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CHICKPEA BREEDING

05288

Rf

PROPOSED EXPERIMENTS
AT

PATANCHERU
HISAR
GMAILOR
AND
PANTNAGAR

1988-89
RABI



ICRISAT
LEGUMES PROGRAM
INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS
ICRISAT PATANCHERU P.O.
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1988

Contents

	<u>Page f</u>
Patancheru	1-16
Hisar	17-26
Gwalior	27-29
Pantnagar	30

PATANCHERU

CHIOPEA BREEDING EXPERIMENTS - 1968-69

Hydrated

Exp No.	Name of experiment	Source (Dept.)	Des.	Treats	Reps	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing date
							No.	Width (cm)				
C-102(85)IC: International trials for seed-aided crops												
PA001	GEY	ALOTIP	RCB								Normal	
PA002	GVY-SZ	ALOTIP	RCB								Normal	
PA003	GVY-BS	ALOTIP	RCB								Normal	
PA004	GVY-K	ALOTIP	RCB								Normal	
PA005	ICSN-LIS	ICRESAT	DAD	40-1	2	90	4	30	-	0.07	Normal	
PA006	ICSN-LH	ICRESAT	DAD	40-1	2	90	4	30	-	0.07	Normal	
PA007	ICGT-BS	ICRESAT	RCB	15-1	4	64	6	30	-	0.07	Normal	
PA008	ICGT-LH	ICRESAT	RCB	15-1	4	64	6	30	-	0.07	Normal	
PA009	ICGT-K	ICRESAT	RCB	15-1	4	64	6	30	-	0.07	Normal	
PA010	ICCV lineage trial	ICRESAT	RCB	15-1	4	64	4	30	-	0.07	Normal	
PA011	Demarcation	ICRESAT	NR								Normal	
PA012	Dixit's material I	-	NR	87	1	87	1	60		0.03	MS	
PA013	Dixit's material II	-	NR	87+10	1	97	1	60		0.03	MS	
PA014	Multiplication	-	NR	Var	1	Var	Var	Var			Normal	

Exp No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	No.	Rows		Plot Nos	Area (ha)	Field	Sowing date
								Width	(cm)				
PM021	Crossing Block I	-	NR	1	1		Var	75		1001-		EIL 7C	
PM022	Crossing Block II	-	NR	1	1		Var	75		1501-		EIL 7C	
PM023	F1's	PM01287R/ NR	98+17	1	115		Var	75		2001-	0.17	EIL 7C	
PM024	F2 Bulls	PM00188K		1	167		Var	60		2301-	1.00	NEF	
PM025	F2 Double cross	PM00288K		1	3		40	60		2601-	0.03	BUS 98	
PM026	F2 EC - Amiger1	PM00488K	NR	3	6		Var	60		2701-	0.02	BEL1 (S)	
PM027	F2 (CG 62 x ICC 1227)	PM093	NR	1	1		Var	60		2801-	0.01	NEF	
PM028	EC2 F2 (Narainagar bold)	PM094	NR	1	1		Var	60		2901-	0.01	NEF	
PM029	F3 Bulls	PM02887R	NR	57	1		Var	60		3001-	0.34	NEF	
PM030	F3 Populations I	PM04488K	NR	7	1		40	60		3101-	0.07	BUS 98	
PM031	F3 Populations II	PM04488K	NR	7	1		40	60		3201-	0.07	Err.	
PM032	F3 Progenies	PM02787R	Aug.	6	1		8	60		3301-	0.01	Normal	
PM033	F4 Bulls	PM31/3287R	NR	126	1		126	60		3401-	0.76	IF	
PM034	F4 Progenies	PM02987R	Aug.	439	1		489	60		4001-	0.12	Normal	
		PM03087R	BUS 7										
PM035	F4 Prog. bulls EC I	PM00788K	Aug.	31	1		37	60		4501-	0.04	BUS 98	
PM036	F4 Prog. bulls EC II	PM00788K	Aug.	31	1		37	60		4601-	0.04	Err.	

C-105(8)IC: Breeding short duration dual chickens for stability and yield

Exp No.	Name of experiment	Source (Expt.)	Des.	Trts	Reps	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing date
							No.	Width (cm)				
PA037	F5 Bulko	PA035BTR	NR	44	1	44	Var	60	4701-	0.26	NF	
PA038	F5 Prog. - HWNR I	PA033BTR	NR	138+16	1	154	2/4	30	4801-	0.12	ELS	
PA039	F5 Prog. - HWNR II	PA033BTR	NR	138+16	1	154	1	60	5001-	0.05	ELS 98	
PA040	F5 Prog. I	PA035	NR	2514+	1	2794	4	30	6001-	2.10	NF	
PA041	F5 Prog. II	PA035	NR	280	1	2794	1	60	9001-	0.83	ELS	
PA042	F5 Prog. EC	PA36/37BTR	Aug.	280	1	182	1	60	12001-	0.05	ELS 98	
PA043	F5 Prog.	PA38/39BTR	Aug.	966	1	1075	1	60	12201-	0.28	Normal	
PA044	F6 Prog. - HWNR I	PA045	NR	49+6	1	95	2/4	30	13501-	0.04	ELS	
PA045	F6 Prog. - HWNR II	PA045	NR	49+6	1	95	1	60	13601-	0.01	ELS 98	
PA046	F6 Prog. I	PA040-44	NR	210+24	1	238	4	30	13701-	0.18	NF	
PA047	F6 Prog. II	PA040-44	NR	210+24	1	238	1	60	14001-	0.07	ELS	
PA048	F6 Prog. I	PA047	NR	508+52	1	560	4	30	14301-	0.42	Normal	
PA049	F6 Prog. II	PA047	NR	508+52	1	560	1	60	15001-	0.17	ELS	
PA050	F6 Prog. I	000288K	Aug.	50	1	57	1	60	15601-	0.02	Normal	
PA051	F7/F8 Prog. I	PA050/52	NR	24+4	1	28	4	30	15701-	0.02	NF	
PA052	F7/F8 Prog. II	PA050/52	NR	24+4	1	28	1	60	15701-	0.02	ELS	
PA053	PTT 1 Desl extra early	PA040-54	ELS	21+4	3	75	4	30	-	0.06	EP	
PA054	PTT 2 Desl extra early	PA040-54	ELS	21+4	3	75	4	30	-	0.06	EP	
PA055	PTT 3 Desl extra early	PA040-54	ELS	21+4	3	75	4	30	-	0.06	ELS	
PA056	PTT 4 Desl extra early	PA040-54	ELS	21+4	3	75	4	30	-	0.06	EP	
PA057	PTT 5 Desl extra early	PA040-54	ELS	21+4	3	75	4	30	-	0.06	EP	

Exp No.	Name of experiment	Source (Expt)	Des.	Treat	Reps	Plots	Rows			Area (ha)	Field	Sowing date
							No.	Width (cm)	Pilot Nos			
PM050	PTT 6 Desl extra early	PM040-54	ELS	21-4	3	75	4	30	-	0.06	ELS	
PM059	PTT 7 Desl extra early	PM040-54	ELS	21-4	3	75	4	30	-	0.06	EP	
PM060	PTT 8 Desl extra early	PM040-54	ELS	21-4	3	75	4	30	-	0.06	ER	
PM061	PTT 9 Desl extra early	PM040-54	ELS	21-4	3	75	4	30	-	0.06	ELS	
PM062	PTT 10 Desl extra early	PM040-54	ELS	21-4	3	75	4	30	-	0.06	EP	
PM063	PTT 11 Desl extra early	PM040-54	ELS	21-4	3	75	4	30	-	0.06	ER	
PM064	PTT 12 Desl extra early	PM040-54	ELS	21-4	3	75	4	30	-	0.06	ELS	
PM065	PTT 13 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	EP	
PM066	PTT 14 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ER	
PM067	PTT 15 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ELS	
PM068	PTT 16 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	EP	
PM069	PTT 17 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ER	
PM070	PTT 18 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ELS	
PM071	PTT 19 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	EP	
PM072	PTT 20 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ER	
PM073	PTT 21 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ELS	
PM074	PTT 22 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	EP	
PM075	PTT 23 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ER	
PM076	PTT 24 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ELS	
PM077	PTT 25 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	EP	
PM078	PTT 26 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ER	
PM079	PTT 27 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ELS	
PM080	PTT 28 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	EP	
PM081	PTT 29 DS	PM040-54	ELS	23-2	3	75	4	30	-	0.06	ER	

Exp No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing date
							No.	Width (cm)				
PA082	PTT 30 DS	PA040-54	BLS	23+2	3	75	4	30	-	0.06	BLS	
PA083	PTT 31 DS	PA040-54	BLS	23+2	3	75	4	30	-	0.06	BP	
PA084	PTT 32 DS	PA040-54	BLS	23+2	3	75	4	30	-	0.06	BR	
PA085	PTT 33 DS	PA040-54	BLS	23+2	3	75	4	30	-	0.06	BLS	
PA086	PTT 34 DM	PA040-54	BLS	22+3	3	75	4	30	-	0.06	BP	
PA087	PTT 35 DM	PA040-54	BLS	22+3	3	75	4	30	-	0.06	BR	
PA088	PTT 36 DM	PA040-54	BLS	22+3	3	75	4	30	-	0.06	BLS	
PA089	PTT 37 DM	PA040-54	BLS	22+3	3	75	4	30	-	0.06	BP	
PA090	PTT 38 DM	PA040-54	BLS	22+3	3	75	4	30	-	0.06	BR	
PA091	PTT 39 DM	PA040-54	BLS	22+3	3	75	4	30	-	0.06	BLS	
PA092	PTT 40	PAB-1088K	SL	25	2	50	4	30	-	0.03	BLS	
PA093	PTT 41	PAB-1088K	SL	25	2	50	4	30	-	0.03	Normal	
PA094	PTT 42	PAB-1088K	SL	25	2	50	4	30	-	0.03	Irr1.	
PA095	PTT 43	PA1-1588K	SL	25	2	50	4	30	-	0.03	BLS	
PA096	PTT 44	PA1-1588K	SL	25	2	50	4	30	-	0.03	Normal	
PA097	PTT 45	PA1-1588K	SL	25	2	50	4	30	-	0.03	Irr1.	
PA098	AIT 1 DS	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BP	
PA099	AIT 2 DS	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BR	
PA100	AIT 3 DS	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BLS	
PA101	AIT 4 DS	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BP	
PA102	AIT 5 DS	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BR	
PA103	AIT 6 DS	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BLS	
PA104	AIT 7 DM	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BP	
PA105	AIT 8 DM	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BR	
PA106	AIT 9 DM	PTT's 87R	BLS	25	3	75	4	30	-	0.06	BLS	

Exp No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing date
							No.	Width (cm)				
PA107	PTT/ATY entries I	Trials08R	NR	362	1	362	Var	60	-	0.22	NSF	
PA108	PTT/ATY entries II	Trials08R	NR	362-A2	1	364	Var	60	-	0.12	BUS Est.	
PA109	ICCC 37 purification	87R	NR	1	1	1	Var	Var	-	-	Normal	
PA110	ICCC 42 Purification	87R	NR	1	1	1	Var	Var	-	-	Normal	
C-104(85)IC: Breeding long duration dual chickpeas for stability and high yield - International												
PA121	Crossing block	PA02188K	NR	5	1	5	2	75	17001-	-	Normal (lights)	
PA122	F2 double cross	PA02388K	NR	3	1	3	40	60	17101-	0.03	BUS 9B	
PA123	F3 Populations	PA44_2588K (PA11485R)	NR	20	1	-	-	-	-	-	Gro. Room	
PA124	F4 Populations	PA11485R	NR	1	1	-	-	-	-	-	Gro. Room	
PA125	F3,5 Prog. b.	PA04688K	NR	55	1	-	-	-	-	-	Gro. room	
PA126	F4,6 Prog. b.	PA04688K	NR	10	1	-	-	-	-	-	Gro. room	
C-105(85)IC: Breeding kabuli chickpeas for stability and high yield in semi-arid tropics												
PA131	Crossing block	PA31_3288K	NR	6	1	6	2	75	18001-	-	Normal	
PA132	F1's	NR	NR	31	1	31	Var	75	18101-	0.02	BEL 7C	
PA133	F2 Populations	PA34_4088K	NR	5	1	5	40	60	18201-	0.05	BUS 9B	
PA134	F2 Populations	NR	NR	92	1	92	Var	60	18301-	0.55	MS	
PA135	F3 Populations I	PA35_4488K	NR	3	1	3	40	60	18401-	0.03	BUS 9B	
PA136	F3 Populations II	PA35_4488K	NR	3	1	3	40	60	18501-	0.03	Irri.	
PA137	F3 Populations	PA44_41, 132,13387R	NR	9	1	-	-	-	-	-	Gro. Room	

Exp No.	Name of experiment	Source (Expt)	Date	Trts	Reps	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing date
							No.	Width (cm)				
PA138	F3 Balles		NR	19	1	19	Var	60	18501-	0.11	NS	
PA139	F4 Balles	PA125	NR	7	1	7	Var	60	18701-	0.04	Normal	
PA140	F4 Progenies	PA126, 127 87R	Aug.	40	1	46	1	60	18801-	0.01	Normal	
PA141	F5 Progenies	PA128, 129 87R	Aug.	61	1	69	1	60	18901-	0.02	Normal	
PA142	F4;6 prog. bulk	PA04688K	NR	5	-	-	-	-	-	-	Gro.Room	
PA143	PIT 1	PA04388K	CRB	16	2	32	4	30	-	0.02	BUS	
PA144	PIT 2	PA04388K	CRB	16	2	32	4	30	-	0.02	Normal	
PA145	PIT 3	PA04388K	CRB	16	2	32	4	30	-	0.02	Irr.	
PA146	PIT 4	PA36, 37, 038, 3988K	CRB	16	2	32	4	30	-	0.02	BUS	
PA147	PIT 5	"	CRB	16	2	32	4	30	-	0.02	Normal	
PA148	PIT 6	"	CRB	16	2	32	4	30	-	0.02	Irr.	
PA149	ICCV 2 Purification		NR	413	1	413	2/Var	60	19001-	0.25	Normal	
PA150	ICCV 5 Purification		NR	484	1	484	2/Var	60	19501-	0.29	Normal	

C-300(6)EC: Breeding chickpeas for adaptation to early and late planting, and to increased inputs

(a) Early planting

PA161	F2 Balles	PA023	NR	14	1	14	Var	60	20001-	0.08	NS	
PA162	F3 Balles	PA142	NR	10	1	10	50	60	20101-	0.15	Normal	
PA163	F4 Progenies I	PA143	NR	1100	1	1100	4	30	20201-	0.83	Normal	
PA164	F4 Progenies II	PA143	NR	1100	1	1100	1	30	21501-	0.17	BUS	

Exp No.	Name of experiment	Source (Expt.)	Des.	Trts	Reps	Plots	No.	Rows		Plot Nos	Area (ha)	Field	Sowing date
								Width	(cm)				
PA165	F6 Progenies I	PA144	NR	41	1	41	4	30		Z2701-	0.03	Normal	
PA166	F6 Progenies II	PA144	NR	41	1	41	1	30		Z2801-	0.01	BIS	
PA167	Early vs. Normal trial	PA150	STD	11+3	4	112	6	30		-	0.10	Normal	
PA168	PTT 1	PA144	RCB	13+2	4	60	4	30		-	0.05	Normal	
PA169	PTT 2	PA144	RCB	13+2	4	60	4	30		-	0.05	Normal	
PA170	PTT 3	PA144/145	RCB	13+2	4	60	4	30		-	0.05	Normal	
PA171	AIT 1	PA151/154	RCB	14+2	4	64	6	30		-	0.05	Normal	
PA172	Trial entries I	88R	NR	64	1	64	1	30		-	0.01	MS	
PA173	Trial entries II	88R	NR	64	1	64	1	60		-	0.01	BIS	
C-105(5)IC: Studies on genetics and breeding methods of chickpeas													
PA191	F1 (C4)		NR	1	1	1	1	75		Z3001-	0.01	Normal	
PA192	F2 (C4)		NR	1	1	1	1	60		Z3101-	0.01	MS	
PA193	F6 Progenies	PA1748TR	Aug.	202	1	226	1	60		Z3201-	0.06	Normal	
PA194	F3 non-ortho.	PA1818TR	NR	27	1	27	40	60		Z3501-	0.14	MS	
PA195	F3 interspecific crosses	PA65488X	NR	4	1	4	20	60		Z3601-	0.02	Normal	
PA196	F4 non-ord. prog.	PA69488X	Aug.	7	1	7	1	60		Z3701-	?	Normal	
PA197	F4 progenies	HL1218TR	Aug.	40	1	46	1	60		Z4001-	0.02	Normal	
PA198	F4 bulk (C3)		NR	1	1	1	1	60		Z4101-	0.01	Normal	
PA199	F5 Progenies (C2)	PA162	NR	661+45	1	726	4	30		Z4201-	0.54	Normal	
PA200	F lower observations	PA0128TR	CRB	4	5	20	1	60		-	0.02	Normal	
PA201	Div. Bulk Pop. Br. I	PA1768TR	NR	48	1	48	4	30		Z5001-	0.25	BIS	
PA202	Div. Bulk Pop. Br. II	PA1778TR	NR	48	1	48	4	30		Z5101-	0.25	BIS	
PA203	Div. Bulk Pop. Br. III	PA1768TR	CRB	6	4	32	4	30		-	0.02	BIS	

Exp No.	Name of experiment	Source (Expt)	Des.	Treats	Reps	Plots	Rows			Area (ha)	Field	Sowing date
							No.	Width				
								(cm)	Plots Nos			
PA204	Div. Bulk Pop. Rr. IV	PA17/BTR	CRB	8	4	32	4	30	-	0.02	Irri.	
PA205	PTT 1 (OO and CI)	PA163, 165 168	ELS	25	3	75	4	30	-	0.06	IR	
PA206	PTT 2 (OO and CI)	-40-	ELS	25	3	75	4	30	-	0.06	IR	
PA207	PTT 3 (OO and CI)	-40-	ELS	25	3	75	4	30	-	0.06	IR	
PA208	IP lines trial	PA170	ELS	90	4	106	4	30	-	0.15	Normal	
PA209	NS lines trial	PA092	QL	23-2	4	100	4	30	-	0.06	IR	
PA210	High protein lines trial		ELS	25	3	75	4	30	-	0.06	Normal	
PA211	Non-rod. Study I		NR	4	1						G'House	
PA212	Non-rod. study II		NR	6	1						G'House	
PA213	D x R Studies	BBK	NR	100	1	100	1	60	-	0.01	Normal	

Project: C-123(8)IC: Call and tissue culture for chicken improvement

Expt No.	Title of the experiment	Design	Treatments	Reps	Lab/G ^h ouse	Remarks
1	Micropropagation using shoot tips (from 1 month old plants)	R	1	10	Lab/G ^h ouse	Four genotypes - ICC 32, L 590, K 590 and ICC 12237 will be tested.
2	Root induction on shoots	NR ¹	2	-	Lab	-do-
3 a)	Plant regeneration by somatic embryogenesis from callus cultures	R	4	10	Lab	Cotyledons from ICC 32 seedlings will be used for callus initiation. ²
b)	"	R	4	5	Lab	Callus will be subcultured after 3,4,5 & 6 weeks.
4	Plant regeneration from suspension cultures	NR ¹	2	-	Lab	Leaflet callus of ICC 32 will be used to initiate suspension cultures. ²
5	Embryo rescue in interspecific hybridisation	NR ¹	Var	-	Lab/G ^h ouse	Ten crosses

1. These experiments will be replicated if sufficient material is available.

2. Other varieties/plants will be tried after medium standardisation.

Crossing program 1988 australiay season1. Project No. C-103(85)IC

Crosses 1988/89 (ICCV 88)				

I				

Characteristics	P1:Shoba	P2:ICCV 2	P3:cold tolerant	P4: ICC 6334

Seed type	desi	kabuli	desi	desi
Days to flower	37	30	30	50
Days to harvest	120	90	100	99
Growth habit	SE	SS	SE	SE
Resistance factors	drought	FW,DR	cold	-
Yield potential	+	+	+	+
100 seed mass (g)	35	25	16.3	12.1
Seed appearance	+	K	+	+

Special feature	extra early		rapid growth	

Cross objectives: To obtain an extra short duration desi chickpea with resistance to FW, DR, drought, cold; and with rapid youth growth.

1. Project No. C-103(85)IC

Crosses 1988/89 (ICCV 88

II

Characteristics	P1:Annigeri	P2: cold tolerant	P3:ICCV 2	P4: ICC 6334
Seed type	desi	desi	kabuli	desi
Days to flower	39	30	30	50
Days to harvest	100	100	90	99
Growth habit	SE	SE	SS	SE
Resistance factors	FW	cold	FW,DR	-
Yield potential	+	+	+	+
100 seed mass (g)	20	16.3	25	12.1
Seed appearance		+	K	+
----- Special features			extra early	rapid growth

Cross objectives: As for I.

1. Project No. C-104(85)IC

Crosses 1988/89 (ICCY 88)				
III				
Characteristics	P1: HI074 E # 14822	P2: H 86-96	P3: ICC 1069	P4: HI099 E# 18615
Seed type	desi	desi	black	desi
Days to flower	30	30	78	30
Days to harvest	-	-	155	-
Growth habit	SE	SE	SE	SE
Resistance factors	AB,FW?	AB,FW	AB,BQ,FW	AB,FW?
Yield potential	+	+	+	+
100 seed mass (g)	20.9	20.0	29.3	17.0
Seed appearance	+	+	-	+
Special features	E 100 IM type			

Cross objectives To produce a long duration desi chickpea with resistance to fusarium wilt and ascochyta blight.

1. Project No. C-10A(5)IE

Characteristics	Crosses 1988/89 (IDC 88)					
	IV					
	P1:IDC 810070	P2: IDC 1069	P3:Clear reticulatum	P4: Dhanush	P5: NRC 138-2	P6:IDC
Seed type	deci	black	brown	deci	deci	deci
Days to flower	52	78	98	58	69	45
Days to harvest	109	155	167	114	109	102
Growth habit	SE	SE	S	SS	SE	SE
Resistance factors	EG	AB,EG,FW	EG	EG	EG	FW
Yield potential	+	-	-	-	0	+
100 seed mass (g)	21.0	29.3	15.5	10.6	21.5	26.5
Seed appearance	+	black	spiny	0	+	+

Cross objectives To produce a medium-long deci chickpea with resistance to botrytis gray mold and fusarium wd.

1. Project No. C-106(85)IC

Characteristics	Crosses 1988/89 (ICCV 88)			
	V			
	P1: ICCV 2	P2: Suru. 77	P3: ICC 7344	P4: SPS 1963
Seed type	K	K	K	K
Days to flower	30	40	35	51
Days to harvest	90	114	108	-
Growth habit	SS	SE	SE	SE
Resistance factors	FW,DR	FW	-	FW
Yield potential	+	0		+
100 seed mass (g)	25	54.6	55	33.0
Seed appearance	+	++	+	++
Special features	extra early	simple leaf		F5 (ICCV 32 x Sur. 77)

Cross objectives To produce an early, large seeded kabuli with resistance to FW and DR, and with high quality seed for possible export.

1. Project No. C-106(85)IC

Crosses 1988/89 (ICCI 88)				
VI				
Characteristics	P1: ILC 72	P2: SPS 2560	P3: ILC 3279	P4: HI099 E#18616
Seed type	K	K	K	deal
Days to flower	36	28	54	33
Days to harvest	-	-	105	-
Growth habit	E	E	E	SE
Resistance factors	AB	FW,DR	AB	AB
Yield potential	-	+	-	+
100 seed mass (g)	24.31	16.0	21.45	15.6
Seed appearance	+	++	+	+
Special features	F5 (ICC 5894 x ILC 215)			

Cross objectives To provide a long duration kabuli chickpea of good seed size, with resistance to AB and FW.

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CHICKPEA BREEDING EXPERIMENTS - 1968-69

Blaser

Exp No.	Name of experiment	Source (Expt)	Des.	Trials	Reps	Rows			Plot Nos	Area (ha)	Field	Sowing date
						Plots	No.	Width (cm)				
C-102(65) IC: International trials for semi-arid tropics:												
RID01	CVT 1	AUCP1	RCB									
RID02	CVT	AUCP1	RCB									
RID03	CVT-MFZ	AUCP1	RCB									
RID04	CVT-SP	AUCP1	RCB									
RID05	CVT-LS	AUCP1	RCB									
RID06	CVT-K	AUCP1	RCB									
RID07	ICSH-L	ICRISAT	B.Aug.	40x1	2	30	4	30		0.17		CF
RID08	ICST-L	ICRISAT	RCB	15x1	4	64	6	30		0.27		CF
RID09	ICST-K	ICRISAT	RCB	15x1	4	64	4	30		0.05		CF
RID10	Demonstration	ICRISAT	NR		1			30				CF
RID11	Multiplication	ICRISAT	NR		1			30				CF#111
RID12	ICV7 lines trial											
C-104(65) IC: Breeding long duration desi chickpeas for stability and high yield - International:												
RID21	Crossing Block I	ICRISAT	NR		1			60				CF
RID22	Crossing Block II	ICRISAT	NR		1			60				CF
RID23	F1's for TWC & IC	87R	NR		1			60				CF
RID24	F2 bulks	IND38FR	NR	85	1	85	20	30		0.25		MR
RID25	F2 TWC-R, W&R, R&R	C-#1-6 87R	NR	6	1	6	20	30		0.22		MR

Exp No.	Name of experiment	Source (Dept)	Des.	T-Its	Reps	Plots	No.	Rows		Plot Nos	Area (ha)	Field	Sowing date
								Width (cm)	Length				
HID26	F2 TMC-HR+HR-ST,HR	C # 7-9	NR	3	1	3	20	30			0.01	NSP	
HID27	C # 10-15	NR		6	1	6	20	30			0.02	NSP	
HID28	F2 TMC-HR with HR,ST,HR with HR	C # 16-18	NR	3	1	3	20	30			0.01	NSP	
HID29	F2 DC Diversity, HR+HR	C # 19-25	NR	7	1	7	20	30			0.02	NSP	
HID30	F2 SC HR,HR+HR,HR+HR with HR,HR,ST,HR	C # 23-55	NR	13	1	13	20	30			0.04	NSP	
HID31	F2 TMC, HR,HR,ST,HR,HR	C # 56-60	NR	5	1	5	20	30			0.02	NSP	
HID32	F2 DC Multiple resistance	C # 61-63	NR	3	1	3	20	30			0.01	NSP	
HID33	F3 TMC-DL	HID34	NR	3	1	3	20	30			0.11	CEP	
HID34	F3 HR,HR,Tall Line+HR,HR & ST	HID35	NR	9	1	9	20	30			0.03	CEP	
HID35	F3 HR,HR,HR+HR	HID36	NR	8	1	8	20	30			0.02	CEP	
HID36	F3 Diversity, HR,ST,HR	HID37	NR	5	1	5	20	30			0.02	CEP	
HID37	F3 TMC HR+HR	HID38	NR	53	1	53	20	30			0.13	CEP	
HID38	F3 Double crosses - DL	HID39	NR	49	1	49	20	30			0.15	CEP	
HID39	F3 Rbcryllis inheritance	HID40	NR	19	1	19	20	30			0.06	CEP	
HID40	F3 HR inheritance	HID41	NR	54	1	54	20	30			0.16	CEP	
HID41	F3 populations	PAT13,114	NR	18	1	18	10	30			0.03	ARM	
		87R, FAS5, HR, HR											
HID42	F3.5 prog. bulks	HR+HR	NR	48	1	48	2	30			0.02	ARM	
HID43	F4 bulks	PACUS8K	NR	100	1	100	20	60			0.60	CEP	
HID44	F4 bulks HR+HR	HID42	NR	26	1	26	20	60			0.16	CEP	

Exp No.	Name of experiment	Source (Expt)	Des.	Trits	Reps	Plots	No.	Rows		Arva (ha)	Field	Sowing date
								Width (cm)	Plot Nos			
HD045	F4 bulks NW/ABV/HR	HD044	NR	4	1	4	20	60		0.02	CEF	
HD046	F4 bulks TMC ABV/HR	HD045	NR	4	1	4	20	60		0.02	CEF	
HD047	F4 bulks (LxT) ABV/ABV/HR	HD046	NR	45	1	45	20	60		0.27	CEF	
HD048	F4 bulks BH	HD047	NR	25	1	25	20	60		0.15	CEF	
HD049	F4 bulks (LxT-TMC) Divers.	HD048	NR	57	1	57	20	60		0.34	EF	
HD050	F4 bulks HR	HD049	NR	13	1	13	20	60		0.08	EN	
HD051	F4-8C Prog. ABV/ABV/HR Tall	HD050	NR	20-4	1	24	1-2	30		0.01	CEF	
HD052	F4 progenies	HD051	NR	24	1	24	10	30		0.04	ABN	
HD053	F4 bulks	HD052	NR	10	1	10	2	30		0.01	ABN	
HD054	F4,6 prog. bulks	FAC/6/82	NR	4	1	4	4	30			ABN	
HD055	F5 progenies	HD054	NR	24-30	1	24	2-4	30		2.08	CEF	
HD056	F5 prog. I	HD055	NR	274	1	274	1	30		0.38	KP	
HD057	F5 prog. II	HD056	NR	280	1	280	1	30		0.36	EN	
HD058	F5 prog. III	HD057	NR	280	1	280	1	30		0.38	ABN	
HD059	F5 prog. IV	HD058	NR	280	1	280	1	75		0.04	STN	
HD060	F5 prog. V	HD059	NR	280	1	280	1	30				
HD061	F5 prog. ABV/STV, ABV/HR, STV I	HD060	NR		1			30				
HD062	F5 prog. II	HD061	NR		1			30				
HD063	F5 prog. III	HD062	NR		1			30				
HD064	F5 prog. IV	HD063	NR		1			30				
HD065	F5 prog. V	HD064	NR		1			30				
HD066	F5 prog. HR I	HD065	NR	285-28	1	271	4	30		0.20	EN	
HD067	F5 prog. HR II	HD066	NR	285	1	285	1	30		0.04	KP	
HD068	F5 prog. HR III	HD067	NR	285	1	285	1	30		0.04	ABN	
HD069	F5 prog. HR IV	HD068	NR	285	1	285	1	75		0.10	STN	

Exp No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	Rows		Plot No	Area (ha)	Field	Sowing date
							No.	Width (cm)				
H1070	F5 EC Bulk prog. HY,Tall, HY,MR/MSDP I	H1060	NR	17+2	1	19	4	30		0.01	CEP	
H1071	" II	H1060	NR	17	1	17		30		0.01	WSP	
H1072	" III	H1060	NR	17	1	17	1	30		0.01	HRN	
H1073	" IV	H1060	NR	17	1	17	1	30		0.01	ABW	
H1074	" V	H1060	NR	17	1	17	1	75		0.01	STN	
H1075	F6 prog. MR,STR,MSDP,SS-I	H1061	NR	1+2	1	3	4	30			CEP	
H1076	" II	H1061	NR	1	1	1	1	30			WSP	
H1077	" III	H1061	NR	1	1	1	1	30			HRN	
H1078	" IV	H1061	NR	1	1	1	1	30			ABW	
H1079	" V	H1061	NR	1	1	1	1	75			STN	
H1080	F6 Bulk Prog. DMR,STR,MSDP I	H1065	NR	196+22	1	218	4	30		0.16	CEP	
H1081	" II	H1065	NR	196	1	196	1	30		0.03	WSP	
H1082	" III	H1065	NR	196	1	196	1	30		0.03	HRN	
H1083	" IV	H1065	NR	196	1	196	1	30		0.03	ABW	
H1084	" V	H1065	NR	196	1	196	1	75		0.08	STN	
H1085	F6 bulk prog. HR I	H1066	NR	25+23	1	282	4	30		0.21	HRN	
H1086	F6 bulk prog. HR II	H1066	NR	25+2	1	25+1	1	30		0.04	WSP	
H1087	F6 bulk prog. HR III	H1066	NR	25+1	1	25+1	1	30		0.04	ABW	
H1088	F6 bulk prog. HR IV	H1066	NR	25+1	1	25+1	1	75		0.10	STN	
H1089	F6 bulk prog. (Dad) I	H1069	NR	11+2	1	13	4	30		0.01	CEP	
H1090	F6 bulk prog. (Dad) II	H1069	NR	11	1	11	1	30		0.01	WSP	
H1091	F6 bulk prog. (Dad) III	H1069	NR	11	1	11	1	30		0.01	HRN	
H1092	F6 bulk prog. (Dad) IV	H1069	NR	11	1	11	1	30		0.01	ABW	
H1093	F6 bulk prog. (Dad) V	H1069	NR	11	1	11	1	75		0.01	STN	
H1094	F7 bulk prog. I	H1071	NR	9+2	1	11	4	30		0.01	CEP	

Exp No.	Name of experiment	Source (Expt)	Des.	Tfts	Rep	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing Date
							No.	Width (cm)				
HD95	F7 bulk prog. II	HD071	NR	9	1	9	1	30		NSP		
HD96	F7 bulk prog. III	HD071	NR	9	1	9	1	30		HRN		
HD97	F7 bulk prog. IV	HD071	NR	9	1	9	1	30		ABN		
HD98	F7 bulk prog. V	HD071	NR	9	1	9	1	75		STN		
HD99	F7 bulk prog. Tall/MSDP I	HD079	NR	6	4	6	4	30		CEF		
HI00	" "	HD079	NR	4	1	4	1	30		HRN		
HI01	" "	HD079	NR	4	1	4	1	30		ABN		
HI02	" "	HD079	NR	4	1	4	1	30		STN		
HI03	" "	HD079	NR	4	1	4	1	75		CEF		
HI04	F7 bulk prog. ABN/STR, NR I	HD079	NR	6+2	1	8	4	30		NSP		
HI05	" "	HD079	NR	6	1	6	1	30		HRN		
HI06	" "	HD079	NR	6	1	6	1	30		ABN		
HI07	" "	HD079	NR	6	1	6	1	75		STN		
HI08	" "	HD079	NR	6	1	6	1	75		CEF		
HI09	F7 prog. Bulk 45/AB	HD081	NR	6+2	1	8	4	30		CEF		
HI10	F8 Bulk prog. I	HD086	NR	6	1	6	1	30		NSP		
HI11	F8 Bulk prog. II	HD086	NR	6	1	6	1	30		HRN		
HI12	F8 Bulk prog. III	HD086	NR	6	1	6	1	30		ABN		
HI13	F8 Bulk prog. IV	HD086	NR	6	1	6	1	30		STN		
HI14	F8 bulk prog. V	HD086	NR	6	1	6	1	75		HRN		
HI15	F8 + prog. HR I	HD086	NR	23+25	1	280	4	30		NSP		
HI16	F8 + prog. HR II	HD086	NR	23+25	1	234	1	30		ABN		
HI17	F8 + prog. HR III	HD086	NR	23+25	1	234	1	30		STN		
HI18	F8 + prog. HR IV	HD086	NR	23+25	1	234	1	75		CEF		
HI19	F8 + bulk prog. I	HD086	NR	6+2	1	10	4	30		CEF		
HI20	F8 + bulk prog. II	HD086	NR	6	1	8	1	30		NSP		

Exp No.	Name of experiment	Source (Expt)	Des.	Tots	Reps	Plots	Rows		Area (ha)	Field	Sowing date
							No.	Width (cm)			
HI21	F8 + bulk prog. III	HI103	NR	8	1	8	1	30	0.01	HRN	
HI22	F8 + bulk prog. IV	HI103	NR	8	1	8	1	75	0.01	STN	
HI23	PTI/AIT entries I	PTI/AIT88	NR	552	1	552	1	30	0.08	WSP	
HI24	PTI/AIT entries II	"	NR	552	1	552	1	30	0.08	HRN	
HI25	PTI/AIT entries III	"	NR	552	1	552	1	30	0.08	HRN	
HI26	PTI/AIT entries IV	"	NR	552	1	552	1	75	0.21	STN	
HI27	PTI 1	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI28	PTI 2	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI29	PTI 3	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI30	PTI 4	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI31	PTI 5	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI32	PTI 6	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI33	PTI 7	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI34	PTI 8	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI35	PTI 9	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI36	PTI 10	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI37	PTI 11	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI38	PTI 12	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI39	PTI 13	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI40	PTI 14	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI41	PTI 15	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI42	PTI 16	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI43	PTI 17	87R	HLS	23+2	4	100	4	30	0.06	CEF	
HI44	PTI 18	HR	HLS	23+2	4	100	4	30	0.06	CEF	

Exp No.	Name of experiment	Source (Expt)	Des.	Tpls	Reps	Plots	No. (m)	Rows		Plot No	Area (ha)	Field	Sowing date
								Width (cm)	Length				
HI145	PRT 19	HR	EIS	23x2	4	100	4	4	30			CEF	0.06
HI146	AVT 1	HR	EIS	23x2	4	100	8	8	30			CEF	0.12
HI147	AVT 2	HR	EIS	23x2	4	100	8	8	30			CEF	0.12
HI148	AVT 3	HR	EIS	23x2	4	100	8	8	30			CEF	0.12
HI149	AVT 4	HR	EIS	23x2	4	100	8	8	30			CEF	0.12
HI150	AVT 5	HR	EIS	23x2	4	100	8	8	30			CEF	0.12
HI151	Bulk proc. from selections made to AIN	HI064,74	NR	135x14	1	149	1-4	30				CEF	
HI152	Compass selection I	78,83,86, 91,95,99	NR		2	4	2	30			Normal		
HI153	Compass selection II	PO	NR		2	4	2	30			AIN		
C-106(85)IC: Breeding kabuli chickpeas for stability and high yield in semi-arid tropics													
HI171	F1a for SC,TMC,DC	BTR	NR	31	1	31	2x1	60				CEF	
HI172	F2 bulks	HQ13187R	HR	64	1	64	20	20	20			WSP	0.25
HI173	F2 H ₁ W ₁ SS ₁ AIN	C # 26-35	NR	10	1	10	20	20	20			WSP	0.03
HI174	F2 single crosses	C # 64-75	NR	12	1	12	20	20	20			WSP	0.04
HI175	F2 double crosses	C # 76-81	NR	6	1	6	30	30	30			WSP	0.02
HI176	F2 double crosses	C # 82-84	NR	3	1	3	20	20	20			WSP	0.01
HI177	F3 populations LRT 2	HI1166R	NR	15	1	15	var.	60				CEF	
HI178	F3 multt. crosses	HI1166R	NR	3	1	3	var.	60				CEF	
HI179	F3 for DC	HI1156R	NR	7	1	7	var.	60				CEF	
HI180	F3 also.	HI1166R	NR	8	1	8	var.	60				CEF	
HI181	F3 bulk H ₁ W ₁ SS ₁ AIN	HI1166R	NR	3	1	3	var.	60				CEF	
HI182	F3 HR with W ₁ AIN,ST etc	HI1166R	NR	1	1	1	var.	50				CEF	

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Exp No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	Rows		Plot Mes	Area (ha)	Field	Sowing date
							Mo.	Width (cm)				
HI185	F3 TWCNR, ABR, WR+STR	HI11986R	NR	7	1	7	var	60			CEF	
HI184	F3 EC WR, HY	HI12086R	NR	4	1	4	var	60			CEF	
HI185	F3 Populations	PA041, 44 88K, PA	NR	8	1	8	10	30		0.01	AEN	
HI186	F4 prog.	132, 13387R	NR	37/4+1	1	4/5	2/4	30		0.31	CEF	
HI187	F4 prog.	HI139	NR	3+1	1	4	2/4	30		0.01	CEF	
HI188	F4 prog. (multicross)	HI140	NR	90+10	1	100	2/4	30		0.08	CEF	
HI189	F4 prog. EC	HI141	NR	178+19	1	197	2/4	30		0.15	CEF	
HI190	F4 prog.	HI142	NR	217+24	1	241	2/4	30		0.18	CEF	
HI191	F4 prog. HE, MR, ABR	HI143	NR	60+7	1	67	2/4	30		0.05	CEF	
HI192	F4 prog. MR, ABR, WR+ST	HI145	NR	98+11	1	109	2/4	30		0.08	CEF	
HI193	F4 prog. EC, WR, HY	HI146	NR	107+12	1	119	2/4	30		0.09	CEF	
HI194	F4+6 prog. bulk	PA046-88K	NR	5	1	5	10	30		0.01	AEN	
HI195	F5 bulk prog. I	HI148, 149	NR	5+1	1	6	4	30		0.01	CEF	
HI196	F5 bulk prog. II	HI148, 149	NR	5	1	5	1	30		0.01	WSP	
HI197	F5 bulk prog. III	HI148, 149	NR	5	1	5	1	30		0.01	FRN	
HI198	F5 bulk prog. IV	HI148, 149	NR	5	1	5	1	30		0.01	AEN	
HI199	F5 bulk prog. V	HI148, 149	NR	5	1	5	1	75		0.01	STN	
HI200	F7/8 bulk prog. I	HI152	NR	43+5	1	48	4	30		0.04	CEF	
HI201	F7/8 bulk prog. II	HI155	NR	43	1	43	1	30		0.01	WSP	
HI202	F7/8 bulk prog. III	HI155	NR	43	1	43	1	30		0.01	FRN	
HI203	F7/8 bulk prog. IV	HI155	NR	43	1	43	1	30		0.01	AEN	
HI204	F7/8 bulk prog. V	HI155	NR	43	1	43	1	75		0.01	STN	
HI205	Bulk prog. selections from AEN	HI162, 151, 169	NR	12+2	1	14	1, 2, 4	30		0.01	CEF	

Exp No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	Rows			Field	Sowing date
							No.	Width (cm)	Plot Nos		
H206	PTT 1		ELS	23+2	4	100	4	30		CEF	
H207	PTT 2		ELS	23+2	4	100	4	30	0.08	CEF	
H208	PTT 3		ELS	23+2	4	100	4	30	0.08	CEF	
H209	PTT 4		ELS	23+2	4	100	4	30	0.08	CEF	
H210	PTT 5		ELS	23+2	4	100	4	30	0.08	CEF	
H211	PTT 6	PA01388X	CRB	16	2	32	4	30	0.02	C9F	
H212	AVT-Kabuli		ELS	23+2	4	100	8	30	0.15	CEF	
H213	PTT/AVT entries I	88R	NR	138	1	138	1	30	0.02	KSP	
H214	PTT/AVT entries II		NR	138	1	138	1	30	0.02	HPN	
H215	PTT/AVT entries III		NR	138	1	138	1	30	0.02	ALN	
H216	PTT/AVT entries IV		NR	138	1	138	1	75	0.05	STN	
C-108(95)IC: Breeding chickpeas for adaptation to early and late planting, and to increased inputs											
(b) Late planting in northern India											
H221	F2 populations - Desi	C # 36-40	NR	5+7	1	12	20	30	0.04	KCP	
H222	F2 populations - Kabuli	C # 41-42	NR	2+5	1	7	20	30	0.02	KCP	
H223	F3 populations	H181	NR	8	1	8	var	30	0.01	CEF	
H224	F4 bulk	H182	NR	34	1	34	20	60	0.20	CEF	
H225	F4 prog.	H182	NR	662+74	1	736	2/4	30	0.95	CEF	
H226	AVT		ELS	16	5	80	8	30	0.12	CEF	
H227	PTT/AVT entries I	88R	NR		1		1	30		KCP	
H228	PTT/AVT entries II		NR		1		1	30		HPN	
H229	PTT/AVT entries III		NR		1		1	30		AVN	
H230	PTT/AVT entries IV		NR		1		1	75		STN	

Exp No.	Name of experiment	Source (Expt)	Des.	Trits	Reps	Plots	No.	Rows		Plot Nos	Area (ha)	Field	Sowing date
								Width (cm)	No.				
(c) High input conditions													
HI231	Preliminary adaptation trial 1		SL	25	2	50	8	30			0.08	CEF	
HI232	Prel. adapt. trial 2		E.S	16	5	80	8	30			0.12	CEF	
HI233	Genoplasm screening		NR		1		4	30				CEF	
C-109(85)IC: Studies on genetics and breeding methods of chickpea													
HI241	F3 cold tolerant prog.		NR	54+12	1	66	2	30			0.02	CEF	
HI242	M4 bulk I	HE2187R	NR	4	1			30			1.50	SAL.	
HI243	M4 bulk II	HE2187R	NR	4	1			30			1.50	SAL.	
HI244	PG15 prog. bulk	PA067SRK	Aug.	40	10	510	1	60			0.04	SAL.	
HI245	Furrt. Det. study	PA067SRK	NR	12	1	12	5	60			<0.01	Material	
HI246	Male steriles	PA067SRK	NR										
HI247	High protein lines trial		E.S	25	4	100	4	30			0.08	CEF	

GHAL I OR

CHICPEA BREEDING EXPERIMENTS - 1988-89

Chatter

Exp No.	Name of experiment	Source (Dopt)	Des.	Tfts	Rops	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing date
							No.	Width (cm)				

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

GM01	ICSM-DM	ICRISAT	D. Aug.	40+1	2	90	4	30	4	30	Normal	0.07
GM02	ICSM-DM	ICRISAT	D. Aug.	40+1	2	90	4	30	4	30	Normal	0.07
GM03	ICT1-DM	ICRISAT	RCB	15+1	4	64	6	30	6	30	Normal	0.07
GM04	ICT1-DM	ICRISAT	RCB	15+1	4	64	6	30	6	30	Normal	0.07
GM05	ICT1-R	ICRISAT	RCB	15+1	4	64	6	30	6	30	Normal	0.07
GM06	ICT1 lines (trial)	ICRISAT	RCB	15+1	4	64	6	30	6	30	Normal	0.07

C-103(85)IC: Breeding short duration dwarf chickpeas for stability and yield

GM011	P3 populations	HID98B7R	NR	7	1	7	20	30	20	30	Normal	0.02
GM012	P5 populations	HID51B	NR	1	1	1	20	30	20	30	Normal	0.01
GM013	P7 progenies	GM21	Aug.	125	1	140	1	60	1	60	Normal	0.01
GM014	P7	PHO58B	CRB	16	3	48	2	30	48	30	Normal	0.02
GM015	P7-3d DM	ICRISAT	CL	25	4	100	4	30	4	30	Normal	0.06
GM016	P7-3d DM	ICRISAT	CL	25	4	100	4	30	4	30	Normal	0.06
GM017	AT7-7 DM	ICRISAT	CL	25	4	100	4	30	4	30	Normal	0.16

Exp. No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	Rows		Plot No.	Area (ha)	Field	Sowing date
							No.	Width (cm)				
C-104(85)IC: Breeding long duration desi chickpeas for stability and high yield - International												
GMO21	F3;5 prog. bulks	PA04688K	NR	48	1	48	4	30	-	0.03	Normal	
GMO22	F4;6 prog. bulks	PA04688K	NR	10	1	10	4	30	-	0.01	Normal	
GMO23	Advanced yield trial 1	ICRISAT	QL	25	4	100	8	30	-	0.16	Normal	
GMO24	Advanced yield trial 2	ICRISAT	QL	25	4	100	8	30	-	0.16	Normal	
GMO25	Advanced yield trial 3	ICRISAT	QL	25	4	100	8	30	-	0.16	Normal	
GMO26	Advanced yield trial 4	ICRISAT	QL	25	4	100	8	30	-	0.16	Normal	
GMO27	Advanced yield trial 5	ICRISAT	QL	25	4	100	8	30	-	0.16	Normal	
C-105(85)IC: Breeding kabuli chickpeas for stability and high yield in semi-arid tropics												
GMO31	F4 progenies	GMO3187R	Aug.	112	1	126	1	60	-	0.03	Normal	
GMO32	F4 populations	HI143B	NR	1	1	1	20	30	-	0.01	Normal	
GMO33	F5 progenies	GMO32	Aug.	78	1	88	1	60	-	0.02	Normal	
GMO34	F4;6 prog. bulks	PA04688K	NR	5	1	5	4	30	-	0.01	Normal	
GMO35	PTT 1	PA38,4588K	CRB	16	3	48	2	30	-	0.02	Normal	
GMO36	PTT 2	PA04388K	CRB	16	3	48	2	30	-	0.02	Normal	
GMO37	AIT - Kabuli	ICRISAT	QL	25	4	100	8	30	-	0.16	Normal	
C-108(85)IC: Breeding chickpeas for adaptation to early and late planting, and to increased inputs												
(b) Late planting												
GMO41	AIT - late planting	ICRISAT	HLS	16	5	80	8	30	-	0.12	Normal	

Exp No.	Name of experiment	Source (Expt)	Des.	Trts	Reps	Plots	Rows		Plot Nos	Area (ha)	Field	Sowing date
							No.	Width (cm)				
(c) High input conditions												
GM02	Compass screening I	HID99B, 051867R	NR	9	1	9	20	30	-	0.03	Savage farm	
GM03	Compass screening II	-do-	Aug.	135	1	151	1	60	-	0.01	-do-	
GM04	Compass screening I	ICRISAT	NR		1		4	30			Normal	
GM05	Compass screening II	ICRISAT	NR		1		4	30			Savage farm	
GM06	Prel. adaptation trial 1	ICRISAT	SL	25	2	50	8	30	-	0.08	Normal	
GM07	Prel. adaptation trial 1	ICRISAT	SL	25	2	50	8	30	-	0.08	Savage farm	
GM08	Prel. adaptation trial 2	ICRISAT	BLS	16	5	80	8	30	-	0.12	Normal	
GM09	Prel. adaptation trial 2	ICRISAT	BLS	16	5	80	8	30	-	0.12	Savage farm	

/msr/

PANTHAGOR

CHICKPEA BREEDING EXPERIMENTS - 1968-69

Peritzinger

Exp No.	Name of experiment	Source (Expt)	Des.	Tris	Reps	Plots	No.	Rows		Plot Nos	Area (ha)	Field	Sowing date
								Width (cm)	Length				
C-104(85)IC: Breeding long duration chickpeas for stability and high yield - Inter-continental													
PN001	F4 Populations	H104987R NR	NR	11	1	11	40	30	-	-	0.06	ECW	
PN002	F4 Progenies	H104987R Aug.	Aug.	90	1	101	1	30	-	-	0.03	ECW	
PN003	F5 Populations	H1051887R NR	NR	4	1	4	40	30	-	-	0.02	ECW	
PN004	F5 Progenies	H1051887R Aug.	Aug.	35	1	40	1	30	-	-	0.01	ECW	
C-105(85)IC: Breeding labull chickpeas for stability and high yield in semi-arid tropics													
PN011	F4 Populations	H1143887R NR	NR	1	1	1	40	30	-	-	0.01	ECW	
PN012	F4 Progenies	H1143887R Aug.	Aug.	10	1	12	1	30	-	-	0.01	ECW	
C-106(85)IC: Studies on genetics and breeding methods													
PN021	F3 interspecific crosses	PN06408K NR	NR	4	1	4	4	20	30	-	0.01	ECW	
PN022	F4 Population	PA17587R NR	NR	4	1	4	4	30	30	-		ECW	ECW

Was sown as possible

/smr/