	87231	101	137	92	105	105	98	98	167	169	119
40	87232	100	132	93	94	105	97	97	168	171	117
41	4918	101.5	129	95.1	96	109	98.7	96.8	168	169	118
	SE	0.9	0.8	3.0	1.1	1.7	1.2	2.4	-	0.4	
	Mean	100.8	132.5	96.7	92.5	108.0	99.8	97.8	168.4	169.2	
	CV	1.3	0.8	4.4	1.5	2.2	1.7	3.5	-	0.3	

Table 9. Mean 100 seed mass of entries in ICSN DS at 9 locations, 1987-88

S.No.	Entry	Patan cheru	Ran chi	Junag adh	Gulb arga	Raipur	Rahuri	Akola	Gurda spur	Dokri	Mean
1	87233	20	18	21	17	19	20	17	15	24	19
2	86221	21	19	19	19	19	19	18	18	18	19
3	86223	19	18	19	17	16	20	17	17	18	18
4	86203	21	21	21	17	18	20	19	19	15	19
5	86279	16	17	19	14	16	15	13	17	16	16
6	86205	22	22	20	18	19	22	21	18	18	20
7	86214	21	17	19	19	12	17	17	18	13	17
8	86211	19	19	21	16	17	19	18	14	18	18
9	87201	19	18	18	16	15	17	15	17	17	17
10	87202	18	18	18	14	15	13	15	16	17	16
11	87203	19	18	20	17	15	18	17	19	15	18
12	87204	20	20	17	18	21	20	18	18	44	22
13	87205	19	23	19	18	18	18	17	15	19	18
14	87206	32	35	26	28	23	22	22	20	20	25
15	87207	30	28	23	25	17	28	19	17	21	23
16	87208	21	17	26	20	16	21	18	17	20	20
17	87209	17	12	18	15	14	15	15	16	19	16
18	87210	20	26	21	18	17	20	16	19	18	19
19	87211	21	20	16	19	18	20	19	20	19	19
20	87212	20	23	20	18	16	19	18	19	17	19
21	87213	24	29	21	23	23	23	21	15	19	22
22	87214	21	23	20	19	16	21	18	20	17	19
23	87215	20	22	20	19	17	22	16	20	19	19
24	87216	20	22	16	18	16	20	19	17	20	19
25	87217	20	23	18	19	18	22	18	16	18	19
26	87218	16	16	19	16	25	14	14	15	19	17
27	87219	21	21	20	22	18	23	18	18	15	20
28	87220	17	16	18	15	14	16	15	19	18	16
29	87221	19	18	20	16	15	17	18	19	19	18
30	87222	18	18	20	17	16	17	17	15	18	17
31	87223	17	16	15	19	16	14	14	17	15	16
32	87224	23	20	19	19	21	23	21	20	27	21
33	87225	18	16	16	16	15	15	16	16	20	16
34	87226	22	19	19	18	14	20	18	19	21	19
35	87227	21	21	20	20	17	22	17	19	19	20
36	87228	18	21	16	16	17	21	17	19	19	18
37	87229	17	16	20	16	16	15	16	20	18	17
38	87230	17	11	19	15	15	15	15	18	18	16
39	87231	20	22	21	20	17	22	19	18	17	20
40	87232	21	27	18	18	20	23	21	21	20	21
41	4918	20	17	19	18	18	19	17	15	19	18
	SE	0.5	0.6	2.3	-	2.2	-	1.8	0.4	6.1	
	Mean	21.1	20.2	21.4	19.4	18.5	20.6	18.9	17.8	19.1	
	CV	3.3	4.4	17.1	-	17.2	-	14.9	3.0	44.9	

Table 10. Mean seed yield (kg/ha) of entries in ICSN OS at 10 locations, 1987-88

S.No.	Entry	Patan cheru	Ran chi	Junag adh	Gulb arga	Raipur	Rahuri	Akola	Ludhi ana	Gurda spur	Neva gnan	Dokri	Mean
1	87233	1250	1434	739	1523	1462	1002	851	1618	336	1636	2138	1272
2	86221	1535	1911	771	1766	1925	1365	976	1787	633	1140	2698	1496
3	86223	1402	1200	1134	1344	1864	1102	1063	2101	446	1663	2901	1475
4	86203	1662	1608	1090	1639	1597	1255	952	1755	346	995	3417	1483
5	86229	2137	1771	791	1436	1340	1274	1116	1348	388	1088	3001	1426
6	86205	1432	994	826	1572	1929	1231	901	2095	179	623	1759	1229
7	86214	1850	774	836	1697	2002	1003	1033	1765	385	1250	2211	1344
8	86211	1812	1649	1151	1595	1875	1254	1317	1781	129	1003	2689	1478
9	87201	1555	1476	780	1782	1586	1350	1383	1851	26	1350	2189	1393
10	87202	1890	1756	1208	1575	2006	1218	1386	1696	685	1303	1917	1494
11	87203	1400	1764	747	1688	1704	1351	1193	1483	58	1098	976	1178
12	87204	1512	1879	881	1795	1496	1718	890	1667	185	2774	3345	1805
13	87205	1398	1335	757	1870	1763	1483	1233	1835	214	1423	2214	1561
14	87206	2000	1902	817	1561	1411	1792	844	1825	847	1272	2337	1510
15	87207	1466	1311	606	1355	1630	1917	689	2063	51	1867	2425	1396
16	87208	1887	2305	707	2014	1748	1576	962	2299	1568	1858	2711	1767
17	87209	1329	643	780	1560	1779	1073	1294	1976	287	1027	2522	1297
18	87210	1520	1789	647	1637	1630	940	619	1426	422	1049	2113	1256
19	87211	1379	1357	834	1647	1657	1321	1205	1619	496	703	1468	1244
20	87212	1625	817	775	1630	1908	1195	613	1932	169	1289	2841	1345
21	87213	1723	1321	1134	1774	1775	961	1053	1723	235	1352	3269	1483
22	87214	1682	1569	620	1508	1580	1568	1183	1974	428	1404	2843	1487
23	87215	1668	1488	670	1702	1630	1220	974	1151	87	898	2269	1247
24	87216	1677	1388	792	1534	1571	1085	1270	1443	32	1367	2281	1340
25	87217	1454	818	1112	1743	1479	1252	1556	1132	204	1249	2492	1314
26	87218	1173	1353	869	1862	1769	1327	1139	2068	536	1251	2206	1451
27	87219	1576	1968	792	1746	1563	1097	898	1816	385	1015	3409	1479
28	87220	2048	1401	682	1138	1539	1282	1883	1841	144	1173	2874	1457
29	87221	1625	1789	824	1351	1406	1409	1097	1870	68	1001	3086	1411
30	87222	1427	1705	808	1554	1447	854	1297	1493	95	1842	2560	1371
31	87223	1611	1780	706	1451	1628	970	1371	1079	701	1232	2130	1287
32	87224	1292	1833	525	1562	1651	1189	1074	2605	222	959	2124	1525
33	87225	1270	803	867	1460	1958	856	1656	1699	200	1333	2834	1349
34	87226	1424	1812	805	1757	1660	1087	1128	1644	701	1449	1456	1355
35	87227	1618	1747	641	1588	860	1573	1155	1863	576	1251	2522	1375
36	87228	1553	1428	614	1608	1630	1307	1467	1558	400	1251	2370	1417
37	87229	1590	1357	677	1724	1805	1001	1489	1659	398	1153	2548	1400
38	87230	1513	1089	1299	1672	1755	1348	1166	1709	1679	941	2356	1502
39	87231	1683	1169	1044	1723	1675	1341	1162	1452	198	868	2498	1347
40	87232	1743	1270	1183	1655	1016	1422	1250	1696	341	945	3602	1466
41	4918	1578	1389	854	1591	1610	1259	1141	1510	188	1251	2747	1373
	SE	184.1	55.7	132.4	108.1	270.4	238.1	291.7	176.3	56.2	383.1	461.0	
	Mean	1473.9	1444.1	894.8	1702.1	1629.7	1272.4	1276.3	1734.9	385.1	1167.5	2522.1	
	CV	16.5	5.4	22.5	9.6	23.5	26.7	36.1	14.4	20.7	43.3	25.9	

Table 11. Details of entries in ICSN-DM, 1987/CB.

Entry	ICCL	Selection	Parentage
1	86327	ICCX-760705-BH-BH-1H-1H-1H-1H-BH	K 468 x Annigeri
2	86315	ICCX-800068-BP-BP-39P-BP	ICCL-78043 x K 850
3	86303	ICCX-790019-BP-BP-13P-BP	Phule G-3 x P 1198-1
4	87301	ICCX-810004-BP-BP-22P-BP	Annigeri x BDMG 20
5	87302	ICCX-800020-BP-BP-4P-BP	P-324 x K 850
6	87303	ICCX-800068-BP-BP-25P-BP	ICCL-78043 x K 850
7	87304	ICCX-770026-BP-BP-8P-1P-1P-1P-BP	Annigeri x K 100
8	87305	ICCX-800004-BP-BP-6P-1P-BP	JG-74 x K 850
9	87306	ICCX-790063-BP-BP-10P-1P-BP	Phule G-4 x ICCX-730094-14-2-8-BP
10	87307	ICCX-810039-BP-BP-18P-BP	ICCC-22 x ICCC-30
11	87308	ICCX-800020-BP-BP-16P-BP	P 324 x K 850
12	87309	ICCX-800084-BP-BP-24P-BP	ICCL-78073 x K 850
13	87310	ICCX-810667-23P-1P-1P-BP	ICCC-13 x Annigeri
14	87311	ICCX-800020-BP-BP-17P-1P-BP	P 324 x K 850
15	87312	ICCX-800066-BP-BP-6P-1P-BP	ICCL-78043 x BDN 9-3
16	87313	ICCX-800097-BP-BP-10P-1P-BP	ICCL-79004 x Annigeri
17	87314	ICCX-800584-32P-1P-3PLB-3PUY-BP	JG-74 x ICC 506-EB
18	87315	ICCX-800584-32P-1P-4PLB-1PLB-BP	JG-74 x ICC 506-EB
19	87316	ICCX-800584-32P-1P-3PLB-5PLB-BP	JG 74 x ICC 506-EB
20	87317	ICCX-800584-1P-2P-1PUY-BPLB	JG 74 x ICC 506-EB
21	87318	ICCX-780073-BP-BP-22P-1P-BP	ICCX-730089-20-1-8-BP x P 180-1
22	87319	ICCX-810066-BP-BP-9P-BP	K 850 x Phule G-7
23	87320	ICCX-790412-BH-BH-1H-14-1H-BH	Pant G-114 x ICCC-20

Table 11 (contd)

24	87321	ICCX-810448-5H-2H-BH	ICCX-750070-3-1P-1P-HP x GL 769
25	87322	ICCX-810448-1H-2H-BH	ICCX-750070-3-1P-1P-HP x GL 769
26	87323	ICCX-820494-2H-3H-BH	H 79-49 x ICCC-30
27	87324	ICCX-810283-BH-BH-6H-BH	H-208 x RSG 44
28	87325	ICCX-810294-BH-BH-84-BH	G-130 x ICCC 23
29	87326	ICCX-780306-27PHB-11PLB 2HLB-2HLB-3HLB-BH	ICCX-730001-9-2-B-HB x ICCC-4
30	87327	ICCX-800450-23H-1H-BH-BH	HMS-4 x ICCC-15
31	87328	ICCX-800460-30H-2H-BH-BH	HMS-5 x P-4203
32	87329	ICCX-800444-7H-2H-1H-1H-BH	HMS-5 x HMS-6
33	87330	ICCX-790414-BH-BH-21H-1H-1H-BH	Pant G-114 x ICCX-730167-5-3-B
34	87331	ICCX-790414-BH-BH-21H-2H-1H-BH	Pant G-114 x ICCX-730167-5-3-B
35	87332	ICCX-790414-BH-BH-26H-1H-2H-BH	Pant G-114 x ICCX-730167-5-3-B
36	87333	ICCX-830469-5H-BH	H 76-49 x (P-1353 x P-436)x JM-995
37	87334	ICCX-800762-9PLB-3PUY-1HLB-1HLB-BH	H 76-49 x ICC-4662-EB4
38	87335	ICCX-800763-22PLB-1PLB-2HLB-1HLB-BH	H-208 x ICC-1477-EB4
39	87336	ICCX-770913-BH-6H-BH	G-130 x (K-1189 x Chafa)
40	87337	ICCX-780369-21H-1H-BH-1H-BH	Pant G-120 x HMS-30
4		Local check	

Table 12. Mean days to 50% flowering of entries in ICSN DM at 8 locations 1987-88

S.No	Entry	Patancheru	Junagadh	Gwalior	Delhi	Navagaon	Parwanipur	Dohad	Faridkot	Mean
1	86327	57	57	65	80	78	84	66	89	72
2	86315	58	55	81	82	76	96	64	95	74
3	86305	55	56	68	82	75	85	62	93	72
4	87301	55	55	59	94	73	79	61	88	69
5	87302	58	56	62	78	76	77	65	87	70
6	87303	54	55	67	80	68	76	64	83	68
7	87304	56	51	53	89	68	75	62	95	69
8	87305	56	52	66	80	76	65	57	83	69
9	87306	56	52	57	88	54	71	67	92	67
10	87307	56	48	65	84	75	79	58	85	69
11	87308	58	52	64	80	75	77	63	87	69
12	87309	59	54	66	80	80	76	60	82	70
13	87310	55	52	70	89	74	75	65	93	71
14	87311	59	56	65	87	75	81	61	90	72
15	87312	58	57	80	78	77	80	65	83	72
16	87313	59	50	70	82	73	85	66	88	72
17	87314	56	49	71	81	81	86	65	92	73
18	87315	56	53	76	82	85	85	65	88	74
19	87316	59	56	81	81	85	85	67	90	75
20	87317	58	55	77	86	80	85	64	98	74
21	87318	55	51	45	80	60	69	62	98	64
22	87319	55	48	60	77	72	72	67	93	68
23	87320	55	48	58	79	69	71	61	88	66
24	87321	55	52	56	80	73	72	64	88	68
25	87322	54	48	64	79	75	77	65	88	69
26	87323	57	57	66	80	78	75	60	85	70
27	87324	54	55	60	86	71	75	59	[illegible]	68
28	87325	56	49	66	79	71	71	60	[illegible]	68
29	87326	[illegible]	[illegible]	59	79	75	[illegible]	[illegible]	[illegible]	66
30	87327	55	50	54	79	54	75	[illegible]	74	65
31	87328	56	48	61	78	76	75	64	88	68
32	87329	55	52	56	80	72	75	64	87	67
33	87330	57	47	57	78	74	74	65	84	67
34	87331	56	51	55	78	75	75	58	84	66
35	87332	55	55	67	78	75	75	65	[illegible]	69
36	87333	54	57	55	82	71	75	66	88	68
37	87334	58	48	62	80	70	69	61	98	67
38	87335	56	55	59	82	72	71	61	94	69
39	87336	56	53	59	78	70	74	65	90	68
40	87337	57	56	69	81	71	76	62	95	71
41	5003	56	52	64	81	73	76	63	90	69
	SE	1.0	5.1	5.5	-	2.8	1.4	1.5	[illegible]	
	Mean	61.5	55.5	73.2	83.2	79.1	85.8	64.0	88.5	
	CV	2.4	8.5	7.5	-	5.5	[illegible]	5.4	6.0	

Table 13. Mean plant height (cm) of entries in ICSH DM at 6 locations, 1987-88

S.No	Entry	Patancheru	Junagadh	Gwalior	Delhi	Parwantpur	Dharwad	Mean
1	86327	35	28	59	55	61	37	46
2	86315	34	27	64	53	59	36	46
3	86303	32	27	60	55	58	41	46
4	87301	39	30	76	57	74	34	52
5	87302	36	30	58	45	65	39	45
6	87303	35	30	65	57	63	38	48
7	87304	29	25	62	49	56	39	43
8	87305	34	29	60	47	64	38	45
9	87306	32	28	57	53	52	38	43
10	87307	31	28	61	44	61	45	45
11	87308	39	28	45	53	65	41	45
12	87309	37	26	59	56	67	45	48
13	87310	34	29	67	45	57	30	45
14	87311	36	29	58	50	61	32	44
15	87312	39	27	74	44	66	38	47
16	87313	36	31	48	59	66	42	45
17	87314	33	34	49	48	62	37	44
18	87315	33	29	59	51	57	36	45
19	87316	32	27	64	48	65	33	45
20	87317	32	30	70	40	68	34	46
21	87318	31	29	66	47	66	33	45
22	87319	35	29	61	55	64	34	46
23	87320	34	26	64	46	66	43	47
24	87321	47	34	70	66	77	46	57
25	87322	48	34	84	58	72	46	57
26	87323	38	28	59	59	57	42	47
27	87324	28	27	53	50	56	42	43
28	87325	37	31	70	49	68	43	50
29	87326	34	30	62	49	64	40	47
30	87327	36	30	58	55	64	40	47
31	87328	32	30	56	46	62	38	44
32	87329	33	29	49	51	62	34	43
33	87330	33	29	63	44	61	38	45
34	87331	31	27	61	44	58	41	44
35	87332	33	31	68	50	61	36	46
36	87333	38	30	62	58	64	33	48
37	87334	38	30	77	49	62	39	49
38	87335	37	32	57	51	58	37	45
39	87336	44	25	72	59	71	48	53
40	87337	29	24	65	49	66	38	45
41	5003	35	29	62	51	63	34	46
	SE	2.1	2.4	6.0	3.5	4.5	0.9	3.2
	Mean	36.1	28.3	60.5	49.7	58.4	41.4	45.4
	CV	8.6	11.9	13.7	9.7	10.2	3.4	9.6

Table 14. Mean days to maturity of entries in IVSN IM at 7 locations 1987-88

S.No	Entry	Patancheru	Jinnaguda	Gwalior	Delhi	Parbhanipur	Ludiana	Faridkot	Mean
1	86327	105	101	139	137	144	118	122	124
2	86315	107	94	139	139	145	115	120	123
3	86303	102	97	142	136	144	116	125	123
4	87301	104	97	141	142	145	115	122	124
5	87302	109	97	135	145	144	117	121	125
6	87305	102	93	144	138	144	118	125	123
7	87304	105	94	140	139	144	115	121	122
8	87305	104	95	142	137	145	110	122	122
9	87306	101	95	137	140	144	119	122	122
10	87307	104	89	135	136	142	112	122	120
11	87308	107	91	138	134	145	116	124	122
12	87309	107	98	139	139	144	115	122	123
13	87310	105	94	135	141	142	115	121	122
14	87311	115	99	139	145	145	115	126	126
15	87312	105	104	144	137	145	117	125	125
16	87313	106	90	136	139	145	117	125	123
17	87314	102	95	137	138	143	116	122	122
18	87315	104	92	141	140	146	117	120	123
19	87316	104	99	142	141	147	112	125	124
20	87317	105	97	142	139	145	117	125	124
21	87318	103	90	139	138	144	116	125	122
22	87319	106	90	139	144	145	119	122	123
23	87320	105	91	137	134	141	112	122	120
24	87321	117	99	139	142	145	116	121	125
25	87322	113	89	135	141	142	117	125	125
26	87323	104	99	134	135	143	112	125	122
27	87324	103	95	132	138	142	111	121	120
28	87325	102	90	140	138	142	115	125	121
29	87326	101	95	139	141	142	115	121	122
30	87327	115	99	135	139	144	110	125	125
31	87328	106	97	138	138	144	116	125	123
32	87329	105	95	135	134	145	115	122	121
33	87330	105	88	138	139	145	115	121	121
34	87331	105	94	135	134	142	115	125	121
35	87332	103	94	141	142	144	112	121	122
36	87333	104	95	138	134	142	118	122	122
37	87334	114	95	141	140	141	115	120	125
38	87335	106	99	135	143	144	112	124	123
39	87336	114	94	132	139	142	110	125	125
40	87337	104	92	136	134	145	115	120	123
41	5005	106	94	138	139	144	115	125	123
	SE	1.8	2.7	2.7	-	0.9	1.8	1.9	
	Mean	115.4	98.5	139.6	141.6	144.8	115.2	122.6	
	CV	2.4	5.8	2.7	-	0.9	2.2	2.2	

Table 15. Mean 100 seed mass (g) of entries in IGSN DM at 6 locations, 1987-88

S.No	Entry	Patancheru	Jam Gadh	Gwalior	Delhi	Parbhani	Dohad	Mean
1	R6527	17	20	13	15	15	18	16
2	R6515	22	20	18	20	19	20	20
3	R6503	19	17	14	16	15	15	16
4	R7501	27	25	19	24	21	30	24
5	R7502	22	19	15	17	16	28	20
6	R7503	29	29	23	24	16	26	25
7	R7504	19	18	16	15	16	27	19
8	R7505	27	21	19	22	24	29	24
9	R7506	18	17	15	17	15	20	17
10	R7507	24	19	17	17	20	27	21
11	R7508	29	25	25	25	21	28	25
12	R7509	29	26	24	26	21	28	26
13	R7510	16	22	12	15	14	20	16
14	R7511	18	17	12	15	11	19	15
15	R7512	17	29	15	18	16	18	19
16	R7513	31	20	24	25	24	29	26
17	R7514	19	16	16	16	15	17	17
18	R7515	19	16	15	18	16	17	17
19	R7516	20	18	14	17	16	20	18
20	R7517	19	21	15	16	15	22	19
21	R7518	20	29	16	20	18	27	22
22	R7519	33	25	21	28	30	30	28
23	R7520	15	17	11	12	14	16	14
24	R7521	20	16	14	14	15	16	16
25	R7522	21	18	15	16	15	19	17
26	R7523	21	18	16	20	17	17	18
27	R7524	15	16	13	15	13	14	14
28	R7525	14	22	11	13	10	20	15
29	R7526	18	15	11	15	14	17	15
30	R7527	16	17	12	15	12	14	14
31	R7528	15	18	10	12	13	15	14
32	R7529	15	24	12	15	10	16	15
33	R7530	14	19	9	10	11	17	13
34	R7531	14	18	10	11	11	15	13
35	R7532	14	26	13	13	12	30	18
36	R7533	16	15	13	14	12	15	14
37	R7534	16	13	12	11	12	9	12
38	R7535	13	15	10	13	13	18	14
39	R7536	16	20	13	25	12	20	18
40	R7537	15	19	11	12	12	14	14
41	S003	20	20	15	17	16	21	18
	SE	0.6	4.3	1.2	0.7	1.2	0.8	
	Mean	51.1	25.5	21.6	24.1	25.2	29.1	
	CV	4.0	30.8	11.6	5.6	10.6	5.5	

Table 16. Mean seed yield (kg/ha) of entries in ICSN DM at 8 locations 1987-88

S.No	Entry	Patancheru	Junagadh	Gwalior	Delhi	Navagaon	Parwanipur	Dohad	Faridkot	Mean
1	86327	1522	911	1973	1273	2142	4555	1904	1229	1912
2	86315	1325	611	2208	1224	1408	5360	1213	1101	1556
3	86303	1762	816	1638	1293	923	2408	1728	1105	1459
4	87301	1922	954	1825	1393	1368	4137	2264	876	1842
5	87302	1671	777	2559	1557	2067	5498	1072	1501	1838
6	87303	1848	950	2552	1486	1618	3498	1365	1624	1868
7	87304	2082	666	1995	1580	1805	2765	[illegible]	1289	[illegible]
8	87305	1536	927	2110	1754	675	[illegible]	1806	1440	1700
9	87306	1560	855	1351	1749	1287	[illegible]	1359	1415	1429
10	87307	1158	856	1964	1243	1266	2424	2755	1166	1602
11	87308	1357	850	2473	1567	1400	[illegible]	1835	1274	1809
12	87309	1556	992	2119	1589	2058	[illegible]	1715	[illegible]	1866
13	87310	1692	898	2482	1467	1406	2878	[illegible]	1180	1707
14	87311	1463	775	2204	881	1000	5454	[illegible]	1292	1496
15	87312	1574	886	1421	1506	1553	[illegible]	[illegible]	1187	[illegible]
16	87313	1666	698	1622	1243	1536	2606	3429	1206	1578
17	87314	1315	689	1414	1195	1298	5642	2305	1140	1611
18	87315	2308	577	1592	1396	1989	[illegible]	1800	[illegible]	[illegible]
19	87316	1468	1063	1250	1221	491	[illegible]	1967	540	1597
20	87317	1438	775	1132	1277	1786	5570	1692	1001	1559
21	87318	1478	858	1579	984	684	[illegible]	1844	1224	1400
22	87319	1655	785	1367	1096	1597	2411	1106	1556	1394
23	87320	1478	798	2577	1457	1260	[illegible]	1554	1129	[illegible]
24	87321	912	597	1426	954	1578	4726	1157	1208	1529
25	87322	1043	948	[illegible]	1544	1192	[illegible]	1055	1250	1629
26	87323	1620	718	2207	1732	1542	5043	1547	1106	1707
27	87324	1598	1220	2361	1827	1345	[illegible]	1773	[illegible]	1867
28	87325	1450	970	2666	1318	[illegible]	[illegible]	[illegible]	957	[illegible]
29	87326	1747	1110	2417	1490	1444	4762	1847	1438	2032
30	87327	1317	906	2381	1587	1952	[illegible]	[illegible]	1120	[illegible]
31	87328	1453	789	2418	1208	2047	5854	[illegible]	1168	[illegible]
32	87329	1573	928	3019	1847	1559	6206	2004	1208	2040
33	87330	1460	691	2635	1764	1537	4029	[illegible]	1019	[illegible]
34	87331	1459	990	2546	1758	[illegible]	4576	[illegible]	1064	[illegible]
35	87332	1239	857	2119	1563	1608	[illegible]	1451	[illegible]	[illegible]
36	87333	1400	509	2305	1651	416	4065	1507	1106	[illegible]
37	87334	1793	928	2758	1969	[illegible]	[illegible]	[illegible]	1511	1741
38	87335	1182	834	2500	1115	1081	[illegible]	[illegible]	961	[illegible]
39	87336	1395	786	[illegible]	1621	1521	[illegible]	[illegible]	1584	[illegible]
40	87337	1135	767	2507	1049	509	[illegible]	2087	1045	[illegible]
41	5007	1517	854	2096	1408	1578	[illegible]	[illegible]	1524	[illegible]
	SE	209.8	132.6	270.5	157.4	406.0	501.7	[illegible]	140.[illegible]	
	Mean	1461.1	920.5	[illegible]	1519.4	1627.9	[illegible]	[illegible]	[illegible]	
	CV	19.7	22.5	19.3	15.8	41.4	[illegible]	15.9	[illegible]	

Table 17. Details of entries in ICSN-OL, 1987/88.

Entry	ICCL No	Selection	Parentage
1	87401	ICCX-780527-BH-BH-24H-21H-BH	BG-203 x ICCX-730367-11-4-1P-BH
2	87402	ICCX-810274-BH-BH-10H-BH	GL-769 x RSG-44
3	87403	ICCX-810274-BH-BH-40H-BH	GL-769 x RSG-44
4	87404	ICCX-800217-BH-BH-21H-BH	BG-209 x K-850
5	87405	ICCX-800225-BH-BH-43H-BH	ICCC-17 x BG-203
6	87406	ICCX-800241-BH-BH-14H-BH	ICCL-79065 x BG-203
7	87407	ICCX-800224-BH-BH-16H-BH	ICCC-13 x K-850
8	87408	ICCX-810440-2H-1H-BH-BH	ICCX-750073-4-1P-1P-BP x GL 769
9	87409	ICCX-810710-2H-1H-BH-BH	GL-769 x PPK-1
10	87410	ICCX-811173-16H-1H-BT-BH	(BG-209 x P-2151-1) x (ILC-72 x Pant G-114)
11	87411	ICCX-811175-20H-2H-BT-BH	(BG-209 x WEC-417) x (ILC-72 x Pant G-114)
12	87412	ICCX-800150-BH-BH-64H-1H-BH	H 76-49 x P-326
13	87413	ICCX-800201-BH-BH-3H-1H-BH	ICCL-79080 x C-235
14	87414	ICCX-800389-5H-1H-2H-3H-BH	K-1184 x ICCC 13
15	87415	ICCX-770918-BH-11H-1H-1H-1H-BH	Pant G-115 x (WEC-140 x WEC-847)
16	87416	ICCX-810969-BH-BW-25H-1H-BH	GL-769 x GG-588
17	87417	ICCX-810969-BH-BW-56H-1H-BH	GL-769 x GG-588
18	87418	ICCX-810970-BH-BW-5BH-1H-BH	GL-769 x H 75-35
19	87419	ICCX-780518-BH-BH-8H1H-1H-BH	Pant G-114 x WEC-177
20	87420	ICCX-830298-4H-BH	(H-208 x K 850) x H-208 x 3 (H-208)
21	87421	NAU-3	
22	87422	NAU-14	

Table 17 (contd)

23	87423	ICCX-811052-10PUY-1PWR-1HLB-BHLB	ICC-9526-EB x RSC-44
24	87424	ICCX-811049-13PUY-1PLB-2HWR-BH	ICCX-730185-2-4-1B-EB x ICC
25	87425	ICCX-800763-19PLB-2PHB-1HLB-1HLB-BH	H-208 x ICC-1477-EB4
26	87426	ICCX-800763-22PLB-11PLB-4HUY-1HLB-BH	H-208 x ICC-1477-EB4
27	87427	ICCX-780305-19PLB-11PLB-4HLB-2HLB-2HUY-BH	H-208 x
28	87428	ICCX-790203-27PLB-11PLB-2HUY-2HLB-2HLB-BH	P-326 x G-130-EB-EB
29	87429	ICCX-790210-11PLB-11PLB-1HLB-1HLB-1HLB-BH	L-534 x ICC-5264-EB-E
30	87430	ICCX-800135-BH-BH-47H-BH	GL-769 x P-2161
31	87431	ICCX-810969-BH-BW-64H-BH-BH	GL-769 x GG-588
32	87432	ICCX-741167-1H-1H-BH-1H-BH-BH	F-61 x T-103
33	87433	ICCX-800482-21H-1H-BH-BH	HMS-6 x BG-203
34	87434	ICCX-800203-7H-1H-1H-BH	ICCL-79080 x G-130
35	87435	ICCX-790359-BH-BH-21H-1H-BH	H-208 x P-4353-1
36	87436	ICCX-800338-2H-2H-1H-BH	R-1184 x ICCC-10
37	87437	ICCX-760705-BH-BH-1H-1H-1H-1H-BH	K-468 x Annigeri
38	87438	ICCX-810969-BH-BW-44H-BH	BG-209 x H 75-35
39	87439	[illegible]	P-127 x H 850
40	87440	ICCX-810990-BH-BW-10H-BH	L-550 x H 75-35
4	-	Local check	

Table 18. Mean days to 50% flowering of entries in ICSN DL at 9 locations, 1987-88.

S.No	Entry	Dokri	Sabour	Hisar	Gwalior	Delhi	Ludhiana	Pantnagar	Gurdaspur	Srinagar	Mean
1	87401	75	86	77	71	82	94	92	109	87	86
2	87402	74	92	77	62	79	92	94	106	88	85
3	87403	77	89	75	61	79	92	88	105	87	84
4	87404	76	90	78	75	79	90	93	104	86	86
5	87405	80	88	72	68	80	93	93	106	88	85
6	87406	77	92	76	62	80	96	93	109	88	86
7	87407	76	88	74	69	82	93	93	104	87	85
8	87408	74	87	78	67	81	95	93	108	88	86
9	87409	75	89	81	78	81	92	93	108	87	86
10	87410	77	91	78	70	80	92	94	104	88	86
11	87411	76	90	84	80	79	100	93	108	88	89
12	87412	78	92	78	73	81	96	93	111	89	88
13	87413	77	89	79	76	81	97	88	107	90	87
14	87414	72	89	78	62	80	98	83	104	88	84
15	87415	75	91	77	74	79	94	88	104	90	86
16	87416	75	91	78	68	80	95	89	106	87	85
17	87417	74	87	78	72	80	94	95	109	86	86
18	87418	75	90	73	61	80	98	93	106	86	85
19	87419	73	92	80	77	81	95	95	109	88	88
20	87420	74	86	79	73	82	88	92	107	90	86
21	87421	74	90	74	73	81	97	93	108	93	87
22	87422	76	90	77	73	82	95	93	107	90	87
23	87423	75	88	77	66	81	92	95	108	87	85
24	87424	76	92	80	73	79	90	93	106	91	87
25	87425	74	90	73	58	81	91	95	105	88	84
26	87426	75	86	76	70	80	89	88	107	87	84
27	87427	74	85	76	70	82	90	83	107	87	84
28	87428	77	92	85	86	86	100	93	113	90	91
29	87429	76	88	79	75	83	93	93	106	88	87
30	87430	73	93	81	81	81	92	93	111	88	88
31	87431	74	90	81	68	81	97	88	104	88	86
32	87432	73	89	81	74	82	93	93	107	89	87
33	87433	74	86	77	73	81	89	93	108	86	85
34	87434	73	95	81	76	82	99	93	104	87	88
35	87435	75	91	84	80	82	95	93	112	89	89
36	87436	75	85	90	84	83	99	93	113	90	90
37	87437	77	90	73	63	81	90	83	108	88	84
38	87438	75	87	75	63	80	92	88	106	87	84
39	87439	75	87	71	74	79	88	88	102	87	83
40	87440	75	86	80	70	85	97	91	108	88	87
41	4948	75	89	81	80	82	96	92	113	89	89
	Mean	75.2	89.2	77.9	71.3	80.9	93.9	91.2	107.1	88.2	
	SE	1.4	2.5	1.4	3.2	1.2	2.4	2.2	0.2	1.5	
	CV	2.5	4.0	2.5	6.3	2.1	3.6	3.5	0.3	2.5	

Table 19. Mean plant height (cm) of entries in ICNN III, at 7 locations, 1987-88.

S.No	Entry	Dokri	Hisar	Gwalior	Delhi	Ludhiana	Srigan ganagar	Gurdaspur	Mean
1	H7401	40	31	47	46	37	63	62	47
2	H7402	52	33	61	46	66	66	52	54
3	H7403	36	30	55	47	53	64	63	50
4	H7404	30	33	60	55	72	63	55	53
5	H7405	45	32	50	53	58	66	66	53
6	H7406	31	40	50	51	60	66	54	50
7	H7407	37	34	50	47	53	66	50	48
8	H7408	41	46	71	70	65	65	85	63
9	H7409	40	32	52	50	56	63	46	48
10	H7410	38	36	59	47	63	70	54	52
11	H7411	35	47	62	68	58	67	80	60
12	H7412	38	35	67	48	62	65	63	54
13	H7413	45	42	57	50	52	63	72	54
14	H7414	47	49	74	67	55	62	78	62
15	H7415	40	44	65	58	58	65	66	56
16	H7416	36	35	62	46	48	66	64	50
17	H7417	34	36	53	49	52	63	63	49
18	H7418	40	34	66	50	69	64	66	56
19	H7419	38	41	58	47	69	68	55	54
20	H7420	41	34	62	51	53	68	58	52
21	H7421	37	36	64	54	54	66	64	54
22	H7422	35	50	66	48	51	69	63	54
23	H7423	40	36	48	48	56	67	62	51
24	H7424	49	36	53	45	56	62	56	51
25	H7425	36	30	43	45	53	66	53	47
26	H7426	57	31	56	47	60	66	49	52
27	H7427	47	39	62	51	71	67	55	56
28	H7428	40	42	63	43	57	61	62	54
29	H7429	41	39	55	45	58	63	58	51
30	H7430	41	34	62	49	65	66	53	53
31	H7431	40	32	52	53	59	64	54	51
32	H7432	42	37	57	48	57	68	57	52
33	H7433	44	36	57	52	55	67	61	53
34	H7434	29	34	52	51	58	64	54	49
35	H7435	48	39	55	50	62	68	62	55
36	H7436	36	47	63	64	67	65	65	51
37	H7437	32	38	58	41	61	63	61	50
38	H7438	38	36	65	51	59	64	66	54
39	H7439	49	32	49	49	63	65	64	53
40	H7440	40	41	61	62	44	66	66	54
41	4948	42	38	56	50	58	66	56	52
	Mean	40.1	37.2	58.6	51.0	58.1	65.3	60.5	
	SE	5.3	4.4	6.3	3.4	6.6	2.8	8.7	
	CV	18.7	16.6	15.3	9.5	18.1	5.0	1.5	

Table 20. Mean days to maturity of entries in IVSN IN, at 9 locations, 1987-88.

S.No	Entry	Dokri	Sabour	Hisar	Gwalior	Delhi	Ludhiana	Pantnagar	Gurdaspur	Srigan Ganagar	Mean
1	87401	138	130	143	133	137	158	127	175	163	146
2	87402	138	133	145	136	134	166	125	169	162	145
3	87403	138	126	141	129	134	155	128	169	164	144
4	87404	135	134	143	135	139	155	120	162	162	143
5	87405	142	134	144	134	140	156	119	164	163	145
6	87406	137	130	142	132	136	158	121	174	164	145
7	87407	134	130	147	128	135	167	123	163	164	143
8	87408	138	128	146	130	138	167	121	167	163	144
9	87409	138	129	146	135	136	165	122	165	162	144
10	87410	139	129	144	133	135	164	122	163	163	144
11	87411	139	133	145	135	142	167	121	166	164	146
12	87412	139	132	141	135	135	167	122	168	165	145
13	87413	138	134	144	136	135	169	125	165	163	145
14	87414	137	132	145	134	134	164	123	167	162	144
15	87415	138	127	141	138	141	167	122	162	162	144
16	87416	139	126	144	132	135	168	123	172	163	145
17	87417	135	138	144	136	136	168	120	166	161	145
18	87418	135	141	141	134	139	166	127	164	163	144
19	87419	139	136	146	133	140	167	128	167	162	146
20	87420	136	127	142	137	135	166	119	166	161	143
21	87421	138	136	145	133	138	168	125	173	163	147
22	87422	141	130	145	136	139	166	119	172	163	146
23	87423	138	131	147	129	137	168	124	171	162	145
24	87424	140	127	144	140	137	166	121	168	163	145
25	87425	135	125	146	140	139	165	127	164	162	145
26	87426	136	132	145	137	136	167	123	165	163	145
27	87427	135	125	146	138	139	167	125	168	164	145
28	87428	140	132	145	138	137	169	126	172	165	147
29	87429	135	129	141	133	138	165	119	164	163	143
30	87430	136	130	146	137	138	165	119	176	162	145
31	87431	140	125	144	133	137	166	125	167	163	144
32	87432	139	127	145	138	140	168	123	173	162	146
33	87433	141	127	143	134	140	168	120	165	162	144
34	87434	140	130	144	134	139	169	122	163	162	145
35	87435	138	128	147	135	139	167	122	174	166	146
36	87436	141	134	150	138	138	167	124	170	163	147
37	87437	138	130	147	139	145	169	126	164	163	147
38	87438	136	129	141	137	140	167	121	164	164	144
39	87439	139	128	145	136	140	170	124	162	162	145
40	87440	138	128	147	140	142	168	123	173	163	147
41	4948	139	131	146	138	138	167	123	171	162	146
	Mean	137.9	130.0	144.4	135.1	137.8	166.9	122.9	167.6	162.8	
	SE	1.5	3.0	1.6	2.8	2.3	*	1.7	0.2	0.9	
	CV	1.5	3.2	1.6	3.0	2.3	*	2.0	0.2	0.8	

Table 21. Mean 100 seed mass of entries in ICSN IH. at 6 locations, 1987-88.

S.No	Entry	Dokri	Hisar	Gwalior	Delhi	Gurdaspur	Sriganganagar	Mean
1	87401	17	16	11	11	10	13	13
2	87402	17	16	11	13	11	13	14
3	87403	18	17	11	12	10	14	14
4	87404	15	15	10	11	11	10	13
5	87405	17	18	12	15	14	15	15
6	87406	17	15	11	13	11	17	14
7	87407	20	15	11	11	10	19	14
8	87408	18	22	16	18	15	19	18
9	87409	17	15	10	12	11	13	13
10	87410	16	13	10	11	14	10	12
11	87411	16	18	12	16	20	14	16
12	87412	14	17	10	12	12	14	14
13	87413	17	14	9	11	10	14	13
14	87414	18	17	14	16	12	17	15
15	87415	17	16	11	12	11	15	14
16	87416	19	22	10	13	10	12	14
17	87417	18	18	11	13	10	15	14
18	87418	26	19	12	14	14	13	16
19	87419	16	21	15	16	16	16	17
20	87420	19	16	9	12	12	19	15
21	87421	16	25	15	19	13	13	17
22	87422	34	31	19	24	24	27	27
23	87423	17	17	12	13	14	19	15
24	87424	20	17	11	14	14	13	15
25	87425	18	17	12	13	12	18	15
26	87426	18	20	13	15	13	16	16
27	87427	18	15	10	11	11	12	13
28	87428	16	15	10	12	12	20	14
29	87429	16	15	10	13	13	10	13
30	87430	14	15	10	12	11	18	13
31	87431	14	14	10	10	11	11	12
32	87432	15	16	10	12	11	15	13
33	87433	20	16	10	13	11	12	14
34	87434	17	16	11	13	13	12	14
35	87435	19	14	10	13	12	13	14
36	87436	16	17	14	15	13	13	15
37	87437	15	20	13	15	14	13	15
38	87438	13	18	12	14	13	13	14
39	87439	20	21	13	17	14	17	17
40	87440	19	21	16	18	17	20	19
41	4948	18	15	11	13	10	13	13
	Mean	17.2	17.5	11.7	13.7	12.7	15.0	
	SE	1.8	1.3	0.6	0.5	0.1	*	
	CV	14.9	10.4	7.4	5.2	0.8	*	

Table 22. Mean seed yield (kg/ha) of entries in ICSN 88 at 9 locations, 1987-88.

S.No	Entry	Dokri	Sahour	Hisar	Gwalior	Delhi	Ludhiana	Faridkot	Unrdampur	Sriganganagar	Mean
1	87401	838	2433	1249	2461	1491	1720	1121	364	3849	1725
2	87402	572	1574	1593	2086	1678	2966	1462	623	4918	1941
3	87403	865	2162	1332	2333	1725	2081	1229	365	4176	1808
4	87404	1397	1582	1673	2071	1501	2813	1055	519	3729	1816
5	87405	1102	1868	1760	2755	997	2395	1578	780	4017	1916
6	87406	997	1639	1582	2150	1584	2594	1163	259	3209	1684
7	87407	1294	1648	1278	2814	1677	2861	1234	75	4078	1884
8	87408	868	2305	1677	2280	1653	2245	961	111	4434	1837
9	87409	838	1603	1615	2715	1079	2089	1241	423	5035	1849
10	87410	401	2211	1351	2445	1549	2445	828	580	3214	1669
11	87411	565	1488	1250	2122	1525	1561	1121	525	3513	1519
12	87412	1044	1584	1536	2034	1555	2496	867	726	2775	1624
13	87413	565	1481	1988	2014	1532	2051	1439	416	3548	1670
14	87414	761	2313	1530	2415	1384	1509	1212	314	4124	1729
15	87415	838	1975	1929	2423	1238	2247	1299	151	2310	1604
16	87416	1018	1298	1391	2396	1178	2033	1306	989	3630	1693
17	87417	1000	1350	1439	2437	1399	1937	1132	313	4229	1693
18	87418	567	1536	1551	2651	1335	2654	1416	419	4051	1798
19	87419	674	1533	1607	2168	1592	2031	1406	77	4116	1600
20	87420	672	2388	1342	2320	1060	2201	1232	571	3133	1658
21	87421	665	1226	1531	2472	1228	2493	957	210	3146	1548
22	87422	777	1437	1506	2967	741	1881	783	209	2695	1444
23	87423	838	1756	1173	2275	1511	2705	935	182	3539	1657
24	87424	648	1666	1314	2120	1480	2292	1201	731	3024	1608
25	87425	797	1584	1394	2143	1246	1928	1104	176	1943	1531
26	87426	901	1664	1502	2394	1319	2188	1042	520	4056	1732
27	87427	1219	1881	1478	2609	1439	1768	924	315	3406	1671
28	87428	917	1377	1575	2514	1112	2862	1404	468	3831	1791
29	87429	579	1990	1538	2204	1133	1930	1405	376	2923	1566
30	87430	333	1980	1325	2060	955	2395	1220	728	3477	1600
31	87431	348	2014	1424	2219	1666	2083	1049	988	3620	1533
32	87432	763	1491	1449	1885	1250	2398	1001	681	2284	1467
33	87433	1089	1618	1560	2543	1234	2501	1427	568	3465	1778
34	87434	1287	931	1370	2149	1504	2380	1104	1043	3842	1736
35	87435	823	2028	1592	2020	1118	2387	1293	573	4331	1796
36	87436	763	2078	1118	1856	876	1623	1458	126	2836	1415
37	87437	1221	1694	1426	2658	927	1976	1424	178	3208	1635
38	87438	1036	2094	1439	2491	1330	2761	1342	674	3494	1851
39	87439	1198	1364	1040	2332	931	1559	972	209	3382	1443
40	87440	432	1696	1376	2246	1315	2244	1466	312	3757	1649
41	4948	742	1655	1556	2094	1145	2438	1125	573	3104	1604
	Mean	837.7	1738.5	1469.3	2331.2	1326.1	2232.2	1195.3	451.7	3595.9	
	SE	328.8	326.1	191.7	181.3	138.8	253.4	252.4	71.9	467.4	
	CV	55.5	26.5	18.4	11.0	14.8	16.1	29.9	22.5	18.4	

Table 23. Details of entries in ICCT-DS, 1987/88.

Entry	ICCL #	Parentage	Source
1	ICC-4918	Annigeri	UAS, Karnataka
2	ICC-5003	K-850	CSAUT, Uttar Pradesh
3	ICC-11141	BDN-9-3	MPKV, Maharashtra
4	84204	P-2559 x F5 (BR 10 x WP 34)	ICRISAT
5	85211	(JG 62 x P 496) x CRAPA	"
6	84215	ICCC-4 x P 436-2	"
7	83149	(G-130 x B 108)x(WP 34 x GW 5/7)	"
8	83227	JG 62 x WEC 802	"
9	86224	ICCX-810656-18P-BP-BP	ICCC-30 x P 436-2
10	86226	ICCX-780119-13P-1P-BP-1P-1P-BP	Pant G-114 x T3
11	83128	ICCX-741533-5P-4P-BP-BP-BP	P 5409 x K 850
12	84239	ICCX-770001-BP-BP-7P-1P-BP	PKR-1 x Annigeri
13	86206	ICCX-800066-BP-BP-37P-BP	ICCL-78043 x BDN 9-3
14	86227	ICCX-780119-13P-1P-BP-1P-3P-BP	Pant G-114 x T3
15	86209	ICCX-800081-BP-BP-22P-BP	ICCL-78073 x Annigeri
16	Local check		

Table 24. Mean days to 50% flowering of entries in ICCT OS at 11 locations, 1987-88

Sl.No	Acc. No	Dok ri	Sri lanka	Pata ncheru	Junag adh	Gulb arga	Raip ur	Keon jhar	Naya gadh	Kota	Nava gong	Mean
	4918	67	46	55	40	54	60	42	46	83	57	55
	5003	71	63	62	57	49	61	64	49	85	72	63
	11141	66	46	54	40	51	58	41	46	82	56	54
4	84204	68	57	55	41	61	58	43	46	83	54	57
5	85211	66	46	54	40	49	56	41	48	83	53	54
6	84215	70	44	55	41	56	59	43	48	80	72	57
7	83149	69	47	54	50	54	58	42	48	80	53	56
8	83227	67	52	54	44	55	57	51	49	80	57	57
9	86224	69	49	54	45	54	57	56	46	82	61	57
10	86226	70	51	54	43	55	58	50	44	83	56	56
11	83128	68	47	54	45	49	59	42	45	81	54	54
12	84239	70	49	55	45	50	57	43	49	81	57	56
13	86206	66	45	54	42	59	57	41	46	82	54	55
14	86227	69	46	54	41	53	57	50	45	84	58	56
15	86209	67	46	54	40	52	58	47	48	80	54	55
16	Lo.ch.	-	-	55	39	57	58	47	46	82	78	58
	SE	0.6	1.2	0.4	0.4	0.4	0.3	1.0	0.6	1.4	1.7	
	Mean	68.3	49.0	54.8	43.2	53.7	57.9	46.5	46.7	81.9	59.0	
	CV	1.7	4.3	1.6	1.6	1.4	0.9	4.5	2.4	3.0	5.8	

Table 25. Mean plant height (cm) of entries in ICCT OS at 7 locations, 1987-88

Sl.No	Acc. No	Dok ri	Sri lanka	Lam	Pata ncheru	Junag adh	Rai pur	Naya gadh	Mean
1	4918	50	28	45	30	17	46	30	35
2	5003	44	33	46	33	20	53	32	37
3	11141	43	28	45	28	16	49	32	34
4	84204	39	27	47	28	18	48	32	34
5	85211	51	28	43	27	15	47	26	34
6	84215	39	32	50	31	25	55	33	38
7	83149	44	30	47	29	16	51	26	35
8	83227	46	31	46	28	18	48	35	36
9	86224	45	33	40	32	22	52	31	36
10	86226	40	33	41	29	17	48	28	34
11	83128	48	31	48	30	17	52	26	36
12	84239	48	27	49	30	17	46	26	35
13	86206	46	29	48	29	16	46	29	35
14	86227	50	32	44	30	18	51	28	36
15	86209	45	32	48	29	19	51	27	36
16	Lo.ch.	45	-	50	28	18	49	32	37
	SE	1.6	1.1	3.0	1.4	0.7	1.6	0.2	
	Mean	44.9	30.2	46.0	29.1	18.0	49.4	29.5	
	CV	7.3	6.4	11.3	9.3	7.5	6.6	1.6	

Table 26. Mean days to maturity of entries in ICCT DS at 9 locations, 1987-88

Sl.No	Acc. No	Lam	Dokri	Sri lanka	Patancheru	Junagadh	Gulbarga	Keonjhar	Nayagadh	Kota	Mean
1	4918	111	123	85	100	87	95	103	83	138	103
2	5003	106	125	95	113	95	95	111	87	139	108
3	11141	123	125	85	100	85	92	100	72	137	102
4	84204	121	125	85	105	91	101	101	84	135	103
5	85211	117	124	73	100	89	92	100	86	136	102
6	84215	101	122	84	105	94	93	103	87	138	103
7	83149	100	123	85	102	87	94	102	87	134	102
8	83227	110	125	85	102	88	95	104	87	135	104
9	86224	100	123	85	100	87	96	105	83	132	101
10	86226	101	123	85	101	84	97	104	83	138	102
11	83128	121	124	77	102	89	93	103	83	136	103
12	84239	106	124	81	101	89	97	103	87	139	103
13	86206	120	124	88	100	89	101	101	81	140	105
14	86227	116	123	84	102	86	93	102	82	140	103
15	86209	106	125	92	101	90	91	104	87	138	104
16	Lo.ch.	106	126	-	103	85	97	100	83	137	104
	SE	0.6	0.7	2.8	0.9	0.4	0.5	0.8	2.7	0.9	
	Mean	110.2	123.9	84.6	102.3	88.4	95.0	102.7	83.8	137.0	
	CV	0.9	1.2	5.8	1.7	0.9	0.9	1.6	6.5	1.1	

Table 27. Mean 100 seed mass (g) of entries in ICCT DS at 10 locations, 1987-88

S.No	Acc. No	Dokri	Sri lanka	Lam	Patancheru	Junagadh	Gulbarga	Rai pur	Keonjhar	Nayagadh	Kota	Mean
1	4918	15	18	19	20	19	18	17	20	13	21	1(
2	5003	16	21	29	30	27	26	27	29	13	30	2!
3	11141	13	13	20	16	15	15	14	13	11	13	14
4	84204	14	14	20	23	21	20	21	19	19	18	1.
5	85211	14	12	15	16	15	15	14	15	13	15	1:
6	84215	15	19	21	23	19	20	18	18	14	21	1!
7	83149	14	16	15	19	18	16	17	17	16	18	17
8	83227	13	14	15	19	19	18	17	16	11	21	16
9	86224	13	16	16	19	15	18	17	16	12	17	16
10	86226	13	17	12	13	12	19	12	11	11	12	1.
11	83128	15	18	17	19	19	18	17	17	12	17	17
12	84239	14	16	17	21	19	18	19	20	14	22	1.
13	86206	13	21	14	16	16	15	13	14	15	14	15
14	86227	14	11	12	14	13	14	12	13	15	13	1.
15	86209	16	21	18	21	18	18	20	19	17	21	1.
16	Lo.ch.	12	-	12	19	12	20	17	16	10	13	1.
	SE	0.4	-	0.5	0.4	0.7	-	0.4	0.4	1.2	-	
	Mean	13.7	16.4	16.9	19.4	17.4	18.1	16.9	17.0	13.5	18.0	
	CV	5.3	-	4.9	4.1	8.1	-	4.7	5.2	17.9	-	

Table 28. Mean seed yield (kg/ha) of entries in ICCT DS at 11 locations, 1987-88

S.No	Acc. No	Dok ri	Sri lanka	Lam	Pata heru	Junag adh	Gulb arga	Rai pur	Keon jhar	Naya gadh	Kota	Navg aon	Mean
1	4918	998	367	1035	1251	527	1708	1851	594	174	2862	672	1094
2	5003	764	286	796	1085	546	1219	1458	313	181	2386	1231	933
3	11141	885	662	1144	1347	837	2028	2274	444	150	3164	902	1258
4	84204	851	634	807	1313	696	1611	1917	531	175	2280	917	1067
5	85211	755	688	1339	1182	457	1771	1571	550	180	2677	750	1084
6	84215	1120	749	1066	1029	744	1819	1756	500	181	3450	963	1216
7	83149	1102	536	1135	1454	489	1590	2077	419	180	3503	1402	1262
8	83227	721	494	1161	1301	1087	1861	2012	650	180	3958	1018	1313
9	86224	773	742	1307	1176	989	1743	2006	638	174	3206	1037	1254
10	86226	842	653	1439	1332	712	1826	1976	506	172	2910	1243	1237
11	83128	1085	608	977	665	739	1674	2131	494	174	3831	1147	1230
12	84239	668	506	1600	1229	736	1792	1964	488	181	2889	930	1180
13	86206	938	1028	469	1238	739	1729	2232	625	169	3434	1500	1282
14	86227	764	858	1215	1115	832	1583	2113	481	172	2926	1217	1207
15	86209	747	428	954	813	609	1587	1905	319	181	2630	1353	1048
16	Lo.ch.	868	-	670	1010	680	1722	2280	519	173	3265	1291	
	SE	156.1	622.0	197.1	119.3	14.7	123.4	128.5	77.1	5.7	232.3	167.3	
	Mean	867.5	2851	1069.7	1158.8	713.6	1704	1970.3	504.3	174.6	3085.6	1098.2	
	CV	36	37.8	31.9	20.6	4.1	12.5	13	30.6	6.5	13	30.5	

Table 29. Details of entries in ICCT-BM, 1987/88.

Entry	ICC No/ICCL.No	Parentage	Source
1	ICC-4918	Annigeri	UAS, Karnataka
2	ICC-5003	K-850	CSAUT, Uttar Pradesh
3	ICC-11525	ICCV-1	ICRISAT
4	ICCL-85333	Annigeri x K-850	"
5	ICCL-84303	C-214 x BDN-9-3	"
6	ICCL-85307	(Annigeri x ICCC-2) x (ICCC-1 x K-850)	"
7	ICCL-85311	(BG-203 x (WR-315 x BG-203)) BG-203	"
8	ICCL-85314	P 324 x ICCC-5	"
9	ICCL-86301	ICCL-78043 x K-850	"
10	ICCL-85316	P 324 x ICCC-5	"
11	ICCL-86334	(HMS-4 x HMS-13) x Phule G-4	"
12	ICCL-86333	(HMS-4 x HMS-5) x BDN-9-3	"
13	ICCL-85309	K-4 x NEC-802	"
14	ICCL-86309	P 277 x K-850	"
15	ICCL-86302	ICCL-78073 x BDN-9-3	"
16	Local check		

Table 30. . Mean days to 50% flowering of entries in ICCT-DM at 7 locations in 1987-88

S. No	Entry	Patancheru	Parbhani	Junagadh	Gwalior	Navagong	Berasapore	Nepalgunj	Mean
1	4918	55	7[illegible]	40	56	59	62	63	59
2	5003	62	8[illegible]	57	65	82	72	80	71
3	11525	65	8[illegible]	66	73	89	78	75	76
4	85333	58	7[illegible]	52	61	76	70	85	69
5	84303	55	7[illegible]	49	56	56	71	72	63
6	85307	56	7[illegible]	45	57	53	63	70	60
7	85311	60	7[illegible]	60	61	75	69	72	68
8	85314	61	8[illegible]	60	64	79	71	83	71
9	86301	61	8[illegible]	57	62	75	72	76	69
10	85316	62	7[illegible]	55	57	74	70	74	67
11	86334	56	8[illegible]	44	56	64	41	76	60
12	86333	56	8[illegible]	45	56	69	67	77	64
13	85309	62	8[illegible]	63	69	87	79	87	75
14	86309	59	7[illegible]	56	63	76	70	74	68
15	85302	58	7[illegible]	49	57	75	67	80	66
16	Lo.ch	55	8[illegible]	62	59	85	70	72	69
	SE	0.9	0.[illegible]	0.3	1.6	1.8	5.2	1.4	
	Mean	58.7	79.[illegible]	53.6	60.7	73.1	68.2	75.8	
	CV	3.2	2.[illegible]	1.2	5.1	4.9	13.3	3.6	

Table 31. . Mean plant height (cm) of entries in ICCT-DM at 5 locations in 1987-88

S. No	Entry	Patancheru	Parbhani	Junagadh	Gwalior	Nepalgunj	Mean
1	4918	31	4[illegible]	18	38	60	38
2	5003	37	4[illegible]	27	46	55	42
3	11525	37	4[illegible]	22	47	64	42
4	85333	33	4[illegible]	23	43	59	40
5	84303	29	3[illegible]	18	38	67	38
6	85307	33	4[illegible]	20	42	65	42
7	85311	31	4[illegible]	22	40	65	40
8	85314	35	4[illegible]	21	40	59	40
9	86301	32	3[illegible]	21	38	75	40
10	85316	34	4[illegible]	24	41	62	40
11	86334	27	4[illegible]	17	34	61	37
12	86333	29	4[illegible]	17	38	61	37
13	85309	38	4[illegible]	26	44	59	42
14	86309	34	4[illegible]	20	41	66	41
15	85302	31	3[illegible]	19	40	69	40
16	Lo.ch	30	4[illegible]	24	39	50	37
	SE	1.2	1.[illegible]	0.8	3.0	6.1	
	Mean	32.5	41.[illegible]	21.1	40.4	62.2	
	CV	7.2	8.[illegible]	7.2	14.7	19.6	

Table 32.. Mean days to maturity of entries in ICCT-DH at 6 locations in 1987-88

S. No	Entry	Patan-cheru	Ran-chi	Juna-gadh	Gwal-ior	Beram-pore	Nepal-gung	Mean
1	4918	99	131	90	141	128	144	122
2	5003	110	130	98	133	133	145	125
3	11525	112	132	108	132	140	146	128
4	85333	105	128	91	136	131	145	123
5	84303	99	131	91	130	136	145	122
6	85307	98	127	89	130	131	144	120
7	85311	102	133	104	141	132	145	126
8	85314	107	132	104	135	137	145	127
9	86301	107	134	107	134	136	146	127
10	85316	109	132	104	139	133	144	127
11	86334	100	130	90	133	132	146	122
12	86333	99	135	91	133	132	146	123
13	85309	103	128	106	133	142	144	126
14	86309	103	130	96	130	133	147	123
15	85302	104	127	90	135	130	147	122
16	Lo.ch	99	142	106	128	132	144	125
	SE	0.9	1.1	0.4	2.6	1.0	0.9	
	Mean	103.4	131.2	97.7	133.9	133.7	145.0	
	CV	1.7	1.7	0.7	3.9	1.3	1.2	

Table 33. . Mean weight of 100 seeds (g) of entries in ICCT-DH at 6 locations in 1987-88

S. No	Entry	Patan-cheru	Ran-chi	Juna-gadh	Gwal-ior	Beram-pore	Nepal-gung	Mean
1	4918	21	18	19	18	21	11	18
2	5003	30	25	25	27	29	25	27
3	11525	12	11	13	13	12	10	12
4	85333	24	20	20	23	25	22	22
5	84303	14	14	14	16	15	14	15
6	85307	17	17	16	18	17	16	17
7	85311	15	13	13	18	12	10	14
8	85314	14	12	12	14	13	11	13
9	86301	21	19	20	22	23	17	20
10	85316	14	14	14	15	13	10	13
11	86334	19	16	16	20	16	15	17
12	86333	16	15	15	16	15	14	15
13	85309	23	21	21	25	26	20	23
14	86309	19	18	18	17	17	16	18
15	85302	18	15	18	18	20	15	17
16	Lo.ch	27	13	15	15	12	8	15
	SE	0.7	0.4	0.3	1.5	0.2	0.9	
	Mean	18.9	16.3	16.7	18.4	17.9	14.6	
	CV	6.9	4.9	3.1	16.0	2.4	11.9	

Table 34. . Mean seed yield (kg/ha) of entries in ICCT-DM at 7 locations in 1987-88

S. No	Entry	Patan-cheru	Ran-chi	Juna-gadh	Gwal-ior	Nava-gong	Beram-pore	Nepal-gung	Mean
1	4918	1236	365	677	1508	1285	1619	2474	1309
2	5003	1240	833	746	2203	2206	1428	2927	1655
3	11525	1218	608	165	1826	1131	1175	1813	1134
4	85333	1037	885	885	1845	1559	2667	2349	1604
5	84303	1258	625	811	1687	1803	1222	2572	1425
6	85307	1316	833	694	2024	1101	1238	2764	1424
7	85311	1307	1024	951	1964	2030	1667	2351	1613
8	85314	1248	459	850	1746	1728	1175	2965	1453
9	86301	1519	677	932	1449	1971	921	1849	1331
10	85316	1364	695	409	1706	2149	1191	2203	1388
11	86334	1168	851	836	1409	1727	2905	1975	1553
12	86333	1522	903	710	2520	2213	1254	2834	1708
13	85309	1373	1077	883	2143	1714	1619	3317	1732
14	86309	1138	521	653	1707	1481	714	2288	1215
15	85302	1405	764	803	1290	1732	1873	2408	1468
16	Lo.ch	1401	882	779	1786	1431	1778	2493	1507
	SE	106.8	48.2	12.8	233.6	224.0	155.9	265.0	
	Mean	1296.9	750.0	736.4	1800.6	1703.6	1527.9	2474.0	
	CV	16.5	12.9	3.5	25.9	26.3	17.7	21.5	

Table 35. Details of entries in ICCT-DL, 1987/88.

Entry	ICC/ICCL No	Parentage	Source
1	ICC-4918	G-130	PAU, India
2	ICC-10136	Pant G-114	GBPUAT, India
3	ICC-14303	H-81-73	HAU, India
4	ICCL-85401	P-324 x ICCC 5	ICRISAT
5	ICCL-83408	F2 (GL-651 x P-1092)-2 x F2 (Bengalgram x WEC-130)-2	"
6	ICCL-86401	ICCC-17 x Pant G-114	"
7	ICCL-86403	H-208 x P-4353-1	"
8	ICCL-86404	(F-61 x T-103) x (WEC-1639 x WEC-1614)	"
9	ICCL-86416	P-324 x P-2161	"
10	ICCL-86428	K-1184 x ICCC-10	"
11	ICCL-86446	GL-769 x H 75-35	"
12	ICCL-86447	GL-629 x ILC-202	"
13	ICCL-86453	BG-203 x (H-208 x F-61)	"
14	ICCL-86455	BG-203 x (H-208 x F-61)	"
15	ICCL-86456	(H 208 x RS 11) x (GW-5/7 x H-223)	"
16	Local check		

Table 36. Mean days to 50% flowering of entries in IVCT DL at 9 locations, 1987-88

S.No.	Entry	Sabour	Hisar	Gwalior	Delhi	Faridkot	Gurdaspur	Srigan ganagar	Meerut	Garam pani	Mean
1	4948	89	84	75	82	97	105	92	112	106	94
2	10136	86	80	76	82	91	109	92	115	100	92
3	14303	90	86	85	86	97	102	90	108	96	94
4	86401	84	76	69	82	89	103	92	108	102	89
5	83408	86	95	87	85	97	109	98	115	106	98
6	86401	92	80	72	83	89	100	92	105	98	90
7	86403	85	82	77	82	90	101	92	108	103	91
8	86404	86	93	87	86	97	113	97	117	101	97
9	86416	88	90	80	85	94	106	93	108	105	94
10	86428	92	87	79	84	96	109	96	113	104	96
11	86446	87	80	72	80	88	101	90	112	98	90
12	86447	90	95	86	86	100	109	99	118	108	98
13	86453	84	84	77	82	91	105	89	107	102	91
14	86465	88	76	67	80	89	104	91	106	99	88
15	86456	86	81	73	80	88	98	91	103	94	88
16	Lo.ch	87	76	61	81	89	97	90	105	94	87
	SE	0.7	1.0	1.4	0.6	1.2	0.5	0.4	2.6	3.7	
	Mean	87.3	84.1	76.3	82.8	92.4	104.2	92.6	110.0	100.2	
	CV	1.5	2.4	3.8	1.6	2.6	0.9	0.9	4.6	6.4	

Table 37. Mean plant height (cm) of entries in IVCT DL at 6 locations, 1987-88

S.No.	Entry	Hisar	Gwalior	Delhi	Gurdaspur	Srigan ganagar	Garam pani	Mean
1	4948	39	49	60	53	78	50	55
2	10136	32	44	42	62	60	49	48
3	14303	36	54	54	54	68	54	53
4	86401	37	49	54	56	74	46	53
5	83408	43	53	53	54	74	50	55
6	86401	33	46	53	59	62	47	50
7	86403	45	46	50	64	68	48	54
8	86404	36	46	53	55	68	45	50
9	86416	38	51	51	56	70	50	53
10	86428	47	63	72	62	83	68	66
11	86446	35	54	62	67	75	62	59
12	86447	44	52	62	52	69	53	55
13	86453	39	47	49	54	68	55	52
14	86465	40	48	49	56	66	48	51
15	86456	39	44	45	54	66	46	49
16	Lo.ch	35	46	49	69	70	55	54
	SE	2.1	3.0	2.9	0.9	1.6	3.7	
	Mean	38.5	49.5	53.6	57.8	69.7	51.6	
	CV	11.1	12.3	11.0	3.1	4.6	12.4	

Table 38. Mean days to maturity of entries in IVLT BL at 9 locations, 1987-88

S.No.	Entry	Sabour	Hisar	Gwalior	Delhi	Faridkot	Gurdaspur	Sriganganagar	Merrut	Garampani	Mean
1	4948	132	149	138	140	147	169	186	161	166	161
2	10136	125	148	129	139	147	170	153	161	164	148
3	14303	127	148	141	142	148	169	153	163	164	150
4	85401	129	147	128	139	145	171	155	164	165	149
5	83408	127	149	142	140	147	158	154	162	164	150
6	86401	130	150	129	139	150	168	156	161	164	150
7	86403	128	149	136	140	150	172	154	163	165	151
8	86404	130	148	141	139	148	173	153	161	163	151
9	86416	129	147	139	139	148	172	154	162	165	151
10	86428	130	149	140	141	149	172	154	164	166	152
11	86446	129	149	127	141	149	173	153	162	163	150
12	86447	129	149	141	143	148	170	160	160	165	155
13	86453	130	147	133	139	145	169	154	163	163	149
14	86455	130	149	126	140	146	167	153	161	163	148
15	86456	129	147	134	139	146	169	152	160	164	149
16	Lo.ch	130	149	132	142	146	168	153	161	165	150
	SE	1.9	0.7	2.0	0.8	1.0	0.3	0.2	1.2	0.9	
	Mean	128.8	148.2	134.6	140.0	147.1	169.9	155.2	162.0	164.3	
	CV	3.0	0.9	3.0	1.1	1.4	0.3	0.3	1.4	0.9	

Table 39. Mean 100 seed mass (g) of entries in IVLT BL at 6 locations, 1987-88

S.No.	Entry	Hisar	Gwalior	Delhi	Gurdaspur	Sriganganagar	Merrut	Mean
1	4948	15	12	12	15	12	13	13
2	10136	15	12	11	12	11	12	12
3	14303	18	17	12	16	11	17	15
4	85401	15	12	12	14	12	14	13
5	83408	16	16	13	15	13	15	15
6	86401	14	14	14	15	13	13	14
7	86403	15	12	14	13	12	12	13
8	86404	13	13	12	13	12	13	13
9	86416	13	13	16	14	12	14	14
10	86428	17	16	14	16	15	16	16
11	86446	20	17	16	16	17	18	17
12	86447	13	13	13	14	13	14	13
13	86453	15	12	12	14	12	13	13
14	86455	16	13	13	14	15	14	14
15	86456	14	12	12	13	12	13	13
16	Lo.ch	14	12	13	14	10	13	13
	SE	0.8	0.6	0.9	0.4	*	0.3	
	Mean	15.2	13.5	13.2	14.3	12.6	13.9	
	CV	10.9	9.5	13.6	5.3	*	4.9	

Table 40. Mean seed yield (kg/ha) of entries in ICCT DL at 11 locations, 1987-88

S.No.	Entry	Sehore	Nimar	Gwalior	Delhi	Ludhi	Faridkot	Gurdaspur	Sriganganagar	Kanpur	Meerut	Garampani	Mean
1	4948	1881	1915	1807	1135	2187	680	804	2175	1583	808	1942	1519
2	10130	2344	1700	1730	1500	2600	716	1542	2706	2103	1076	2210	1702
3	14303	1830	1753	1071	1423	1633	852	903	2279	1877	712	1761	1490
4	88401	2238	1721	1088	1871	1979	817	694	2289	2031	828	1572	1602
5	83400	1677	2009	1151	1148	1719	703	1111	2161	1215	1316	1638	1441
6	88401	2177	1775	1488	1365	2031	977	1111	3184	1806	1234	2065	1745
7	88403	2047	2047	1024	1220	1870	1063	1215	2004	1164	1229	1028	1782
8	88406	1641	1589	1151	1356	1783	990	1111	2891	1562	1229	1481	1535
9	88410	1922	1881	1230	885	1887	1081	1042	2140	1754	1004	1420	1430
10	88428	1807	1301	1072	1251	1000	930	1042	1979	1302	847	884	1196
11	88444	1908	1715	1468	1004	1484	704	1310	2830	1146	1000	1528	1460
12	88447	1745	1562	1230	1865	1901	868	1087	2146	1094	813	1020	1427
13	88453	2214	1878	1945	1414	1735	844	1111	2878	2170	1172	2165	1771
14	88455	2130	2073	1687	1364	1801	669	1146	2669	1528	891	1906	1641
15	88456	2021	1822	1726	1492	2161	474	1889	2383	1979	1101	2174	1684
16	Lo.ch	2146	1896	2063	1435	2109	547	2500	2487	1771	763	2022	1776
	SE	127.0	175.3	161.4	111.4	303.2	111.5	36.0	209.0	274.4	141.7	163.7	
	Mean	1988.3	1782.1	1514.0	1325.4	1867.2	821.8	1226.1	2487.4	1620.2	1010.3	1744.1	
	CV	12.0	20.0	21.3	16.8	21.8	27.1	6.0	16.8	36.1	27.0	16.3	

Table 41. Details of entries in ICCT-K, 1987/88.

Entry	Acc.No.	Parentage	Source
1	ICC 12970	(F3 (K 850 x GW 5/7) x P 458) x F3 (L 550 X Guamuchil)-2	ICRISAT
2	ICC 12975	"	ICRISAT
3	ICC 12973	CPS 1 x C 104	ICRISAT
4	ICC 12978	"	ICRISAT
5	ICC 12339	L 550 x L 2	ICRISAT
6	ICCL 86501	L 550 x Kouroab	ICRISAT
7	ICCL 86502	No. 501 x P 2591	ICRISAT
8	ICCL 86503	No. 501 x NEC 141	ICRISAT
9	ICCL 86504	(L 550 x G 130) x L 532	ICRISAT
10	ICCL 86505	L 550 x K 56567	ICRISAT
11	ICCL 86506	L 550 x Kouroab	ICRISAT
12	ICCL 86507	(L 550 x L 2) x GL 622	ICRISAT
13	ICCL 86508	G 130 x (No.501 x K 56507)	ICRISAT
14	ICCL 86509	(L 550 x Radhey) x (K 850 x M 208)	ICRISAT
15	ICCL 86510	GL 629 x P 1092	ICRISAT
16	ICC 4973	L 550	PAU, INDIA

Table 42. Mean days to 50% flowering of entries in ICCT K at 7 locations in 1987-88

S.No	Entry	Lam	Patancheru	Hisar	HAU Hisar	Gwalior	Delhi	Sriganganagar	Mean
1	12970	49	43	40	58	47	75	63	54
2	12975	47	48	48	73	48	77	63	58
3	12973	48	57	69	80	71	81	94	71
4	12978	52	56	69	80	64	78	95	71
5	12339	47	64	76	80	73	78	87	72
6	86501	53	64	74	80	76	77	95	74
7	86502	49	66	77	80	77	78	97	75
8	86503	51	83	92	80	81	82	94	80
9	86504	50	83	81	80	81	78	92	78
10	86505	45	65	76	80	75	77	92	73
11	86506	49	82	90	80	73	78	96	78
12	86507	47	66	75	80	76	78	95	74
13	86508	46	85	89	80	82	82	96	80
14	86509	47	65	74	80	76	77	93	73
15	86510	49	65	75	80	78	78	87	73
16	4973	47	65	74	80	73	78	93	73
	SE	2.6	1.2	0.8	-	3.4	0.4	1.0	
	MEAN	48.5	65.9	73.5	-	71.8	78.3	89.0	
	CV	9.3	3.7	2.2	-	9.5	1.1	1.0	

Table 43. Mean plant height (cm) of entries in ICCT K at 5 locations in 1987-88.

S.No	Entry	Patancheru	HAU Hisar	Gwalior	Delhi	Sriganganagar	Mean
1	12970	29	38	41	49	60	43
2	12975	32	46	45	37	65	45
3	12973	33	57	56	52	71	54
4	12978	35	56	53	57	63	53
5	12339	32	57	52	59	67	53
6	86501	33	55	55	51	57	50
7	86502	37	67	55	65	68	58
8	86503	40	63	60	63	77	61
9	86504	38	62	69	60	71	60
10	86505	36	68	52	52	79	57
11	86506	37	69	60	60	68	59
12	86507	36	65	56	67	70	59
13	86508	38	64	63	59	67	58
14	86509	33	58	53	66	73	57
15	86510	36	67	58	60	66	57
16	4973	34	54	51	56	69	53
	SE	1.3	-	3.9	3.1	1.7	
	Mean	34.9	-	54.8	57.2	67.9	
	CV	7.5	-	14.2	11.0	5.1	

Table 44 . ean days to aaturity of entries in ICCT K at 5 locations i- 1987-88.

S.No	Ent-	Patan-cheru	Hisar	HAU Hisar	Delhi	Srigang-anagar	Mean
1	129??	94	147	140	137	161	136
2	129??	99	147	144	137	162	138
3	129??	109	147	150	138	165	142
4	129??	107	148	150	138	166	142
5	123??	115	146	150	136	166	143
6	865??	114	147	150	137	165	143
7	865??	117	147	150	138	164	143
8	865??	119	148	150	137	164	144
9	865??	119	146	150	137	164	143
10	865??	117	148	150	137	167	144
11	865??	119	146	150	137	165	143
12	865??	116	147	150	139	164	143
13	865??	119	149	150	139	164	144
14	865??	114	146	150	137	162	142
15	865??	116	146	150	137	163	142
16	49??	114	147	150	137	163	142
	SE	1.0	0.9	-	0.6	0.5	
	MEA-	112.8	146.8	-	137.3	163.8	
	CV	1.8	1.2	-	0.9	0.6	

Table 45. ean weight of 100 seeds of entries in ICCT K at 7 locations in 1987-88.

S.No	Ent--	Lam	Patan-cheru	Hisar	HAU Hisar	Gwa-lior	Delhi	Srigang-anagar	Mean
1	129??	19	27	25	26	24	24	22	24
2	129??	24	35	33	29	31	27	32	30
3	129??	22	26	28	26	20	25	24	25
4	129??	20	27	29	25	24	28	14	24
5	123??	16	20	20	30	17	20	19	20
6	865??	21	23	26	24	20	24	24	23
7	865??	27	31	30	23	25	29	29	28
8	865??	16	33	31	20	28	32	31	27
9	865??	18	26	31	29	23	26	25	25
10	865??	19	21	24	26	21	23	25	23
11	865??	11	24	30	27	26	27	28	25
12	865??	26	30	32	31	26	29	30	29
13	865??	26	31	32	29	25	27	30	29
14	865??	19	21	23	23	18	24	27	22
15	865??	20	23	27	30	21	27	26	25
16	49??	27	22	24	30	18	23	22	24
	SE	0.4	0.7	1.0	-	1.0	1.0	-	
	MEA-	20.8	26.2	27.7	-	23.0	25.9	26.0	
	CV	3.1	5.3	7.3	-	8.5	8.1	-	

Table 46 . Mean seed yield (kg/ha) of entries in ICCT K at 7 locations in 1987-88.

S.No	Entry	Lam	Patancheru	Hisar	HAU Hisar	Gwalior	Delhi	Sriganganagar	Mean
1	12970	630	923	1260	1548	1486	1355	2859	1437
2	12975	381	1161	1037	2818	1526	909	2552	1483
3	12973	678	1006	1547	3175	1033	1057	1849	1478
4	12978	485	1124	1794	2699	1335	915	3255	1658
5	12339	696	746	1800	3135	1428	873	3099	1682
6	86501	537	911	1654	2897	1365	959	3386	1673
7	86502	763	850	1792	3373	1288	1362	3016	1778
8	86503	317	346	1703	2778	1037	638	2495	1331
9	86504	522	555	1641	3175	1044	1191	3203	1619
10	86505	455	736	1404	3373	1262	1093	2526	1550
11	86506	485	538	1698	4048	1201	1187	2500	1665
12	86507	587	839	1633	2460	1244	933	3068	1538
13	86508	145	124	1649	2341	1002	1184	2599	1292
14	86509	1104	1130	1568	3175	1407	1316	3776	1925
15	86510	863	894	1951	3969	1274	896	3542	1913
16	4973	936	1015	1568	3294	1358	673	3219	1723
	SE	115.0	117.7	174.9	323.7	120.4	170.0	351.7	
	MEAN	599.0	806.3	1605.9	3015.9	1267.9	1033.7	2933.9	
	CV	33.3	29.2	21.8	21.5	19.0	32.9	24.0	

Table 47. Correlation between characters for entries in ICSN DS at Patancheru 1987-88

DF = 38

1	1.0000					
2	-0.0637	1.0000				
3	0.3039	0.1401	1.0000			
4	-0.2748	0.3463	-0.1608	1.0000		
5	0.0984	0.4602	0.2181	0.1111	1.0000	
6	-0.0520	-0.4034	-0.1471	-0.1787	-0.9711	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 48. Correlation between characters for entries in ICSN DS at Ranchi 1987-88

DF = 38

1	1.0000					
2	0.1742	1.0000				
3	0.3051	0.3144	1.0000			
4	-0.0077	0.2640	-0.0089	1.0000		
5	0.2179	0.2214	0.1000	0.1726	1.0000	
6	-0.2488	-0.2353	-0.0784	-0.1654	-0.9733	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 49. Correlation between characters for entries in ICSN DS at Junagadh. 1987-88

DF = 38

1	1.0000					
2	0.1570	1.0000				
3	-0.2383	0.1362	1.0000			
4	-0.0365	0.1876	-0.4611	1.0000		
5	0.3942	0.1304	-0.0900	-0.0502	1.0000	
6	-0.3358	-0.1097	0.0530	0.1114	-0.9286	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 50. Correlation between characters for entries in ICSN DS at Gulbarga. 1987-88

DF = 38

1	1.0000				
2	0.1184	1.0000			
3	-0.3121	0.2554	1.0000		
4	0.5040	-0.0152	0.1455	1.0000	
5	-0.4553	0.0664	-0.1349	-0.9718	1.0000
	DF	DM	SD	YD	RK
	1	2	3	4	5

Table 51. Correlation between characters for entries in ICSN DS at Raipur, 1987-88
DF = 38

1	1.0000				
2	-0.3819	1.0000			
3	-0.0547	-0.0681	1.0000		
4	0.1904	-0.3022	-0.2007	1.0000	
5	-0.2596	0.3602	0.1488	-0.9391	1.0000
	HT	DM	SD	YD	RK
	1	2	3	4	5

Table 52. Correlation between characters for entries in ICSN DS at Rahuri, 1987-88
DF = 38

1	1.0000					
2	-0.0342	1.0000				
3	0.3807	0.1009	1.0000			
4	-0.1495	0.3645	0.0938	1.0000		
5	0.1553	0.5807	0.0318	0.3984	1.0000	
6	-0.1318	-0.5515	0.0387	-0.2975	-0.9542	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 53. Correlation between characters for entries in ICSN DS at Akola, 1987-88
DF = 38

1	1.0000					
2	0.2740	1.0000				
3	0.2167	0.4001	1.0000			
4	-0.2699	0.0636	-0.0054	1.0000		
5	0.1712	0.1210	0.0320	-0.3610	1.0000	
6	-0.1422	-0.0649	-0.0444	0.3800	-0.9619	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 54. Correlation between characters for entries in ICSN DS at Ludhiana, 1987-88
DF = 38

1	1.0000				
2	-0.2135	1.0000			
3	0.1232	0.5019	1.0000		
4	0.0956	0.1961	-0.0351	1.0000	
5	-0.0371	-0.2737	0.0009	-0.9429	1.0000
	DF	HT	DM	YD	RK
	1	2	3	4	5

Table 55. Correlation between characters for entries in ICSN DS at Gurdaspur, 1987-88
DF = 38

1	1.0000					
2	0.0724	1.0000				
3	0.0321	-0.0/82	1.0000			
4	-0.0144	0.0516	-0.1258	1.0000		
5	0.0967	-0.1078	0.2840	0.0796	1.0000	
6	-0.0640	0.0613	-0.1197	-0.1424	-0.8244	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 56. Correlation between characters for entries in ICSN DS at Navgaon, 1987-88
DF = 38

1	1.0000		
2	-0.1531	1.0000	
3	0.1701	-0.8686	1.0000
	DF	YD	RK
	1	2	3

Table 57. Correlation between characters for entries in ICSN DS at Dokri, 1987-88
DF = 38

1	1.0000					
2	0.1072	1.0000				
3	0.3517	-0.0628	1.0000			
4	0.1084	0.2843	-0.0117	1.0000		
5	0.2806	0.1832	0.1128	0.1627	1.0000	
6	-0.3288	-0.0990	-0.0916	-0.1719	-0.9586	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 58. Correlation between characters for entries in ICSN DN at Patancheru, 1987-88

DF = 38

1	1.0000					
2	-0.0611	1.0000				
3	0.2478	0.6847	1.0000			
4	0.1967	0.2344	0.0254	1.0000		
5	-0.1139	-0.2397	-0.5030	0.1824	1.0000	
6	0.1964	0.2740	0.5106	-0.2284	-0.9409	1.0000

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 59. Correlation between characters for entries in ICSN DN at Junagadh, 1987-88

DF = 38

1	1.0000					
2	-0.2863	1.0000				
3	0.7907	-0.2197	1.0000			
4	0.1744	-0.1329	0.0252	1.0000		
5	0.0369	-0.1059	0.0826	0.1521	1.0000	
6	-0.0084	0.0640	-0.0607	-0.2385	-0.9672	1.0000

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 60. Correlation between characters for entries in ICSN DN at Gwalior, 1987-88

DF = 38

1	1.0000					
2	0.0757	1.0000				
3	0.4002	0.2216	1.0000			
4	0.2297	-0.2133	0.2697	1.0000		
5	-0.2878	0.0949	-0.4133	-0.2358	1.0000	
6	0.2454	-0.1631	0.3920	0.2691	-0.9758	1.0000

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 61. Correlation between characters for entries in ICSN DN at Delhi, 1987-88

DF = 38

1	1.0000					
2	-0.1322	1.0000				
3	0.1764	0.1369	1.0000			
4	-0.0845	0.4058	0.1593	1.0000		
5	-0.1697	-0.0398	-0.3251	-0.0966	1.0000	
6	0.1571	0.0059	0.3163	0.0898	-0.9887	1.0000

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 62. Correlation between characters for entries in ICSN DN at Navagong, 1987-88

DF = 38

1	1.0000		
2	0.1114	1.0000	
3	-0.1464	-0.9634	1.0000

DF	YD	RK
1	2	3

Table 63. Correlation between characters for entries in ICSN DN at Parwanipur, 1987-88

DF = 38

1	1.0000					
2	0.0081	1.0000				
3	0.5439	-0.0472	1.0000			
4	0.3222	0.1151	0.2094	1.0000		
5	-0.0807	0.3254	-0.0564	-0.3730	1.0000	
6	0.0897	-0.3294	0.0851	0.3675	-0.9819	1.00

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 64. Correlation between characters for entries in ICSN DN at Dohad, 1987-88

DF = 38

1	1.0000					
2	-0.2215	1.0000				
3	0.9099	-0.1844	1.0000			
4	-0.0115	-0.1812	0.0946	1.0000		
5	-0.4108	0.0707	-0.3941	-0.1226	1.0000	
6	0.3752	-0.0236	0.3728	0.1368	-0.9873	1.0

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 65. Correlation between characters for entries in ICSN DN at Paridkot,1987-88

DF = 38

1	1.0000			
2	0.0518	1.0000		
3	-0.2570	-0.1856	1.0000	
4	0.2440	0.2161	-0.9329	1.0000

DF	DN	YD	RK
1	2	3	4

Table 66. Correlation between characters for entries in ICSN DL at Dokri, 1987-88

DF = 38

1	1.0000					
2	-0.0922	1.0000				
3	0.2588	0.0293	1.0000			
4	-0.0785	0.2920	-0.2189	1.0000		
5	0.1583	-0.2219	-0.0860	0.0515	1.0000	
6	-0.1844	0.2085	0.0568	-0.0239	-0.9902	1.0

DF	HT	DM	SD	YD	RK
1	2	3	4	5	6

Table 67. Correlation between characters for entries in ICSN DL at Sabour 1987-88

DF = 38

1	1.0000			
2	0.1026	1.0000		
3	-0.4075	-0.2930	1.0000	
4	0.3813	0.3443	-0.9724	1.0000

DF	DM	YD	RK
1	2	3	4

Table 68. Correlation between characters for entries in ICSN DL at Hisar, 1987-88

DF = 38

1	1.0000					
2	0.4627	1.0000				
3	0.3441	0.2891	1.0000			
4	-0.2907	0.2922	0.1411	1.0000		
5	-0.0739	0.2106	-0.3088	-0.0725	1.0000	
6	0.0618	-0.1968	0.2430	0.0199	-0.9473	1.0

DF	HT	DM	SD	YD	RK
1	2	3	4	5	6

Table 69. Correlation between characters for entries in ICSN DL at Gwalior, 1987-88

DF = 38

1	1.0000					
2	0.2070	1.0000				
3	0.2309	0.1454	1.0000			
4	-0.1344	0.3267	0.0259	1.0000		
5	-0.2522	-0.0943	-0.1777	0.2559	1.0000	
6	0.2648	0.0768	0.1825	-0.2161	-0.9806	1.0

DF	HT	DM	SD	YD	RK
1	2	3	4	5	6

Table 70. Correlation between characters for entries in ICSN DL at Delhi, 1987-88

DF = 38

1	1.0000					
2	-0.0446	1.0000				
3	0.1731	0.1201	1.0000			
4	0.0586	0.3366	0.3741	1.0000		
5	-0.2886	0.0973	-0.4148	-0.3868	1.0000	
6	0.3025	-0.0865	0.4188	0.3313	-0.9868	1.0000

DF	HT	DM	SD	YD	HK
1	2	3	4	5	6

Table 71. Correlation between characters for entries in ICSN DL at Ludhiana, 1987-88

DF = 38

1	1.0000				
2	-0.0983	1.0000			
3	0.1544	-0.2027	1.0000		
4	-0.0637	0.2039	0.0099	1.0000	
5	0.0397	-0.2175	-0.0189	-0.9892	1.0000

DF	HT	DM	YD	HK
1	2	3	4	5

Table 72. Correlation between characters for entries in ICSN DL at Faridkot, 1987-88

DF = 38

1	1.0000			
2	-0.1860	1.0000		
3	-0.0600	0.1006	1.0000	
4	0.0633	-0.0898	-0.9917	1.0000

DF	DM	YD	HK
1	2	3	4

Table 73. Correlation between characters for entries in ICSN DL at Gurdaspur, 1987-88

DF = 38

1	1.0000					
2	0.0903	1.0000				
3	0.6246	0.0084	1.0000			
4	0.0396	0.3731	0.0216	1.0000		
5	-0.1144	-0.2384	0.0218	-0.2001	1.0000	
6	0.0720	0.2265	-0.0469	0.1926	-0.9784	1.0000

DF	HT	DM	SD	YD	HK
1	2	3	4	5	6

Table 74. Correlation between characters for entries in ICSN DL at Sriganganagar, 1987-88

DF = 38

1	1.0000				
2	0.1279	1.0000			
3	0.1888	0.0454	1.0000		
4	0.1336	0.2978	-0.0062	1.0000	
	-0.4688	-0.2643	0.0264	-0.0871	1.0000
	0.4888	0.2716	-0.0663	0.0532	-0.9700

DF	HT	DM	SD	YD	HK
1	2	3	4	5	6

Table 75. Correlation between characters for entries in ICCT OS at Lae, 1987-88
DF = 14

1	1.0000				
2	0.0784	1.0000			
3	0.1828	0.0131	1.0000		
4	-0.4838	-0.3191	-0.2071	1.0000	
5	0.5664	0.7486	0.3241	-0.9751	1.0000
	HT	DM	SD	YD	RK
	1	2	3	4	5

Table 76. Correlation between characters for entries in ICCT OS at Patancheru, 1987-88
DF = 14

1	1.0000					
2	0.6013	1.0000				
3	0.9054	0.5215	1.0000			
4	0.7938	0.5479	0.8068	1.0000		
5	-0.0912	-0.2584	-0.1575	-0.2293	1.0000	
6	0.2164	0.3742	0.2582	0.3128	-0.9350	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 77. Correlation between characters for entries in ICCT OS at Junagadh, 1987-88
DF = 13

1	1.0000					
2	0.1206	1.0000				
3	0.3827	0.5397	1.0000			
4	0.6218	0.2664	0.8028	1.0000		
5	-0.1684	0.3001	-0.2578	-0.2603	1.0000	
6	0.2048	-0.3364	0.2211	0.2888	-0.9632	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 78. Correlation between characters for entries in ICCT OS at Gulbarga, 1987-88
DF = 14

1	1.0000				
2	0.7094	1.0000			
3	-0.0130	0.1878	1.0000		
4	0.1395	-0.0556	-0.5588	1.0000	
5	-0.0627	-0.0283	0.2435	-0.8931	1.0000
	DF	DM	SD	YD	RK
	1	2	3	4	5

Table 79. Correlation between characters for entries in ICCT DS at Keonjhar, 1987-88
DF = 14

1	1.0000				
2	0.8363	1.0000			
3	0.4406	0.7006	1.0000		
4	-0.2242	-0.3730	-0.4599	1.0000	
5	0.1307	0.2821	0.3482	-0.9600	1.0000
	DF	DH	SD	YD	RK
	1	2	3	4	5

Table 80. Correlation between characters for entries in ICCT DS at Nayagarh, 1987-88
DF = 14

1	1.0000					
2	0.1229	1.0000				
3	0.6052	-0.1531	1.0000			
4	0.1615	-0.2635	0.3058	1.0000		
5	0.5762	-0.1789	0.9951	0.3102	1.0000	
6	-0.7951	0.0922	-0.8608	-0.3204	-0.8465	1.0000
	DF	HT	DH	SD	YD	RK
	1	2	3	4	5	6

Table 81. Correlation between characters for entries in ICCT DS at Kots, 1987-88
DF = 14

1	1.0000				
2	0.2535	1.0000			
3	-0.0104	0.0635	1.0000		
4	-0.6350	-0.1411	-0.2350	1.0000	
5	0.6010	0.1523	0.2701	-0.9850	1.0000
	DF	DH	SD	YD	RK
	1	2	3	4	5

Table 82. Correlation between characters for entries in ICCT DS at Nayagon, 1987-88
DF = 14

1	1.0000		
2	0.0920	1.0000	
3	-0.1243	-0.9889	1.0000
	DF	YD	RK
	1	2	3

Table 83. Correlation between characters for entries in ICCT DS at Raipur, 1987-88
DF = 14

1	1.0000				
2	0.9863	1.0000			
3	0.9815	0.9752	1.0000		
4	0.8136	0.8216	0.7781	1.0000	
5	0.9331	0.9133	0.9134	0.6315	1.0000
	DF	HT	SD	YD	RK
	1	2	3	4	5

Table 84. Correlation between characters for entries in ICCT DS in Srilanka, 1987-88
DF = 14

1	1.0000				
2	0.1566	1.0000			
3	0.4452	0.4048	1.0000		
4	0.1137	0.3237	0.5762	1.0000	
5	-0.1497	-0.0141	-0.0924	-0.0785	1.0000
	1 DF	2 HT	3 DM	4 SD	5 YD

Table 85. Correlation between characters for entries in ICCT DS at Dokri, 1987-88
DF = 14

1	1.0000				
2	0.9560	1.0000			
3	0.9967	0.9639	1.0000		
4	0.9475	0.9301	0.9440	1.0000	
5	0.8747	0.8104	0.8721	0.8299	1.0000
	DF	HT	DM	SD	YD
	1	2	3	4	5

Table 86. Correlations between characters for entries in ICCT DH at Patancheru, 1987-88

DF = 14

1	1.0000					
2	0.8090	1.0000				
3	0.9058	0.6978	1.0000			
4	-0.1292	0.1368	-0.0382	1.0000		
5	-0.0112	-0.1559	-0.1206	-0.0469	1.0000	
6	0.0734	0.1661	0.1759	0.0358	-0.9744	1.0000
	DF	HT	DH	SD	YD	RK
	1	2	3	4	5	6

Table 87. Correlations between characters for entries in ICCT DH at Ranchi,1987-88

DF = 14

1	1.0000					
2	-0.0457	1.0000				
3	0.5447	-0.2500	1.0000			
4	-0.1012	0.1883	-0.4128	1.0000		
5	0.2305	0.1501	0.0159	0.2167	1.0000	
6	-0.1948	-0.1209	-0.0528	-0.2100	-0.9850	1.0000
	DF	HT	DH	SD	YD	RK
	1	2	3	4	5	6

Table 88. Correlations between characters for entries in ICCT DH at Junagadh, 1987-88

DF = 14

1	1.0000					
2	0.7186	1.0000				
3	0.9008	0.6304	1.0000			
4	-0.0919	0.3969	-0.1622	1.0000		
5	-0.1565	-0.0508	-0.1820	0.2882	1.0000	
6	-0.1468	-0.0938	-0.1225	-0.1284	-0.8463	1.0000
	DF	HT	DH	SD	YD	RK
	1	2	3	4	5	6

Table 89. Correlations between characters for entries in ICCT DH at Gwalior, 1987-88

DF = 14

1	1.0000					
2	0.7613	1.0000				
3	-0.1441	-0.0864	1.0000			
4	0.1694	0.2272	0.0670	1.0000		
5	0.2416	0.4285	-0.1605	0.1747	1.0000	
6	-0.3684	-0.5497	0.1441	-0.2398	-0.9654	1.0000
	DF	HT	DH	SD	YD	RK
	1	2	3	4	5	6

Table 90. Correlations between characters for entries in ICCT DM at Mavagong, 1987-88

DF = 14

1	1.0000		
2	0.1209	1.0000	
3	-0.0627	-0.9857	1.0000
	DF	YD	RK
	1	2	3

Table 91. Correlations between characters for entries in ICCT DM at Borangpur,1987-88

DF = 14

1	1.0000				
2	0.5620	1.0000			
3	0.1351	0.0041	1.0000		
4	-0.5824	-0.3262	0.1846	1.0000	
5	0.4870	0.4711	-0.1960	-0.9071	1.0000
	DF	DM	SD	YD	RK
	1	2	3	4	5

Table 92. Correlations between characters for entries in ICCT DM at Nepalgung,1987-88

DF = 14

1	1.0000					
2	-0.1294	1.0000				
3	0.1900	0.5273	1.0000			
4	0.5605	0.0094	0.1228	1.0000		
5	0.3544	-0.4565	-0.4298	0.3196	1.0000	
6	-0.2692	0.4571	0.4214	-0.2486	-0.9780	1.0000
	DF	HT	DM	SD	YD	RK
	1	2	3	4	5	6

Table 93. Correlation between characters of entries in ICLT DL at Sehore, 1987-88

DF = 13

1	1.0000			
2	0.2174	1.0000		
3	-0.3461	-0.1693	1.0000	
4	0.3784	0.1669	-0.9960	1.0000

DF	DM	YD	HK
1	2	3	4

Table 94. Correlation between characters of entries in ICLT DL at Hisar, 1987-88

DF = 13

1	1.0000					
2	0.3446	1.0000				
3	0.0499	0.1991	1.0000			
4	-0.3303	-0.1080	0.3812	1.0000		
5	-0.3184	-0.0176	0.2486	0.1563	1.0000	
6	0.3925	0.0498	-0.2800	-0.2211	-0.9785	1.0000

DF	HT	DM	SD	YD	HK
1	2	3	4	5	6

Table 95. Correlation between characters of entries in ICLT DL at Gwalior, 1987-88

DF = 13

1	1.0000					
2	0.3001	1.0000				
3	0.9810	0.3907	1.0000			
4	0.3165	0.7408	0.2201	1.0000		
5	-0.6839	-0.6895	-0.6528	-0.6806	1.0000	
6	0.6266	0.7021	0.6028	0.7402	-0.9826	1.0000

DF	HT	DM	SD	YD	HK
1	2	3	4	5	6

Table 96. Correlation between characters of entries in ICLT DL at Delhi, 1987-88

DF = 13

1	1.0000					
2	0.2760	1.0000				
3	0.3620	0.6141	1.0000			
4	-0.0587	0.3063	0.1376	1.0000		
5	-0.0344	-0.3018	0.0357	-0.7332	1.0000	
6	0.0402	0.3535	-0.0118	0.6854	-0.9708	1.0000

DF	HT	DM	SD	YD	HK
1	2	3	4	5	6

Table 97. Correlation between characters of entries in ICCT DL at Ludhiana, 1987-88

DF = 13

1	1.0000	
2	-0.9312	1.0000

YD	RK
1	2

Table 98. Correlation between characters of entries in ICCT DL at Faridkot, 1987-88

DF = 13

1	1.0000			
2	0.0342	1.0000		
3	0.1862	0.5204	1.0000	
4	-0.1673	-0.5451	-0.9824	1.0000

DF	DN	YD	RK
1	2	3	4

Table 99. Correlation between characters of entries in ICCT DL at Gurdaspur, 1987-88

DF = 13

1	1.0000					
2	-0.2015	1.0000				
3	0.2391	0.5143	1.0000			
4	-0.1625	0.0801	-0.0466	1.0000		
5	0.1214	0.2187	0.0439	-0.4219	1.0000	
6	-0.0190	-0.2279	-0.0248	0.4889	-0.9811	1.0000

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 100. Correlation between characters of entries in ICCT DL at Sriganganagar, 1987-88

DF = 13

1	1.0000					
2	0.2627	1.0000				
3	0.5505	0.0149	1.0000			
4	0.0392	0.4303	0.0164	1.0000		
5	-0.3628	-0.6792	-0.2742	-0.0871	1.0000	
6	0.4401	0.6448	0.3787	0.1016	-0.9813	1.0000

DF	HT	DN	SD	YD	RK
1	2	3	4	5	6

Table 101. Correlation between characters of entries in ICCT DL at Kanpur, 1987-88

DF = 13

1	1.0000	
2	-0.9804	1.0000

YD	RK
1	2

Table 102. Correlation between characters of entries in ICCT DL at Merrut, 1987-88

DF = 13

1	1.(				
2	0.3678	1.0000			
3	0.1438	0.2772	1.0000		
4	-0.1654	-0.4742	-0.4762	1.0000	
5	0.1757	0.4867	0.4686	-0.9667	1.0000

DF	DM	SD	YD	RK
1	2	3	4	5

Table 103. Correlation between characters of entries in ICCT DL at Garampani, 1987-88

DF = 13

1	1.0000				
2	0.1427	1.0000			
3	0.5604	0.1897	1.0000		
4	-0.3278	-0.8836	-0.4463	1.0000	
5	0.3351	0.4836	0.3301	-0.9503	1.0000

DF	MT	DM	YD	RK
1	2	3	4	5

Table 104. Correlation between characters of entries in ICCT K at Lam, 1987-88

DF = 14

1	1.0000			
2	-0.2740	1.0000		
3	-0.0997	0.0900	1.0000	
4	0.0703	-0.1852	-0.9678	1.0000

DF	SD	YD	RK
1	2	3	4

Table 105. Correlation between characters of entries in ICCT K at Patancheru, 1987-88

DF = 14

1	1.0000				
2	0.8568	1.0000			
3	0.8788	0.7956	1.0000		
4	0.0256	0.2906	-0.2196	1.0000	
5	-0.8250	-0.6895	-0.5949	-0.2197	1.0000
6	0.8048	0.7027	0.6765	0.0878	-0.9448	1.0000

DF	HT	DM	SD	YD	RK
1	2	3	4	5	6

Table 106. Correlation between characters of entries in ICCT K at HAU Hisar, 1987-88

DF = 14

1	1.0000				
2	0.1045	1.0000			
3	0.1522	0.3320	1.0000		
4	0.6848	-0.1539	-0.0966	1.0000	
5	-0.5364	0.1360	0.0500	-0.9048	1.0000

DF	DM	SD	YD	RK
1	2	3	4	5

Table 107. Correlation between characters of entries in ICCT K at Hisar,1987-88

DF = 14

1	1.0000					
2	0.7786	1.0000				
3	0.9704	0.8117	1.0000			
4	-0.0116	-0.0276	-0.0606	1.0000		
5	0.6538	0.6463	0.6163	0.0559	1.0000	
6	-0.4927	-0.5199	-0.4753	0.0072	-0.9504	1.0000

DF	HT	DM	SD	YD	RK
1	2	3	4	5	6

Table 108. Correlation between characters of entries in ICCT K at Gwalior, 1987-88
DF = 14

1	1.0000				
2	0.8240	1.0000			
3	-0.3142	0.0204	1.0000		
4	-0.6700	-0.6371	-0.1295	1.0000	
5	0.6544	0.7997	0.1667	-0.9782	1.0000
	DF	HT	SD	YD	RK
	1	2	3	4	5

Table 109. Correlation between characters of entries in ICCT K at Delhi, 1987-88
DF = 14

1	1.0000					
2	0.2927	1.0000				
3	0.4179	0.2678	1.0000			
4	0.4506	0.2963	0.5182	1.0000		
5	-0.3217	0.1026	0.1829	-0.1124	1.0000	
6	0.3054	-0.1317	-0.2258	0.0454	-0.9795	1.0000
	DF	HT	DH	SD	YD	RK
	1	2	3	4	5	6

Table 110. Correlation between characters of entries in ICCT K at Sriganganagar, ,1987-88
DF = 14

1	1.0000					
2	0.3597	1.0000				
3	0.5960	0.2488	1.0000			
4	-0.0406	0.3359	-0.3530	1.0000		
5	0.0957	-0.2912	-0.2462	-0.2735	1.0000	
6	-0.1110	0.3822	0.1956	0.3923	-0.9643	1.0000
	DF	HT	DH	SD	YD	RK
	1	2	3	4	5	6

Table 111. Correlation between locations for seed yield of entries in ICSN 09, 1987-88

DF = 39

Pat	1	1.0000										
Ran	2	0.2756	1.0000									
Jun	3	0.1845	-0.2446	1.0000								
Gul	4	-0.1298	-0.0831	0.1446	1.0000							
Rai	5	-0.1198	-0.2955	0.1536	0.1652	1.0000						
Rah	6	0.2278	0.2734	-0.0746	-0.1413	-0.3878	1.0000					
Ako	7	0.1173	-0.2555	0.1345	-0.1627	-0.0245	-0.2395	1.0000				
Lud	8	-0.1370	0.1543	-0.2148	-0.0755	0.1592	0.2720	-0.2157	1.0000			
Gur	9	0.1647	0.2732	0.7031	0.2998	0.1038	0.0890	-0.0973	0.1515	1.0000		
Nav	10	-0.0503	0.2629	-0.0777	-0.1758	-0.0928	0.2412	-0.1502	0.1096	0.0131	1.0000	
DOK	11	0.3200	0.1173	0.7430	-0.1575	-0.2517	0.0771	-0.0010	0.0944	-0.0848	0.2069	1.(
		1	2	3	4	5	6	7	8	9	10	1

Table 112. Correlation between locations for seed yield ranks of entries in ICSN 09, 1987-88

DF = 38

Pat	1	1.0000										
Ran	2	0.1998	1.0000									
Jun	3	0.1477	-0.2580	1.0000								
Gul	4	-0.0553	-0.0527	0.1135	1.0000							
Rai	5	-0.0912	-0.3516	0.2261	0.1789	1.0000						
Rah	6	0.2248	0.2223	-0.0540	-0.0075	-0.3741	1.0000					
Ako	7	0.0402	-0.2910	0.1186	-0.0163	0.0102	-0.1437	1.0000				
Lud	8	-0.0612	0.0366	-0.0811	-0.0876	0.2075	0.3796	-0.2505	1.0000			
Gur	9	0.0354	0.2347	0.0763	0.1671	0.1316	0.0161	-0.0720	0.0586	1.0000		
Nav	10	-0.0556	0.1460	-0.1563	-0.0869	-0.0932	0.0524	-0.0622	0.1656	0.0776	1.0000	
Dok	11	0.3822	0.1055	0.7232	-0.1498	-0.2133	0.1789	-0.0346	0.1747	-0.1015	0.0787	1.0
		1	2	3	4	5	6	7	8	9	10	1

Table 113. Correlation between locations for seed yield in ICRN BN, 1987-88

DF = 38

Pat 1	1.0000							
Jun 2	0.0311	1.0000						
Gwa 3	-0.1372	0.2357	1.0000					
Del 4	0.2068	0.3384	0.5451	1.0000				
Nav 5	0.3326	-0.1074	0.0585	0.2581	1.0000			
Par 6	-0.0516	0.0601	0.1315	0.2042	0.1681	1.0000		
Doh 7	-0.0091	0.2884	0.0429	0.1997	-0.0439	-0.0134	1.0000	
Par 8	0.1896	0.0023	0.2381	0.1919	0.3247	-0.0272	-0.3428	1.0
	1	2	3	4	5	6	7	8

Table 114. Correlation between locations for seed yield ranks in ICRN BN, 1987-88

DF = 38

Pat 1	1.0000							
Jun 2	0.0874	1.0000						
Gwa 3	-0.1732	0.2304	1.0000					
Del 4	0.1931	0.3255	0.5326	1.0000				
Nav 5	0.3136	-0.0805	0.0516	0.2472	1.0000			
Par 6	0.0072	0.0472	0.1688	0.1980	0.2246	1.0000		
Doh 7	-0.1206	0.3143	0.0381	0.1724	0.0037	0.0362	1.0000	
Par 8	0.2623	0.1000	0.1433	0.1827	0.2127	-0.0731	-0.3886	1.0000
	1	2	3	4	5	6	7	8

Table 115. Correlation between locations for seed yield of entries in ICSN UL , 1987-

DF = 39

Dok	1	1.0000								
Sab	2	-0.2703	1.0000							
His	3	-0.0068	-0.0614	1.0000						
Gwa	4	0.2962	-0.0062	0.0681	1.0000					
Del	5	-0.0347	0.0694	0.0849	-0.2259	1.0000				
Lud	6	0.1058	-0.1823	0.2853	0.0089	0.2589	1.0000			
Far	7	-0.0779	0.0483	0.2686	-0.0104	-0.1883	0.1082	1.0000		
Gur	8	-0.1028	-0.1170	0.0217	-0.2320	0.0486	0.2199	0.0529	1.0000	
Sri	9	0.0656	0.0335	0.0717	0.1977	0.2954	0.1286	0.2219	0.0374	1.0000
		1	2	3	4	5	6	7	8	9

Table 116. Correlation between locations for seed yield ranks of entries in ICSN UL, , 1987-88

DF = 38

Dok	1	1.0000								
Sab	2	-0.1753	1.0000							
His	3	0.0779	-0.1443	1.0000						
Gwa	4	0.3345	0.0246	0.0700	1.0000					
Del	5	-0.0779	0.0647	0.0373	-0.2255	1.0000				
Lud	6	0.1218	-0.1026	0.2887	0.0167	0.2623	1.0000			
Far	7	-0.0935	0.0646	0.2647	0.0283	-0.2116	0.0904	1.0000		
Gur	8	-0.1401	-0.0231	0.0015	-0.2263	0.0013	0.2645	0.0308	1.0000	
Sri	9	0.0988	0.0490	0.1621	0.1702	0.2929	0.0896	0.1817	0.0109	1.0000
		1	2	3	4	5	6	7	8	9

Table 117. Correlation between locations for seed yield in ICCT DS, 1987-88

DF = 13

Lea	1	1.0000									
Pat	2	0.1994	1.0000								
Jun	3	0.1493	0.0364	1.0000							
Gul	4	0.4091	0.2831	0.4534	1.0000						
Rai	5	0.0703	0.3141	0.4925	0.5315	1.0000					
Keo	6	0.0975	-0.2465	-0.2798	-0.4977	-0.1058	1.0000				
May	7	0.0142	-0.0726	0.5040	0.4531	0.4228	-0.0940	1.0000			
Kot	8	-0.3960	-0.1404	0.0030	-0.3864	-0.3401	0.0748	0.1944	1.0000		
Nav	9	-0.0492	0.1437	0.5026	0.5063	0.2812	-0.6253	0.5390	0.3180	1.0000	
Sri	10	-0.1391	0.0867	0.3298	0.3833	0.4667	-0.3706	0.2798	0.2415	0.4997	1.0000
Dok	11	-0.3450	-0.0980	-0.2674	0.0774	0.0189	-0.1126	0.4445	0.1002	0.2096	0.1532

	1	2	3	4	5	6	7	8	9	10

Table 118. Correlation between locations for seed yield ranks in ICCT DS, 1987-88

DF = 13

1	1.0000										
2	0.2286	1.0000									
3	0.1857	-0.0468	1.0000								
4	0.5166	0.3837	0.4738	1.0000							
5	0.1249	0.2103	0.3011	0.4600	1.0000						
6	0.0043	-0.3601	-0.3715	-0.2779	-0.2459	1.0000					
7	0.0776	0.0489	0.5236	0.3606	0.2444	-0.1778	1.0000				
8	-0.3289	-0.1201	-0.0228	-0.3971	-0.3087	0.0143	0.2578	1.0000			
9	0.0139	0.2896	0.5725	0.1913	0.0585	-0.6726	0.6088	0.3048	1.0000		
10	0.1551	0.0102	0.4222	0.2756	0.2960	-0.5868	0.2946	0.0770	0.4036	1.0000	
11	-0.4171	0.1173	-0.0867	-0.0301	-0.0219	-0.3154	0.4054	0.0756	0.2244	0.2407	1.(

	1	2	3	4	5	6	7	8	9	10	1

Table 119. Correlations between locations for seed yield in ICCT DH , 1987-88.

DF = 13

Pat	1	1.0000						
Ran	2	0.2160	1.0000					
Jun	3	0.0939	0.3637	1.0000				
Gua	4	0.1755	0.4997	-0.0492	1.0000			
Nav	5	0.4575	0.3479	0.3406	0.2629	1.0000		
Bad	6	-0.4199	0.4091	0.3347	-0.2969	-0.0807	1.0000	
Par	7	0.1371	0.2714	0.3420	0.6042	0.1666	-0.1023	1.0000
		1	2	3	4	5	6	7

Table 120. Correlations between locs. for seed yield ranks in ICCT DH , 1987-88.

Pat	1	1.0000						
Ran	2	0.3141	1.0000					
Jun	3	0.1593	0.4709	1.0000				
Gua	4	0.0687	0.5428	-0.0257	1.0000			
Nav	5	0.5107	0.3454	0.2907	0.1107	1.0000		
Bad	6	-0.1244	0.5487	0.3904	-0.0407	0.0364	1.0000	
Par	7	0.2647	0.2272	0.1470	0.5850	0.1653	0.0970	1.0000
		1	2	3	4	5	6	7

Table 121. Correlation between locations for seed yield in ICCT Bl., 1987-88

DF = 13

Sab 1	1.0000									
His 2	0.2979	1.0000								
Gwa 3	0.7888	0.5403	1.0000							
Del 4	0.3613	-0.0387	0.2612	1.0000						
Lud 5	0.4941	0.4474	0.5417	0.4685	1.0000					
Par 6	-0.1257	-0.2566	-0.2486	-0.2713	-0.3761	1.0000				
Gur 7	0.0440	-0.1446	0.0724	0.2772	0.1744	-0.1936	1.0000			
Sri 8	0.4737	0.3896	0.5144	0.1969	0.3237	0.1773	0.1888	1.0000		
Kan 9	0.4147	-0.0468	0.4339	0.1308	0.1181	-0.0633	-0.3655	0.2265	1.0000	
Mer10	0.1487	0.4817	0.3654	-0.1615	0.3492	0.0074	0.2103	0.6249	0.2493	1.0000
Gar11	0.5909	0.6093	0.6910	0.2380	0.7201	-0.4103	-0.0077	0.6467	0.3642	0.5633
	1	2	3	4	5	6	7	8	9	10

Table 122. Correlation between locations for seed yield ranks in ICCT Bl., 1987-88

DF = 13

Sab 1	1.0000									
His 2	0.3888	1.0000								
Gwa 3	0.7715	0.5166	1.0000							
Del 4	0.4433	-0.0444	0.3053	1.0000						
Lud 5	0.4737	0.4343	0.5681	0.4812	1.0000					
Par 6	-0.1119	-0.3070	-0.2998	-0.2149	-0.4169	1.0000				
Gur 7	0.0819	-0.0742	0.2934	0.3067	0.2018	-0.2091	1.0000			
Sri 8	0.5195	0.4705	0.5549	0.1204	0.2953	0.1026	0.2099	1.0000		
Kan 9	0.4341	-0.0020	0.4565	0.0824	0.1523	-0.0088	-0.3389	0.2224	1.0000	
Mer10	0.1246	0.3195	0.3060	-0.1875	0.1161	0.1058	0.2264	0.6060	0.3516	1.0000
Gar11	0.5901	0.5342	0.7043	0.3609	0.7540	-0.4242	0.2015	0.6455	0.3424	0.4147
	1	2	3	4	5	6	7	8	9	10

Table 123. Correlations between locations for seed yields in ICCT K , 1987-88.

DF = 13

Lae	1	1.0000						
Pat	2	0.6068	1.0000					
His	3	0.2350	-0.2801	1.0000				
HAU	4	0.3208	0.0103	0.4586	1.0000			
Gwa	5	0.3958	0.7059	-0.3764	-0.1665	1.0000		
Del	6	0.3212	0.0608	-0.1853	-0.0691	0.0939	1.0000	
Sri	7	0.5566	0.2980	0.3818	0.0734	0.4284	0.1027	1.0000
		1	2	3	4	5	6	7

Table 124. Correlations between locations for seed yield ranks in ICCT K , 1987-88.

DF = 13

Lae	1	1.0000						
Pat	2	0.4399	1.0000					
His	3	0.2018	-0.3048	1.0000				
HAU	4	0.3402	-0.0762	0.2694	1.0000			
Gwa	5	0.3657	0.6692	-0.1408	-0.1045	1.0000		
Del	6	0.2511	0.0333	-0.3654	0.1180	0.0011	1.0000	
Sri	7	0.5627	0.3695	0.3636	0.0383	0.4382	0.0427	1.0000
		1	2	3	4	5	6	7

Table 125. Stability Parameters for entries in ICCT-DS, 1987/88.

ENTRY No.	TRTMEAN	REGCOF	STABPARM
1	1094.455	0.953	-23272.346
2	933.182	0.770	-25530.014
3	1257.909	1.089	-32462.957
4	1066.545	0.763	-23095.152
5	1083.636	0.860	-15560.848
6	1216.091	1.072	-24187.068
7	1262.455	1.144	-19702.457
8	1313.000	1.251	-6627.902
9	1253.727	1.007	-39483.957
10	1237.364	0.958	-35038.848
11	1229.545	1.229	8357.988
12	1180.273	0.969	-11974.234
13	1281.909	1.089	35602.430
14	1206.909	0.943	-36516.234
15	1047.818	0.903	-22116.625

GRAND MEAN 1177.6545
STANDARD EROR OF BETA 0.0730
STANDARD ERROR (MEAN) 59.1637

Table 126. Stablity Parameters for entries in ICCT-DM, 1987/88.

ENTRY No.	TRTMEAN	REGCOF	STABPARM
1	1309.143	1.053	20485.215
2	1654.714	1.282	8172.215
3	1133.714	0.872	54911.438
4	1603.857	0.881	234503.078
5	1425.429	1.045	-7099.736
6	1424.286	1.066	85871.867
7	1613.429	0.847	-13485.486
8	1453.000	1.258	29506.965
9	1331.143	0.830	84729.016
10	1388.143	1.022	56459.367
11	1553.000	0.693	392550.250
12	1708.000	1.252	66407.617
13	1732.286	1.261	36773.914
14	1214.571	0.971	42548.563
15	1467.857	0.866	44519.961

GRAND MEAN 1467.5048
STANDARD EROR OF BETA 0.2156
STANDARD ERROR (MEAN) 133.0682

Table 127. Stability Parameters for entries in ICCT-K, 1987/88.

ENTRY NO.	TRTMEAN	REGCOF	STABPARM
1	1437.286	0.569	176554.734
2	1483.429	0.855	60536.090
3	1477.857	0.767	124455.195
4	1658.143	0.984	24792.488
5	1682.429	1.068	-28141.912
6	1672.714	1.076	-6921.711
7	1777.714	1.043	-29474.512
8	1330.571	1.013	-4596.211
9	1618.714	1.151	-25981.512
10	1549.857	1.028	18949.590
11	1665.286	1.202	175153.188
12	1537.714	0.910	4000.688
13	1292.000	0.943	64914.785
14	1925.143	1.065	52248.887
15	1912.714	1.326	8390.188

GRAND MEAN 1601.4382
STANDARD EROR OF BETA 0.1233
STANDARD ERROR (MEAN) 121.1535

Table 128. Stability Parameters for entries in ICCT-DL, 1987/88.

ENTRY №	TRTMEAN	REGCOF	STABFARM
1	1519.364	1.100	32522.910
2	1762.182	1.208	52722.105
3	1409.364	1.015	10606.660
4	1602.091	1.004	52703.605
5	1440.727	0.824	15645.996
6	1745.000	1.274	-1367.395
7	1701.818	1.117	24631.301
8	1535.091	0.986	27203.438
9	1435.909	0.757	14520.938
10	1198.455	0.669	49255.887
11	1459.545	0.971	9516.938
12	1427.273	0.665	67607.016
13	1771.091	1.162	31806.746
14	1641.273	1.203	-17453.479
15	1683.818	1.045	45565.715

GRAND MEAN 1555.5333
STANDARD EROR OF BETA 0.1580
STANDARD ERROR (MEAN) 74.5393