

Dr. F. B. Patil, Ajeet Seeds, Jalna mentioned about narrow genetic base or lack of genetic diversity as the main reason for the lack of heterosis in North Zone hybrids.

Dr. B. M. Khadi, mentioned about the lack of fibre quality improvement in North Zone and wanted greater efforts to be put in by the breeders and offered to share the germplasm material and early generation material from CICR and other centres. The improvement in fibre length in *G. arboreum* in central and south zones is a welcome feature, he said.

Dr. S. S. Patil, Senior cotton breeder, Dharwad mentioned that the *G. herbaceum* and *G. arboreum* genotypes in Karnataka under protective irrigation gave very high yields. He wanted similar tests to be conducted in different centres to identify good genotypes under protective irrigated conditions.

Dr. P. L. Nehra, Principal Investigator (Agronomy) mentioned about the response of different pre-release genotypes to fertilizer and spacing, suitable and different combinations of RDF, FYM and foliar spray of nutrient for different locations, foliar application of KNO₃ at different combination, fertigation with RD-NK as 10% basal and remaining 90% in 9 splits, organic combination of FYM @ 5 t/ha, green manuring of daincha in-situ, azatobactor, azospirillum, PSB as seed treatment and use of osmoprotectant to increase seed cotton yield as salient achievements.

The Director General wanted to know the reasons for continuing the spacing + fertilizer requirement trial of pre-release genotypes, when there is no change in the plant type of newly evolved genotypes. He questioned the need for separate trial for Bt hybrids to study the effect on spacing and fertilizer dose adopted. Due to change in phenology of the Bt cotton plant and heavy and early boll load, there is a need to study their effect, Dr. Khadi said.

Dr. Barambe, Head, Crop Production, CICR, Nagpur mentioned that the difference in soil depth and initial fertilizer status of the soil could be the reason for the different response of genotypes at different location to the same treatment.

Dr. Kranti, Head, Crop Protection, Nagpur suggested that in view of the high cost of Bt seeds, the advantage of close plantings should be studied in terms of economic advantage.

Dr. T. Surulivelu, Principal Scientist (Entomology) summarized the results of various entomological trials. He listed various genotypes found resistant to jassids and bollworms from the breeding material. He also mentioned about the population dynamics of various pest and the attempt made to correlate them with weather parameters at some locations. He also mentioned about effectiveness of new pesticides like RIL 042 to control whitefly, Spinosad 45 SC, BYI 08330 1500D and SYN 13623 against sucking pests, RIL 042, E2Y 45 20 SC and Flubendiamide 24% + Thiocloprid 24% 480 SC against bollworm and Thiodicarb, Quinalphos, Lambda, Cyhalothrin and Deltamethrin

for pink bollworm. He also mentioned about the emergence of mirid bug and mealy bug as new emerging pests.

Dr. Puri, Chairman, QRT wanted to know about agro-ecological changes responsible for the increased incidence of mirid bug and mealy bug. He also wanted the existing data on population dynamics of different pests and weather data at different centres during the past five years to be utilized to develop forecasting model.

Dr. P. Chidambaram, Principal Investigator (Pathology) presented the highlights of plant pathology discipline. Dr. Chidambaram mentioned at length about the identification of several genotypes with resistance to CLCuD through field and screen house testing. The test fungicide Probineb 70 WP gave good control of fungal foliar diseases. Seed treatment of *Pseudomonas fluorescence* Pf1 followed by foliar spray 0.2% seven times was found to be effective in the management of alternaria leaf spot, grey mildew, myrothecium leaf spot and bacterial blight. Propiconazole @ 0.1% spray 4-5 times prevented yield loss upto 10% due to alternaria leaf spot. Carbendazim @ 0.1% prevented an yield loss upto 28% due to grey mildew.

Dr. Rishi, Member, QRT wanted the development of map with hot spot locations and disease free areas for different diseases. He wanted more linkages with fusarium wilt and alternaria network projects. He also stressed the need for more work on the identification of new race in *Fusarium* spp.

Dr. Makwana, Senior Scientist, CIRCOT, Mumbai presented the quality aspects of different genotypes developed through AICCIP network programme. As many as 3933 samples were evaluated during the year. Of these, 332 strains were found to satisfy the quality norms. Full spinning data on some of the advanced varieties and hybrids have also been provided.

Dr. Punit Mohan, Senior Scientist, CICR, Nagpur presented the salient features of germplasm lines evaluated at CICR centres. One hundred germplasm lines of *G. hirsutum* and *G. arboreum* were evaluated. Data on economically important characters including pest and disease reaction have been documented.

The meeting ended with a vote of thanks to the chair.

Breeding Panel

Session - II

Date: 11 & 12th April, 2007

Chairman: Dr. K. C. Jain, ADG (CC), ICAR, New Delhi

Co-Chairman: Dr. B. M. Khadi, Director, CICR, Nagpur
Dr. S. Sreenivasan, Director, CIRCOT, Mumbai

Rapporteurs: Dr. K. G. Patel, NAU, Surat &
Dr. S. Manickam, CICR, RS, Coimbatore

The technical programme of the breeding trials, both national as well as zonal, were formulated for the year 2007-08 on 11th and 12th April, 2007 in the combined session of breeding panel. Dr. S. S. Narayanan, Member QRT also joined the panel in formulating the various trials.

The breeders are requested to submit two pockets of seeds (in case of varieties) in addition to the number of locations finalized in the panel for submitting to the Director, CICR, Nagpur as per the directives of NBPGR for long term storage of elite breeding materials.

Last date for submission of seeds at CICR, Coimbatore: 20-04-2007, at 5 PM

Date of issue of coded seeds for North Zone centres: 23-04-2007 after 4 PM

Date of issue of coded seeds for others: 25-04-2007 10 AM onwards

Private R & Ds – Please pay the testing fee specified for each entry at national level in the form of **Demand Draft drawn from any Nationalized Bank** drawn in favour of **Project Coordinator (Cotton Improvement) & Head** payable at Coimbatore while submitting the seeds. No entry shall be entertained without the submission of testing fee and R & D recognition by DST. The companies which have not updated the R & D recognition shall update and submit a copy at the time of depositing the seeds without which the entry shall not be included in the trial.

GENERAL POINTS TO BE NOTED

- ❖ All the concerned persons (both AICCIP centres and Private R & Ds), who are conducting the breeding trials, are requested to operate an e-mail id and communicate the same to the Project Coordinator (Cotton Improvement) at cicrbe@gmail.com with the details of their email id, name of the contact person, their telephone nos. (both office & residence, preferably mobile no.) and fax no.
- ❖ The trials should be conducted strictly as per the technical programme **and no other entry should be included** in the trial (including the check varieties).
- ❖ All the trials should have at least one border row.

- ❖ All those who are conducting the breeding trials are requested to furnish both the mean data as well as the replicated data analyzed statistically in respect of seed cotton yield (kg/ha), lint yield (kg/ha), ginning outturn (%), Lint Index (g), Seed Index (g), biomass (t/ha) and boll weight (g/boll).
- ❖ The seeds harvested in both varieties and hybrids are to be analyzed for seed oil content.
- ❖ All the data sheets should have Name of the agency conducting trial, location of the trial (and not the location of the company) and the name of the trial.
- ❖ The data should be submitted separately in different sheets for each trial, and the data of different trials are not to be combined in a single sheet.
- ❖ The incomplete and insufficient data will not be included in report preparation, and shall be reported to the higher officials for non compliance.
- ❖ The **lint samples pooled over replications should be prepared for all the entries**, cleaned neatly and labeled properly (mentioning the name of the agency conducting the trial, location of the trial, and code number in each packet of the lint sample) and sent to concerned CIRCOT centre (North Zone Trials – CIRCOT unit at Sirsa; National trials and Central Zone trials - CIRCOT unit at Nagpur; South Zone - CIRCOT unit at Coimbatore) for fibre quality evaluation in time (**on or before 30-12-2007**). The copy of the covering letter of lint sample submitted to CIRCOT must be communicated to the Principal Investigator (Plant Breeding) and to the Project Coordinator.
- ❖ The data should be submitted in both hard copy (containing mean as well as replicated data) and soft copy (only in the form of Excel spread sheet in a CD). For data sheet model, PC's office may be contacted at the time of report preparation by e-mail at circbe@gmail.com. The trial wise summary table are to be submitted without fail for easy compilation of data.
- ❖ **Kindly note that the last date for the receipt of the data is 30-01-2007 (for north zone locations), 15-02-2007 (for central zone locations) and 28-02-2007 (for south zone locations). Data (both hard copy as well as soft copy) received after the due data shall not be included in the report.**

NATIONAL TRIALS

Br. 02a - IET- *G. hirsutum* (IRRIGATED)

Design - RBD, Rows: 2 (6 m length), REP: 3 Seed Qty; 100gms x 19+2

S. No	Name of Entry	Sponsor	Locations	LC
1.	H 1316	CCSHAU, HSR	SGNR	RS 810
2.	HS 278	HAU, SRS	Hisar	H 1117
3.	CSH 3047	CICR, SRS	FKT	F 1861
4.	CSH 12	CICR, SRS	LDH	F 1861
5.	F 2086	PAU, FKT	ABH	F 1861
6.	F 2164	PAU, FKT	Sirsa (C)	H 1117
7.	LH 2107	PAU, LDH	Kanpur	Vikas
8.	LH 2108	PAU, LDH	Banswara	LRA 5166
9.	ABH 11	PAU, ABH	Khandwa	Kh.2
10.	ABH 29	PAU, ABH	SURAT	G.Cot. 10
11.	RS 2524	RAU, SGNR	Junagadh	G. Cot. 18
12.	RS 2513	RAU, SGNR	Rahuri	LRA 5166
13.	P 57-6	IARI, NEW DELHI	Bhawanipatna	Surabhi
14.	RHC 9854	MPKV, RAHURI	Siruguppa	Sahana
15.	NH 644	MAU, NDD	Raichur	Sahana
16.	GISV 61	NAU, SRT	Lam	L 604
17.	GJHV 460	JAU, JNG	Adilabad	Narasimha
18.	GTHV 4/13	SDAU, TAL	Coimbatore	MCU. 12
19.	BS 277	OUAT, BPT	Srivilliputhur	SVPR. 2
20.	BS 279	OUAT, BPT		
21.	KH 7139	JNKVV, KWA		
22.	IH 65	INDORE		
23.	CNH 1101	CICR, NGP		
24.	CNH 1102	CICR, NGP		
25.	L 798	LAM		
26.	ADB 28	ANGRAU, ADB		
27.	NDLH 779	RARS,NANDYAL		
28.	CCH LS 3	CICR, CBE		
29.	CCH 03-23	CICR, CBE		
30.	TCH 1707	TNAU, CBE		
31.	TCH 1799	TNAU, CBE		
32.	TSH 2005	TNAU, SVPR		
33.	TSH 0252	TNAU, SVPR		
34.	CPD 1050	UAS, DWD		
35.	CPD 1019	UAS, DWD		
36.	SCC 404-1	UAS, SGP		
37.	RAH 59	UAS, RCR		
38.	RAH 61	UAS, RCR		
39.	ARBH 225	UAS, ARB		
40.	HAGH 101	UAS, HAG		
41.	ZC (RS 2013/ LRA 5166/Surabhi)			
42.	LC			

Br. 02 b - IET- *G. hirsutum* (RAINFED)

Design -RBD, Rows: 2 (6 m length), REP: 3 Seed Qty: 100 gms X 12+2

S. No	Name of Entry	Sponsor	Locations	LC
1.	H 1098-1	CCSHAU, HSR	Banswara	LRA 5166
2.	NH 634	MAU, NDD	Bharuch	G.cot. 16
3.	NH 644	„	Khandwa	JK 4
4.	PH 1060	MAU, PBN	Indore	VIKRAM
5.	GBHV 156	NAU, BRH	Akola	PKV Rajat
6.	GJHV 358	JAU, JNG	Nanded	NH 545
7.	BS 144-1	OUAT, BPT	Nagpur [C]	Anjali
8.	BS 111	OUAT, BPT	Bhawanipatna	Surabhi
9.	ADB 102	ANGRAU, ADB	Dharwad	Sahana
10.	TSH 9974	TNAU, SVPR	Nandyal	Narasimha
11.	TSH 9975	TNAU, SVPR	Adilabad	Narasimha
12.	TKH 1182	TNAU, KPT	APK	KC. 2
13.	CPD 821	UAS, DWD		
14.	CPD 824	UAS, DWD		
15.	SCC 404-1	UAS, SGP		
16.	RAH 71	UAS, RCR		
17.	RAH 75	UAS, RCR		
18.	ARBH 271	UAS, ARB		
19.	HAGH 148	UAS, HAG		
20.	ZC (LRA/ Sahana)			
21.	LC			
22.	CNH 1102	CICR, NGP		
23.	CNH 1101	„		
24.	L 788	LAM		
25.	NDL 770	NANDYAL		
26.	TAH 235	TNAU, APK		
27.	KH 7184	KWA		
28.	IH 10	INDORE		
29.	GISV 206	NAU, SRT		
30.	GISV 61	„		
31.	P 21-15	IARI, NEW DELHI		
32.	AKH 0316	PDKV, AKA		
33.	AKH 9916	„		
34.	CCH 7122	CICR, CBE		

Br. 05 a1 - PHT- Intrahir-Hybrid Conventional

Design-RBD, Rows:2 (6 m length), REP:3, Seed Qty: 100 gms X 22

S. No	Name of Entry	Sponsor	Locations	LC
1.	HHH 447	CCSHAU, HSR	SGNR	Maru Vikas
2.	FHH 141	PAU, FKT	FKT	LHH 144
3.	LHH 2108	PAU, LDH	LDH	LHH 144
4.	RAJHH 729	RAU, SGNR	HISAR	HHH 223
5.	GSHH 2256	NAU, SRT	KNP	H 8
6.	BHH 108	OUAT, BPT	BNW	H 8
7.	BHH 200	OUAT, BPT	KHA	JK HY 1
8.	CCHH 132	CICR, CBE	SRT	H 10
9.	TCHH 2322	TNAU, CBE	Talod	H 10
10.	TSHH 0442	TNAU, SVPR	RAH	Phule 492
11.	DHH 2015	UAS, DWD	BPT	Bunny
12.	DHH 2016	UAS, DWD	RCR	DHH 11
13.	RAHH 255	UAS, RCR	SRG	DHH 11
14.	RAHH 259	UAS, RCR	WGL	LAHH 5
15.	ARBHH 51	UAS, ARB	LAM	LAHH 5
16.	HAGHH 107	UAS, HAG	CBE	DHH 11
17.	VCH 353	Vikki's Agro Tech	SVPR	DHH 11
18.	NSPL 423	Nandi Seeds	G. Guda (JK)	LAHH 5
19.	JKCH 2255	JK Agri Genetics	Hyderabad (Vibha)	LAHH 5
20.	VICH 121	Vikram Seeds	Nagpur (Ankur)	Phule 492
21.	PHCH 166	PHS Agritech	Jalna (Krishi)	Phule 492
22.	Tulasi 118	Tulasi	Medak (Vikki)	LAHH 5
23.	INDAM 1020	Indo-American		
24.	ARCHH 7252	Ankur Seeds		
25.	ZC (CSHH 198/ NHH 44/Bunny)			
26.	LC			
27.	HSHH 18	HAU, SRS		
28.	RHH 0202	MPKV, Rahuri		
29.	RHH 0216	„		
30.	GTHH 188	TALOD		
31.	VBCH 2240	Vibha		
32.	KDCHH 491	Krishidhan		
33.	SHH 421	UAS, SGP		
34.	USBHH 623	JRF		
35.	WGHH 340	RARS, WGL		
36.	NRCH 2192	Nirmal seeds		
37.	PMCH 77	Palamoor Seeds		
38.	Prateek 7	Super Seeds		

Br. 05 a2 - PHT- Intrahir-Hybrid (MS base)

Design; RBD, Rows: Two (6 m length), Replication: Three, Seed qty: 100 g X 14

S. No	Name of Entry	Sponsor	Locations	LC
1.	CSHG 1633	CICR, SRS	SGNR	Maru Vikas
2.	CSHG 3108	CICR, SRS	Hisar	HHH 287
3.	LMSH 214	PAU, LDH	Faridkot	LHH 144
4.	RAJCHH 27	RAU, SGNR	Ludhiana	LHH 144
5.	RAJGHH 33	RAU, SGNR	Batinda	LHH 144
6.	CCCHH 07-1	CICR, CBE	Banswada	H 8
7.	DMSHH 504	UAS, DWD	Surat	G. Cot Hy 10
8.	DDMSHH 505	UAS, DWD	Junagadh	G. Cot Hy 10
9.	DMSH 0751	UAS, DWD	Siruguppa	DHH 11
10.	DMSH 0752	UAS, DWD	Raichur	DHH 11
11.	RAMSHH 5	UAS, RCR	Lam	LAHH. 5
12.	ARCHH 2464	Ankur Seeds	Coimbatore	DHH 11
13.	CSHG 1633	CICR, SRS	Srivilliputhur	DHH 11
14.	HHH 473	HAU, HSR		
15.	' ZC (CSHH 198/PKV Hy 4/Bunny)		Nagpur (Ankur)	
16.	LC			

Br. 05 b-1 PHT- Intrahir-Hybrid (Conventional)

Design: RBD, Rows; Two (6 m length), Replications: Three, Seed qty: 100g X 12

S. No	Name of Entry	Sponsor	Locations	LC
1.	NHH 59	MAU, NDD	Khandwa	JKHY 3
2.	BHH 108	OUAT, BPT	Indore	JKHY. 1
3.	BHH 200	OUAT, BPT	Nanded	PHH 316
4.	CCHH 313	CICR, CBE	Akola	PKV HY2
5.	DHH 0761	UAS, DWD	Bhawanipatna	BUNNY
6.	DHH 0762	UAS, SGP	Dhrawad	DHH 11
7.	RAHH 231	UAS, RCR	Nandyal	LAHH 5
8.	RAHH 207	UAS, RCR	Aruppukottai	DHH 11
9.	ARBHH 95	UAS, ARB	G. Guda (JK)	LAHH 5
10.	HAGHH 133	UAS, HAG	Yavatmal (Vibha)	
11.	NSPL 432	Nandi Seeds	Nagpur (Ankur)	
12.	JKCH 1405	JK Agri Genetics	Kovilpatti	DHH 11
13.	Tulasi 127	Tulasi		
14.	ARCHH 3028	Ankur Seeds		
15.	ZC (Ankur 651/Bunny)			
16.	LC			
17.	VBCH 2213	Vibha		
18.	SP 671	Proagro		
19.	GGCH 50	Greengold		
20.	WGHH 411	RARS, WGL		
21.	VARUN 8	JRF		
22.	AJEET 199	Ajeet Seeds		
23.	SHH 423	UAS, SGP		
24.	PMCH 77	Palamoor Seeds		

Br. 05 b-2 PHT- Intrahir-Hybrid (msbase)

Design: RBD, Rows: 2 (6 m length), Replications: 3 Seed Qty: 100 g X 8

S. No	Name of Entry	Sponsor	Locations	LC
1	DNSH 0771	UAS, DWD	Indore	JK HY 1
2	DMSH 0772	UAS, SGP	Akola	PKV HY 5
3	RAMSHH 7	UAS, RCR	Nanded	PHH 316
4	ARCHH 3066	Ankur Seeds	Bharuch	H 8
5	CAHH 231	PDKV, AKA	Amreli	H 8
6	CAHH 241	PDKV, AKA	Dhrawad	DHH 11
7	CAHH 232	PDKV, AKA	Nandyal	LAHH 5
8	ZC (Ankur 651, Bunny)		Nagpur (Ankur)	
9	LC			

Br 14 a. IET OF G. barbadense

RBD; ROW 2 (6 m length); Rep 4; 75 G X 4+2

S.No	Name of Entry	Sponsor	Locations
1.	CCB 1	CICR, CBE	TNAU, CBE
2.	CCB 2	„	UAS, DWD
3.	TCB 1	TNAU, CBE	NAU, SRT
4.	DCB 1	UAS, DWD	MPKV, Rahuri
5.	DCB 2	„	
6.	NCB 1	NAU, SRT	
7.	RCB 1	MPKV, Rahuri	
8.	Suvin (CC)		

Br. 15 a - PHT- Interspecific -Hybrid (hir x barb)

Design: RBD, Rows: 2 (6 m length), Replications: 3, Seed Qty: 100 g X 9

S. No	Name of Entry	Sponsor	Locations	LC
1	GSHB 895	NAU, SRT	Anand	G Cot HB 102
2	CCHB 2628	CICR, CBE	Talod	G Cot HB 102
3	CCCHB 07-1	CICR, CBE	Siruguppa	DHB 105
4	CCCHB 07-2	CICR, CBE	Dharwad	DHB 105
5	DHB 0781	UAS, DWD	Raichur	DHB 105
6	DHB 0782	UAS, DWD	Coimbatore	TCHB 213
7	RAHB 113	UAS, RCR	Srivilliputhur	TCHB 213
8	RAHB 163	UAS, RCR	Ranebennur (JK)	DHB 105
9	ARBHB 146	UAS, ARB	Belgaum (Ankur)	DHB 105
10	HAGHB 12	UAS, HAG		
11	NSPL 414	Nandi Seeds		
12	JKCHB 216	JK Agri Genetics		
13	DCH 32 (CC)			
14	LC			
15	MC 5566	Metahelix		
16	AACH 3466	Amareshwara		
17	SP 904	Proagro		
18	GGCH 904	Greengold		
19	ARCHHB 5	Ankur		
20	Ajeet 999	Ajeet		
21	Sara 2	Super Spinning		
22	Sara 33	„		

Br. 22 a/b IET-G. arboreum

Design –RBD, Rows; 2 (6 m length), REP: 3 Seed Qty: 100 gms X

S. No	Entry	Sponsored by	Locations	LC
1.	HD 459	CCSHAU, HSR	SGNR	RG 8
2.	CISA 9R	CICR, SRS	FKT	LD 694
3.	CISA 108	CICR, SRS	ABH	LD 694
4.	CISA 405	CICR, SRS	LDH	LD 694
5.	CISA 294	CICR, SRS	Hisar	HD 324
6.	FDK 118	PAU, FKT	Sirsa (C)	RG 8
7.	FDK 164	PAU, FKT	Khandwa	J. Tapti
8.	LD 937	PAU, LDH	Amreli	G.Cot. 19
9.	LD 909	PAU, LDH	Akola	AKA. 7
10.	RG 441	RAU, SGNR	Parbhani	PA 402
11.	RG 526	RAU, SGNR	Jalgaon	JLA 794
12.	RG 514	RAU, SGNR	Nagpur (C)	
13.	CINA 347	CICR, NGP	Dharwad	AK 235
14.	CINA 348	CICR, NGP	Hagari	AK 235
15.	GAM 115	JAU, Amreli	Raichur	AK 235
16.	GAM 141	JAU, Amreli	Nandyal	Aravinda
17.	PA 528	MAU, PBN	Mudhol	Veena
18.	PAIG 247	MAU, PBN	Kovilpatti	K. 11
19.	KWA 730	KWA	Karaikal	K 11
20.	KWA 731	„		
21.	DLSa1004	UAS, DWD		
22.	DLSa1005	UAS, DWD		
23.	RAAS 7	UAS, RCR		
24.	RAAS 8	UAS, RCR		
25.	ZC (HD 123/AKA 5/DLSa 17)			
26.	LC			
27.	CAN 1001	CICR, NGP		
28.	CAN 1003	CICR, NGP		
29.	RAC 024	MPKV, RAHURI		
30.	JLA 1600	MPKV, Jalgaon		
31.	AKA 0110	PDKV, AKA		

Br. 25 a/b PHT - Desi Hybrid

Design –RBD, Rows: 2 (6 m length), REP:3 Seed Qty: 100 gms X 15

S. No	Name of Entry	Sponsor	Locations	LC
1.	AAH 24	CCSHAU, HSR	SGNR	RAJ DH. 9
2.	CISAA 10	CICR, SRS	FKT	PAU 626 H
3.	FMDH 8	PAU, FKT	LDH	PAU 626 H
4.	Raj DH 313	RAU, SGNR	Hisar	HD 324
5.	RAJ DH 279	RAU, SGNR	Kanpur (I)	CAD 4
6.	JKCDH 505	JK Agri Genetics	Viramgam	G.cot MDH 11
7.	BAH 121	Bihani Seeds	Amreli	G.cot MDH 11
8.	AAH 1 (CC)		Bharuch	G.cot MDH 11
9.	LC (V)		Rahuri (I)	G.cot MDH 11
10.	Sahib 501	Sahib seeds	Akola	PDKVDH.1
11.	Sahib 502	Sahib seeds	Parbhani	PA 402
12.	AKDH 32	PDKV, AKA	Nagpur (C)	PDKVDH.1
13.	AKDH 37	„	Nandyal	Aravindha
14.	AKDH 10	„	Kovilpatti	K.11
			G.Guda (JK)	Aravindha

Br. 34b IET of *G. herbaceum*

Design-RBD, Rows: 2 (6 m length), REP: 3, Seed Qty: 100 gms X 7+2

S.No	Name of Entry	Sponsor	Locations	LC
1.	RBDV 17	MPUAT, BNW	Surat	Dig Vijay
2.	RBDV 21	MPUAT, BNW	Bharuch	Dig Vijay
3.	GBhv 259	NAU, SRT	Banswara	Dig Vijay
4.	GBhv 262	NAU, SRT	Dharwad	Jayadhar
5.	GBhv 253	NAU, SRT	Raichur	RAHS 14
6.	GBhv 267	NAU, SRT	Annigere	Jayadhar
7.	GShv 666/04	NAU, SRT	Karaikal	Jayadhar
8.	GShv 601/02	NAU, SRT		
9.	GShv 625/02	NAU, SRT		
10.	GShv 578/02	NAU, SRT		
11.	GVhv 531	AAU, Viramgam		
12.	GVhv 503	AAU, Viramgam		
13.	GVhv 535	AAU, Viramgam		
14.	GVhv 536	AAU, Viramgam		
15.	GVhv 544	AAU, Viramgam		
16.	GVhv 550	AAU, Viramgam		
17.	GVhv 541	AAU, Viramgam		
18.	GVhv 532	AAU, Viramgam		
19.	DDhc 104	UAS, DWD		
20.	DDhc 105	UAS, DWD		
21.	DDhc 0731	UAS, DWD		
22.	DDhc 0732	UAS, DWD		
23.	RAHS 157	UAS, RCR		
24.	RAHS 175	UAS, RCR		
25.	ZC (G Cot 23/DDhc 11)			
26.	LC			

NORTH ZONE TRIAL

Br-03 a

4 ROWS (6 m length) X 4 REP; RBD; 200 g X 7+2

Entries promoted	Entries retained	Location	Local Check
Bihani 161	H 1287	Sriganganagar	RS-810
RS 2455	ZC (RS 2013)	Kanpur	Vikas
CSH 3114	LC	Ludhiana	F 1861
H 1300		Faridkot	F 1861
LH 2111		Abohar	F 1861
		Hisar	H 1117
		Sirsa - HAU	H 1117

Br-04a – Trial not formulated

Br-05a

4 ROWS (6 m length)X 3 REP; RBD; 150 G X 8

Entries promoted	Entries retained	Location	Local Check
SVHH 139	MRC 620	Sriganganagar	LHH 144
SAHIB 274	ZC (CSHH 198)	Kanpur	LHH 144
HSHH 16	LC	Bathinda	LHH 144
HHH 433		Faridkot	LHH 144
CSHG 1862		Ludhiana	LHH 144
		Hisar	HHH 287
		11-Z (JK Seeds)	HHH 287
		Fazilka (Mahyco)	HHH 287

Br-24 a

4 ROWS (6 m length) X 4 REP; RBD; 200 G X 9 + 2

Entries promoted	Entries retained	Location	Local Check
	CISA 614	Kanpur	CAD 4
	FKD 124	Sriganganagar	RG 18
	LD 861	Tabiji	RG 18
	ZC (HD 123)	Hissar	HD-324
	LC	Sirsa [C]	HD-324
		Ludhiana	LD 694
		Faridkot	LD 694
		Abohar	LD 694
		Bhatinda	LD 694

Br-25 a

4 ROWS (6 m length) X 4 REP; RBD; 150 G X 5

Entries promoted	Entries retained	Location	Local Check
LMDH 30	FMDH 6	Sriganganagar	RAJDH 9
FMDH 7	AAH 20	Hissar	HD 324
AAH 26	KR 64	Sirsa [C]	HD-324
RAJDH 259	LDMH 28	Ludhiana	PAU 626 H
AAH 28	ZC (AAH 1)	Faridkot	PAU 626 H
	LC		

CENTRAL ZONE TRIAL**Br-03 a**

4 ROWS (6 m length) X 3 REP; RBD; 200 g X 4 + 2

Entries promoted	Entries retained	Location	Local Check
GJHV 374	LC	Surat	G. Cot 10
GTHV 02/45	ZC (LRA 5166)	Talod	G. Cot 16
CPD 812	CCH 1834	Junagadh	G. Cot 18
ARBH 813		Rahuri	JLH 168
GSHV 152			

Br-04a

8 ROWS (6 m length) X 3 REP; RBD; 400 G X 6 + 1

Entries promoted	Entries retained	Location	Local Check
P 72-9-37	LC	Surat	G COT 10
TCH 1705	ZC (LRA 5166)	Talod	G COT 10
TCH 1608	GSH V 01/1338	Junagadh	G Cot 18
	KH 151	Rahuri	JLH 168
	HAG 1055	Banswara	KH 2
	CNHO 12	Khandwa	KH 2

Br-05a

4 ROWS (6 m length) X 3 REP; RBD; 150 G X 8

Entries promoted	Entries retained	Location
VBCH 2303	Ratna	Surat
RAHH 245	GGCH 70	Talod
GTHH 119	GTHH 138	Rahuri
DHH 462	Tulasi 27	Banswara
INDAM 21	CC (NHH 44)	Vibha (Yavatmal)
ARCHH 8188	MS CHECK (Ankur 651)	Indo-Amer ()
Daftari 1281	PCHH 78	Ankur (Nagpur)
AHH 31		Daftari ()
RAMSHH 3		

Br-15 a

4 ROWS (6 m length) X 3 REP; RBD; 150 G X 5

Entries promoted	Entries retained	Location	Local Check
MLCHB 6	PSCHB 901	Banswara	G COT HB 102
RAHB 189	USHB 25	Anand	G COT HB 102
GSHB 876	JKCHB 214	Mahyco ()	
AHB 901	RAHB 170	JK Seeds (Padra)	
DHB 940	CCCHB 05-1	Proagro (Aurangabad)	
	ZC (DCH 132)		
	LC		

Br-03 b

4 ROWS (6 m length) X 3 REP; RBD; 200 g X 7 + 2

Entries promoted	Entries retained	Location	Local Check
HAGH 819	LC	Bharuch	G Cot 16
TSH 2005	ZC (LRA 5166)	Akola	PKV Rajat
PH 1024	CPD 812	Khandwa	KH 2
CPD 817		Indore	KH 2
ARBH 818		Bhawanipatna	Surabhi
		Nanded	NH 545
		Banswara	Wagad Kalyan

Br-04 b

8 ROWS (6 m length) X 3 REP; RBD; 200 g X 7 + 1

Entries promoted	Entries retained	Location	Local Check
NH 630	LC	Bharuch	G Cot 16
GTHV 0/35	ZC (LRA 5166)	Akola	PKV Rajat
KH 155	GSHV 01/26	Khandwa	KH 2
CCH 226		Indore	KH 2
AKH 9912		Bhawanipatna	Surabhi
		Nanded	NH 545
		Banswara	Wagad Kalyan

Br-05 b

4 ROWS (6 m length) X 3 REP; RBD; 150G X 5

Entries promoted	Entries retained	Location	Local Check
WGH 311	PMCH 99	Nanded	PHH 316
KCH 707 +	VBCH 2231	Akola	PKV Hy 2
LAHH 20	ZC (NHH 44)	Indore	JK HY 2
JKCH 1305	LC	Yavatmal (Vibha)	H 8
NHH 206	MLCH 318	Padra (JK)	PHH 316
CAHH 211			
DHH 66			

Br-24 b

4 ROWS (6 m length) X 4 REP; RBD; 200 G X 8 + 2

Entries promoted	Entries retained	Location	Local Check
DLSa 101	GAM 67	Amreli	G Cot 19
GAM 115	GAM 141	Junagadh	G Cot 19
JLA 1799	AKA 9703	Khandwa	Tapti
MDL 2647	DLSa 1001	Akola	AKA 8
PA 08	ZC (AKA 7)	Jalgaon	JLA 794
	LC	Parbhani	PA 402
		Nanded	PA 402
		Nagpur (CICR)	AKA 8401

Br-25 b

4 ROWS (6 m length) X 4 REP; RBD; 150 G X 8

Entries promoted	Entries retained	Location	Local Check
Swadeshi 651	GGCH 81	Amreli	G Cot 19
AAH 28	MRDC 227	Junagadh	G Cot 19
AAH 26	Mahabeej DH 903	Khandwa	Tapti
RAJDH 259	PKV DH 1 (ZC)	Akola	AKA 8
	LC (V)	Jalgaon	JLA 794
		Parbhani	PA 402
		Nagpur (Ankur)	AKA 8401
		Jalna (Mahyco)	

Br 34-1

4 ROWS (6 m length) X 3 REP; RBD; 200 G X 2 + 2

Entries	Location
GBhV 255	Surat
GBhv 256	Bharuch
GShv 557	
GShv 591	
DDhc 101	
DDhc 102	
Rahs 4	
Rahs 7	
GBhv 248	
GShv 209/01	
DDhc 1001	
Rahs 201	
Rahs 202	
CC (G. cot 23)	
CC (Dig Vijay)	

SOUTH ZONE TRIAL

Br-03 a

4 ROWS (6 m length) X 3 REP; RBD; 200 g X 5 +2

Entries promoted	Entries retained	Location	Local Check
GJHV 374	GSHV 97/1016	Siruguppa	Sahana
CPD 812	CNHO 12	Arabhavi	Sahana
ARBH 813	ZC (Sumangala)	Lam	L 604
H 1300	LC	Adilabad	L 604
RAH 216		Coimbatore	MCU 12
		Srivilliputhur	SVPR 2

Br-04a

8 ROWS (6 m length) X 3 REP; RBD; 400 G X 6 + 1

Entries promoted	Entries retained	Location	Local Check
GISV 103	GSHV 97/612	Siruguppa	Sahana
NDL 762	HAG 1055	Arabhavi	Sahana
ADL 903	CPD 787	Lam	L 604
CCH 1831	ZC (Sumangala)	Adilabad	L 604
CPD 814		Coimbatore	MCU 12
		Srivilliputhur	SVPR 2

Br-05a

4 ROWS (6 m length) X 3 REP; RBD; 150 G X 10

Entries promoted	Entries retained	Location	Local Check
RAHH 246	Tulasi 27	Siruguppa	DHH 11
PSCHH 1037	SSB 3	Raichur	DHH 11
KDCHH 712	ZC (Bunny)	Lam	LAHH 5
JKCH 2245	LC	Srivilliputhur	Savita
	ARCHH 9770	G. Guda (JK)	LAHH 5
	NCHH 55	Ranebennur (Safal)	DHH 11
	Tulasi 117	Parigi (Tulasi)	LAHH 5
		Hyderabad (Krishidhan)	LAHH 5
		Hyderabad (Proagro)	LAHH 5
		B' Gudi	DHH 11

Br-15 a

4 ROWS (6 m length) X 3 REP; RBD; 150 G X 8

Entries promoted	Entries retained	Location	Local Check
JKCHB 215	USHB 25	Dharwad	DHB 105
RAHB 189	JKCHB 214	Coimbatore	TCHB 213
MLCHB 6	DHB 915	Ranebennur (JK)	DHB 105
RAHB 188	RAHB 170	Davangare (Proagro)	DHB 105
AHB 901	PSCHB 901	Salem (EG)	TCHB 213
	ZC (DCH 32)	Raichur	DHB 105
	LC	Mysore (Seed Works)	DHB 105
		(Ajeet Seeds)	

Br-05 b

4 ROWS (6 m length) X 3 REP; RBD; 150G X 7

Entries promoted	Entries retained	Location	Local Check
WGHH 311	PHCH 72	Dharwad	DHH 11
KCH 707+	JKCH 55	Nandyal	LAHH 5
VBCH 2510	ARCHH 9654	Aruppukottai	DHH 11
ARBHH 469	BSSCH 29	G. guda (JK)	LAHH 5
DMSHH 502	ZC (Bunny)	Hyderabad (Vibha)	LAHH 5
NCMHH 79	LC	Ranebennur (Bejo)	DHH 11
CAHH 225	Tulasi 9	Belgaum (Ankur)	DHH 11
	DHH 376		
	HAGH 370		
	RAHH 14		

Br-24 a

4 ROWS (6 m length) X 4 REP; RBD; 200 G X 5 + 2

Entries promoted	Entries retained	Location	Local Check
JLA 1799	KWA 23	Dharwad	AKA 235
MDL 2647	ARBHA 35	Hagari	AKA 235
DLSa 102	ZC (DLSa 17)	Nandyal	Arvinda
	LC	Kovilpatti	K 11
		Mudhol	Arvinda

Br-25 b

4 ROWS (6 m length) X 4 REP; RBD; 150 G X 7

Entries promoted	Entries retained	Location	Local Check
	GGCH 81	Dharwad	AKA 235
	NACH 12	Hagari	AKA 235
	KR 32	Nandyal	Arvinda
	ZC	Kovilpatti	K 11
	LC	Mudhol	Arvinda
	JKCDH 501	Ranebennur (Nirmal)	AKA 235
		G. Guda (JK seeds)	Arvinda

Br 34 -CVT

4 ROWS X 3 REP; RBD; 200 G X 3 +2

Entries	Location
GBhV 255	Dharwad
GBhv 256	Raichur
GShv 557	Annigere
GShv 591	
DDhc 101	
DDhc 102	
Rahs 4	
Rahs 7	
GBhv 248	
GShv 209/01	
DDhc 1001	
Rahs 201	
Rahs 202	
CC (G. cot 23)	
CC (Jayadhar)	

Entries recommended for Agronomy trials

NORTH ZONE

HIR X HIR Hybrid	HHH 386, JKCH 1050
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CENTRAL ZONE

HIR VARIETY (IRRI)	CCH 510-4
HIR X HIR Hybrid (IRRI)	ARCHH 9770, PMCH 99
HIR X BAR (IRRI)	KDCHB 407
HIR X HIR Hybrid (RF)	ZCH 5007, Nandi 666, Ajeet 177

SOUTH ZONE

HIR VARIETY (IRRI)	CCH 510, ARB 760
HIR X HIR Hybrid (IRRI)	Indam 178
HIR X HIR Hybrid (RF)	Indam 178
HIR X BAR (IRRI)	RAHB 48, CCHB 727
ARB VARIETY (RF)	GAM 93

The concerned breeders of the above varieties / hybrids recommended for agronomy trials are requested to submit the seeds directly to the agronomists conducting the trials as per the proceeding of agronomy panel under intimation to the Project Coordinator & Head, CICR, Coimbatore.

Formulation of ICAR Bt cotton trials

A special session was convened under the Chairmanship of Dr.K.C.Jain, Asst.Director General (Commercial Crops), ICAR with DR.B.M.Khadi, Director, CICR, Nagpur as Co-Chairman for discussing modalities in the conduct of Bt cotton hybrid trials through AICCIP of ICAR in the year 2007-2008 subject to directives from GEAC.

Based on his experience as GEAC member, the Director explained about the need to fine-tune the experimental trials and observations needed in the conduct of ICAR Bt cotton trials. He mentioned about the need to increase the number of locations and conduct Bt cotton trials both under irrigated and rainfed situations in central and south zone. Based on the discussions, the group recommended the following changes.

1. Evaluation of Bt cotton hybrids under plant protection.

Plant protection will be taken up based on ETL (Economic Threshold Level) values for both sucking pests and bollworms

Number of rows: 6 rows of 6 meters length **Number of replications:** 3 / 4

The observations to be recorded will be as per the data sheets already supplied by the Principal Investigator (Entomology).

2. Evaluation of Bt cotton hybrids under unprotected condition

All the Bt cotton hybrids and the controls would be evaluated against key pests of cotton. Each entry would be sown in three rows of two replications. One row of okra is to be sown after each three rows as infestor row. Known susceptible checks may be sown around the field. Single plant per hill will be maintained.

3. Pathological evaluations of Bt cotton hybrids

Each entry would be sown in three rows of two replications with a minimum population of 40 plants. Every fourth row, a susceptible check should be planted. For CLCuV screening trials, variety RS 921 is recommended. Standard check F 1861 should also be added as an entry for comparison. Susceptible check may also be sown all around the field. The observations for disease reaction should be taken from all plants. Single plant per hill will be maintained.

Trial Details - North zone

Irrigated: (6 locations): Ludhiana, Faridkot, Abohar, Hisar, Sirsa (CICR), Srigananagar

Checks: RCH 134 Bt and CSHH 198 / LHH 144/F 1861/H1117/RS 2013

Cut off date for harvesting: 15th November, 2007

Spacing: Haryana and Rajasthan - 100 x 60 cm

Punjab - 67.5 x 75 cm

Central zone

Locations

Irrigated: (5) -Khandwa, Surat, Junagadh, Talod and Banswara

Rainfed : (7) – Akola, Yeotmal, Nanded, Nagpur (CICR)
Bharuch, Indore and Bhawanipatna

Spacing:

Irrigated: Gujarat - 120 x 45 cm
Madhya Pradesh - 90 x 60 cm
Rajasthan - 90 x 45 cm
Rainfed: Madhya Pradesh - 90 x 60 cm
Maharashtra - 90 x 60 cm
Gujarat - 120 x 45 cm
Orissa - 90 x 45 cm

Checks: RCH 2 Bt, H 8 and Local Hybrid Check

Cut off Date for harvest : 15th January 2008

South zone

Locations

Irrigated: (6) Warangal, Siruguppa, Raichur, Beemarayanagudi, Coimbatore, Srivilliputtur

Rainfed : (5) Lam (Guntur), Nandyal, Adilabad, Dharwad, Aruppukottai

Spacing :

Irrigated: Andhra Pradesh - 90 x 90 cm
Karnataka - 90 x 60 cm
Tamil Nadu - 90 x 60 cm
Rainfed: Lam - 120 x 60 cm
Nandyal - 90 x 60 cm
Adilabad - 90 x 90 cm
Dharwad - 90 x 60 cm
Aruppukottai - 75 x 45 cm

Checks: RCH 2 Bt, Bunny and Local Hybrid Check

Cut off date for harvest

Irrigated, Rainfed – Karnataka & A.P. – 31st January, 2008

Irrigated & Rainfed – Tamil Nadu - 15th February, 2008

Interspecific (H x B) hybrid trial (Irrigated)

Locations (6): South Zone: Amravathi (Lam), Coimbatore, Dharwad,
Bheemarayanagudi,

Central Zone: Indore and Banswara

Spacing:

Amravathi (Lam), Coimbatore, Dharwad and B'gudi –120 x 60 cm

Indore and Banswara – 90 x 60 cm

Checks: MRC 6918 Bt, DCH 32 and Local Interspecific Hybrid Check

Cut off date for harvest : 15th February, 2008.

From first year trials, 200 gm lint of each entry to be sent to CIRCOT, Mumbai for microspinning. Acid delinted seeds of 100 gm in each entry to be sent to Director, CICR, Nagpur for oil analysis

Agronomy, Physiology & Biochemistry Panel

The Agronomy Panel Meeting of AICCIP was held in the afternoon session on 11-04-2007 and on the following day (12-04-2007) for presentation of ANNUAL REPORT and finalization of the technical programme on Agronomy, Physiology and Biochemistry trials to be conducted during 2007-08. The session was chaired by Dr. P.R. Bharambe, Head, Crop Production Division, CICR, Nagpur and co-chaired by Dr. N Gopalakrishnan, Project coordinator and Head, CICR, RS, Coimbatore and Dr. P.L. Nehra, Professor and PI(Agronomy), ARS, Sriganaganagar. Dr. C.S.Praharaj, Senior Scientist (Agronomy), CICR, RS, Coimbatore acted as rapporteur for all the sessions under the panel.

Research experiments have to be carried out in Agronomy, Physiology and Biochemistry on the coming season (2007-08) on the following important thematic areas:

- ❖ Agronomic requirements of promising pre-release/recently released Hirsutum/arboreum genotypes/hybrids of cotton
- ❖ Agronomic evaluation of Bt hybrids
- ❖ Integrated weed management
- ❖ Integrated nutrient management
- ❖ Crop canopy modification for higher productivity
- ❖ Drip irrigation and fertigation
- ❖ Cropping system research
- ❖ Physiological and biochemical aspects in cotton production

TECHNICAL PROGRAMME FOR 2007-08

BIOCHEMISTRY

Biochem.1: Studies on biochemical parameters for tolerance to drought and salinity stress.

Biochem 2: Biochemical evaluation of cotton genotypes for tolerance to bollworms and sap sucking pests.

Biochem.3: Evaluation of cotton genotypes for seed oil, gossypol and protein.

Biochem.4: Biochemical evaluation of Bt cotton hybrids vis-à-vis productivity

Technical Programme for 2007-08

COTTON AGRONOMY

The details of Technical Programme formulated under Agronomy are presented as under:

Agronomy I: Agronomic requirements of promising pre-release/ recently released hirsutum / arboreum genotypes/ hybrids of Cotton

Under this project, the pre-released varieties/hybrids developed and suggested by the breeding panel under irrigated/rainfed conditions shall be tested at respective centers in the zone for their response to optimum fertilizer levels and crop geometry requirements (applicable to both public & private sector varieties/hybrids).

All the coordinating participating centers shall invariably conduct these trials incorporating the new genotypes /hybrids against the local check for determining the optimum spacing and fertilizer requirements. In addition, centers can take up agronomic requirements of any promising entry as per local requirements/needs after obtaining prior approval from the Project Coordinator, CICR, Coimbatore.

Zone/Centres	Hirsutum vars	Hybrids (h _{xh} , h _{xb})	Arbor. vars
NORTH			
Ludhiana/ Faridkot		JKCH 1050, HHH 386	
Hisar		JKCH 1050, HHH 386	
Sriganganagar		JKCH 1050, HHH 386	
CENTRAL			
Surat and Bharuch*	CCH 510-4	KDCHB 407, ARCHH 9770, PMCH 99	
Junagarh	CCH 510-4	KDCHB 407, ARCHH 9770, PMCH 99	
Khandwa		ZCH 5007, NANDI 666, AJEET 177	
Indore		KDCHB 407, ARCHH 9770, PMCH 99	
Akola		ZCH 5007, NANDI 666, AJEET 177	
Nanded		ZCH 5007, NANDI 666, AJEET 177	
Rahuri	CCH 510-4,	KDCHB 407, ARCHH 9770, PMCH 99	
SOUTH			
Guntur		INDAM 178	GAM93
Dharwad		INDAM 178	GAM93
Siruguppa**	ARB 760, CCH 510	INDAM 178 (h _{xh}), RAHB 48 (h _{xb}), CCHB 727 (h _{xb})	
Coimbatore	ARB 760, CCH 510	INDAM 178(h _{xh}), RAHB 48 (h _{xb}), CCHB 727 (h _{xb})	

* Trial involving CCH 510-4 will be taken up at Bharuch also.

** Separate trials will be conducted involving h_{xh} and h_{xb} hybrids.

Action to be taken:

1. These varieties/hybrids have been recommended by the Breeding panel after ascertaining their performance only.
2. Concerned Breeders shall send the required Seeds directly to the Agronomists of respective Centres without delay for taking up experiments.
3. Data supply from centers through monthly reports.

Agronomy II. Agronomic evaluation of Bt cotton hybrids under varied crop geometries and NPK levels

Bt hybrids (3): RCH 134 for North zone; RCH 2 Bt for Central zone; Bunny Bt for South zone.

Spacing (3): 90 x 90 cm; 90 x 60 cm & 90 x 45 cm (Central and South zone) and 100 x 60 cm; 100 x 45 cm & 67.5 x 60 cm for North zone
120 x 45, 120 x 60 and 120 x 75 cm for Surat

NPK levels (3): 75% RDF, RDF & 125 %RDF

Design: split plot (main- Plant spacing , sub- NPK levels)

The crop is to be sprayed with KNO_3 @ 2% at flower & boll development stages only.

Centres: All AICCIP centres except Kanpur.

Agronomy III: Integrated Weed Management in cotton.

The experimental details of IWM are given as follows.

- T1 Unweeded Control
- T2 Farmers practices (Hand weeding at 20, 40 & 60 DAS)
- T3 Pendimethalin @ 0.75 kg a.i./ha pre-emergence + Hand weeding at 30 & 60 DAS
- T4 Fluchloralin @ 0.75 kg a.i./ha pre-emergence + Hand weeding at 30 & 60 DAS
- T5 Pendimethalin @ 1.00 kg a.i./ha pre-emergence + hand weeding at 30 & 60 DAS
- T6 Fluchloralin @ 1.00 kg a.i./ha pre-emergence + Hand weeding at 30 & 60 DAS
- T7 Pendimethalin @ 0.75 kg a.i./ha pre-emergence + Quizalofop-ethyl @ 0.04 kg a.i./ha at 30 & 60 DAS
- T8 Fluchloralin @ 0.75 kg a.i./ha pre-emergence + Quizalofop-ethyl @ 0.04 kg a.i./ha at 30 & 60 DAS
- T9 Pendimethalin @ 1.00 kg a.i./ha pre-emergence + Quizalofop-ethyl @ 0.05 kg a.i./ha at 30 & 60 DAS
- T10 Fluchloralin @ 1.00 kg a.i./ha pre-emergence + Quizalofop-ethyl @ 0.05 kg a.i./ha at 30 & 60 DAS

The centers include Surat, Rahuri, Lam, Warangal and Dharwad.

Agronomy IV a: Integrated Nutrient Management in Cotton

The INM in cotton will be tried involving the following treatments.

Treatments

T1:Absolute control
T2:FYM @ 10 t/ha
T3:RD of fertilizers alone
T4:RD of N alone
T5:RD of N & P alone
T6:RD of NPK + 5 t FYM
T7:50% RD of NPK + 10 t FYM
T8:50% RD of NPK + 10 t FYM +foliar spray
T9:RD of NPK + 10 t FYM
T10:50% RD of NPK + Sun hemp IGM

Khandwa and Siruguppa centers shall continue the experiments as per the treatments listed above.

Action to be taken up: Data supply through monthly report - Centers mentioned above.

Agronomy IV b: Foliar application of micronutrients on growth and yield of Cotton.

The following micronutrients and their combination will be tried at different centers.

Treatments

Control
Boron-0.1%
ZnSO ₄ -0.5%
MnSO ₄ -1.0%
MgSO ₄ -1.0%
MgSO ₄ -1.0%+ZnSO ₄ -0.5%
FeSO ₄ -0.5%
Urea 2% at flowering and DAP 2% at boll development stage

Akola, Banswara, Nanded, Dharwad and Coimbatore centers shall continue the experiments.

All the nutrients have to be applied at flowering and boll development stages.

New centre may start with **Bt hybrid** earmarked for their zone.

Action to be taken up: Data supply through monthly report-Centers mentioned above.

Agronomy IV c: Effect of Foliar application of KNO₃ on yield and quality of Cotton.

The treatments include only KNO₃ & its different combination, and are as under :

Treatments

Control
Two sprays of 2% KNO ₃
Three sprays of 2% KNO ₃
Four sprays of 2% KNO ₃
Two sprays of 3% KNO ₃
Three sprays of 3% KNO ₃
Four sprays of 3% KNO ₃
MOP in four splits (soil application) RD-K
Full dose of MOP at sowing

Ludhiana, Sriganagar, Surat, Junagarh, Nanded, Akola, Indore, Dharwad, Siruguppa and Srivilliputtur centers shall continue the experiments as per treatments details listed here.

Action to be taken up: Data supply through monthly report-Centers mentioned above.

New centers may start with Bt hybrids earmarked for their zone.

Agronomy IV d: Effect of inorganic and organic fertilizers on yield and yield attributing characters of cotton

The experiment will be tried involving N, S levels and biofertilizers.

Treatments

A) Nitrogen levels
50% N (40 kg/ha)
75% N (60 kg/ha)
100% N (80 kg/ha)
B) Sulphur levels
0 kg /ha
20 kg /ha
40 kg /ha
C) manures/Biofertilizers
FYM @ 10 tones /ha
FYM @ 10 tones /ha + Azospirillum + PSB
Vermicompost @ 1.25 t/ha + Azospirillum + PSB

Indore center shall continue the experiment as per technical specification given as under.

Action to be taken up: Data supply through monthly report-Center mentioned above.

Agronomy : IVe Effect of organic manures and bio-pesticides on crop production

The treatments include plant protection measures and organic manures.

Treatments

A) Plant protection (PP)
RPP (Recommended)
PP with Biopesticides
B) Organic manures
FYM @ 10 t/ha
VC @ 2.5 t/ha
CR @ 5.0 t/ha
FYM @ 5 t/ha + VC @ 1.25 t/ha
FYM @ 5 t/ha + CR @ 2.5 t/ha
VC @ 1.25 t/ha + CR @ 2.5 t/ha
FYM @ 3.3 t/ha + VC @ 0.8 t/ha + CR @ 1.6 t/ha
RDF
Control

Rahuri, Khandwa, Indore, Nanded, Akola and Nandyal centers shall continue the experiment as per treatment details.

Action to be taken up: Data supply through monthly report-Centers mentioned above.
All the organic component must be analyzed for its nutrient content before addition.

Agronomy V: Crop canopy management

This experiment shall be taken up at Khandwa on *arboretum* genotype Jawahar Tapti as per previous year’s technical programme.

Agronomy VIa : Studies on planting techniques and drip-fertigation on yield and quality of cotton.

Nandyal center shall continue the experiments as per previous programme..

Action to be taken up: Data supply through monthly report-Centers mentioned above.

Agronomy VI b: Studies on drip irrigation and fertigation to Bt cotton in black cotton soils

The treatment combination includes irrigation scheduling and Fertilization.

A) Irrigation scheduling (5) Main	B) Fertilization levels (3) sub plot
I1 : Surface irrigation	F1 : 50% RDF,
I2 : Irrigation at 1.0 ETc	F2 : 75% RDF and
I3 : Irrigation at 0.8 ETc	F3 : RDF
I4 : Irrigation at 0.6 ETc and	
I5 : Irrigation at 0.4 ETc	

Nanded, Lam (Guntur) will take up this experiment this year with using Bunny Bt.

Agronomy VII : Cotton based cropping systems

Effect of Macro & micronutrients on fibre productivity and quality in cotton under cotton-wheat system in North zone

Faridkot and Kanpur centers shall continue the experiments as per previous year plan.

Organic residue management in cotton based cropping systems

Srivilliputtur shall continue the experiment as per earlier plan.

INM in cotton under cotton-chickpea crop sequence

Rahuri center shall continue the experiments as .

INM in cotton under cotton-maize-chickpea/cotton-groundnut-rabi jowar crop sequence

Siruguppa center shall continue the experiments as per previous programme.

COTTON PHYSIOLOGY

Phy. 1: Screening of Cotton genotypes for abiotic stress tolerance

1a: Screening genotypes for water stress tolerance under irrigated and rainfed condition

Centres: Surat, Khandwa, Nanded, Lam and Dharwad

Genotypes=18+2 checks as per 2006-07 programme.

Action: Data supply through monthly report-Centres

Observations:

1. Seed cotton yield and ancillary data
2. Phenology
3. RWC, Chlorophyll stability index, Proline content, SLW, nutrient uptake
4. Stress indices (PHSI, DMSI, YSI and S etc.)

1b: Screening genotypes for salinity stress tolerance

Continuing experiment as per last year's protocol.

Centres: Hisar, Lam and Dharwad (Pot/Microplot experiment)

Genotypes=10+2 checks as per 2006-07 programme.

Observations:

1. Seed cotton yield and ancillary data
2. Phenology
3. RWC, Chlorophyll stability index, Proline content, SLW, nutrient uptake
4. Stress indices (PHSI, DMSI, YSI and S etc.)

Action: Data supply through monthly report-Centres

Phy. 2: Investigations on physiological efficiency in Bt cotton hybrids

Treatments (Design split plot)

Main: (2) Date of sowing – Normal sowing/15 days delayed sowing

Sub : (5) Genotypes and Replications: (5)

2 Bt + 2 Non Bt + 1 Zonal check

RCH 134 Bt and MRC 6301 Bt for North zone and

RCH 2 Bt and Bunny Bt for Central and South Zone.

Centres: Hisar, Khandwa, Surat, Nanded, Lam and Dharwad

Action: Data supply through monthly report-Centres

1. Seed cotton yield and ancillary data
2. Phenology
3. Growth analysis
4. Nutrient uptake at 50 % boll bursting stage
5. Consumptive use and WUE

Phy. 3: Studies on amelioration of water stress through use of Osmoprotectants

Centres: Hisar, Khandwa, Nanded, Lam and Dharwad shall continue as per previous year programme.

Observations: As per experiment 1a.

Action: Data supply through monthly report-Centres

Phy. 4: Studies on photothermal regimes in *G. arboreum/herbaceum* genotypes

Centre: Dharwad centre shall continue this experiment as per previous technical programme.

Action: Data supply through monthly report-Centre

Phy. 5: Effect of defoliant on physiological parameters and seed cotton yield.

Treatments

Ethrel 500 ppm at 130 DAS

Ethrel 800 ppm at 130 DAS

Ethrel 500 ppm at 145 DAS

Ethrel 800 ppm at 145 DAS

Control

Centre: Ludhiana and CICR, Sirsa will start this experiment with RCH 134 Bt & MRC 6301 Bt.

Action: Data supply through monthly report-Centre

COTTON BIOCHEMISTRY

Biochem. 1: Studies on biochemical parameters for tolerance to drought and salinity stress.

Centre: Hisar, Dharwad and Surat shall continue this experiment as per modified technical programme including evaluation of enzymes and metabolic intermediates.

Action: Data supply through monthly report-Centre

Biochem. 2: Biochemical evaluation of cotton genotypes for tolerance to bollworms and sap sucking pests.

Centre: Dharwad and Hisar centres shall continue this experiment as per modified technical programme-

Observation

1. peroxidase and nitrate reductase activity
2. plant secondary metabolites

Action: Data supply through monthly report-Centre

Biochem. 3: Evaluation of cotton genotypes for seed oil, gossypol and protein.

Centre: Hisar, Dharwad and Surat centres shall continue this experiment as per previous technical programme.

Promising genotypes will be taken up for this trial.

Action: Data supply through monthly report-Centre

Source of materials: Br04a for irrigated centres (Hisar & Surat) ; Br04b for rainfed centre (Dharwad)

Biochem.4: Biochemical evaluation of Bt cotton hybrids vis-à-vis productivity

Centre: Surat, and Dharwad centers shall conduct the experiment.

Biochemical evaluation like oil content, nitrate reductase, peroxidase, temporal distribution of secondary metabolites needs to be done during critical crop phenological stages.

Action: Data supply through monthly report-Centre

SCHEDULE OF OBSERVATIONS TO BE TAKEN UP

1. Soil type (Depth of soil/soil texture)
2. Irrigated/rainfed condition)
3. Soil fertility status (initial)
4. Periodic determination of soil moisture profile (0-15, 15-30, 30-60 cm) up to harvest
5. Dry matter production at 50 % boll bursting stage
6. Nutrient uptake at 50 % boll bursting stage
7. Water productivity (based on yield & consumptive use of water)
8. Nutrient/Fertilizer use efficiency (based on total uptake and yield)
9. Seed cotton yield, boll no., boll weight, seed yield and oil content
10. Fibre quality
11. Economics analysis

SUBMISSION OF DATA ON THE TRIALS

Zone	Date of submission of report
North	31 st January
Central	15 th February
South	1 st March

The following personnel of various coordinating centers participated in the deliberations and finalization of technical programme in the coming season (2007-08).

Sl No.	Name	Designation and Address
1.	Dr.Y.R.Aladakatti	Senior scientist, ARS, Dharwad
2.	Dr.A.H.Prakash	Senior Scientist (Plant Physiology), CICR,RS, CBE
3.	Dr.K.Venugopal	Consultant, NSL, Hyderabad
4.	Dr.H.M.Vamadevaiah	Sr. Scientist(Biochem), ARS, Dharwad
5.	Dr. D.J. Dalvi	Research Asstt.CRS, Nanded
6.	Dr.K.L.Chhabra	Sr.Agronomist, CCS HAU, CRS,Sirsa
7.	Dr.L.K. Bishnoi	Sr.Agronomist (Cotton),CCS HAU,Hisar
8.	Dr.Gurmeet Talwar	Biochemist, CCS HAU,Hisar
9.	Dr.Promila Kumari	Sr.Scientist (Plant Physiology),CCS HAU,Hisar
10.	Dr.Kulvir Singh	Asst.Agronomist, PAU,RS, Faridkot
11.	Dr.V. Kumar	Research Scientist (Physiology),NAU, Surat
12.	Shivakumar	Sci (Agronomy), ARS, Siruguppa, KTK
13.	Dr. Sanjya Kharche	Green Gold Seeds Ltd, Aurangabad.
14.	Dr.B.Gurajan	Prof. of Agronomy, CRS, TNAU, Srivilliputtur
15.	Dr.S.Ratnakumari	Sr.Sci.(Plant Physiology),RARS, ANGRAU, Guntur
16.	Dr.E.Narayana	Principal Scientist(Agronomy),RARS, Lam,Guntur
17.	Dr.P. Raghu Rami Reddy	Scientist (Cotton Agronomy), RARS, Warangal, A.P.
18.	Mr. Prafulla V. Naphade	Mahyco, Jalna
19.	Mr.V.K.Khargakharate	Asst. Agronomist, CRS, Nanded
20.	Dr.K.Rajendran	Prof. of Agronomy, TNAU, Coimbatore
21.	Dr.E.Aruna	Scientist (Agron),Nandyal
22.	Dr.R.K.Patel	Asstt. Agronomist,ARS,JAU,Junagarh
23.	Dr.R.S.Sarlach	Asst. Prof. (Botany),PAU, Ludhiana
24.	Mr.Rohitbhai J.Patil	Nujiveedu Seeds Ltd, Surat
25.	Dr.Thokale, J.G.	Cotton Agronomist, MPKV, Rahuri
26.	Dr.P.D.Bhalerao	Cotton Agronomist,CRV, Dr.PDKV,Akola
27.	Dr.S.K.Khamparia	Principal Scientist, JNKVV, Khandwa
28.	Mr. Harphool Meena	Asstt. Agronomist, ARS, Bonswara (Raj)
29.	Dr.Shishir Golhar	Cotton Breeder, Bayer Crop Science, Hyderabad
30.	Dr.Avijit Roy	Agronomist,RKA KVK, West Bengal
31.	Dr.R.S.S.Tomar	Cotton Agronomist, COA,JNKVV,Indore
32.	Dr. J.G.Patel	Asstt. Res.Sci.(Agronomy)
33.	Dr. R.A.Meena	Senior Scientist (Agronomy), CICR, RS, Sirsa

Entomology panel

The Entomology panel meeting was held on 11th and 12th April, 2007 under the Chairmanship of Dr. S. N. Puri, Hon. Vice Chancellor, Central Agricultural University, Manipur and Hon. Chairman, QRT (AICCIP and CICR), Co-chaired by Dr. K. R. Kranthi, Head, Division of Crop Protection, CICR, Nagpur. Dr. T. Surulivelu, Principal Investigator (Entomology) was the Convenor, Dr. M. P. Vadodaria, Research Scientist, NAU and Dr (Mrs) B. Dhara Jothi, Senior Scientist were the rapporteurs. A total number of 47 Entomologists/representatives from pesticide industry actively participated in the discussion and helped in the formulation of technical programme for the year 2007-08. All the results of various experiments conducted during 2006-07 were thoroughly discussed. Suggestions were made for improving the research programme in the coming year.

Highlights of discussion

1. All the centres were requested to submit the annual report at least one month before the workshop. So that compilation of data can be completed in time.
2. The report should contain brief description along with data for all the centres.
3. Monthly report of the pest situation and progress on various experiment should be sent to the Principal Investigator for updating information.
4. Chairman requested the Universities to avoid the frequent transfers of Scientists working under AICCIP to have continuity of the project work.
5. All Entomologists are requested to engage RA/SRF for technical assistance to conduct Bt cotton experiments out of Bt cotton testing fees.

Technical Programme for 2007-08

Emerging pest perspective

All the participant entomologists were unanimous in expressing their concern on the emergence of new insect pests over the past 4 years, particularly after the introduction of Bt-cotton. Severe infestation of mealy bugs, mirid bugs and thrips was recorded in several parts of the country. Mealy bugs in Gujarat and mirid bugs in Karnataka were reported to have caused significant economic damage. Therefore a discussion was initiated to understand the possible reasons that would have been responsible for the emergence of the new pest problems. Amongst the several factors that may have influenced the infestation, the following were short-listed as the possible ones based on circumstantial evidence:

1. Decrease in insecticide usage subsequent to the introduction of Bt-cotton. Insecticides that were used on non-Bt cotton for the control of regular pests were responsible for the inadvertent control of mealy bugs, mirid bugs, thrips and other pests.
2. Possible trigger due to repeated spinosad sprays, which would have disturbed the natural enemies of mealy bugs.

3. Inefficacy of spinosad on mealy bugs, thereby leading to the presence of mealy bugs only in spinosad treated plots, in comparison to the other treatments which would have killed mealy bugs. Such results would have led to erroneous conclusions that spinosad would have triggered mealy bug infestation.
4. Occurrence of mealy bugs in patches due to migration from nearby other host plants especially malvaceous weeds, neem trees, ber plants, mango trees and other hosts of mealy bugs near cotton fields.
5. Intermittent drought coupled with hot and humid climate.
6. Inefficacy of imidacloprid on thrips, enabled them to proliferate.
7. The occurrence of stem borers and stink bugs on cotton needs attention to prevent an impending problem of these insects in future.

Based on their experimental results, some of the entomologists suggested the use of insecticides such as thiomethoxam, monocrotophos, thiodicarb and fenthion, carbaryl, acephate, chlorpyrifos, quinolphos and methyl parathion for the effective control of mealy bugs and thiomethoxam for thrips. The chairman suggested that it would be better to explore unconventional options such as 1% Nirma soap alone or with neem oil, biopesticides etc. and also to avoid monocrotophos and methyl parathion, which were classified under the WHO category 1A (extremely hazardous).

Formulation of technical programme:

Ent 1a. Screening of breeding material for resistance to insect pests: All Centres

The chairman felt that the pest screening programme was mandatory for the release of cultivars. However he expressed concern that the cultures identified for resistance were seldom used in resistance breeding programmes by plant breeders. Therefore he appealed to the entomologists that efforts must be initiated to use the most promising material to develop insect resistant cultivars with the assistance of plant breeders.

It was felt that the resistance screening experiments should essentially include a common susceptible check and a resistant check to enable a comparative evaluation of the entries tested for resistance response in each of the environments.

The following genotypes were identified as standard susceptible and resistant checks:

North zone: RS2013 (Resistant to jassids and whitefly); Ganganagar Ageti (susceptible)
MRC 6304-Bt (Bollworm Resistant); HS6 (Bollworm susceptible)
(Action: Dr Vichiter Singh, Sriganagar, to provide seeds to all concerned)

Central zone: DHY 286 (Jassid resistant); DCH32 (Susceptible)
Bunny-Bt (Bollworm Resistant); RCH-2 NBt (Bollworm susceptible)
(Action: Dr.H.G.Mandale to provide seeds to all concerned).

South zone: Bunny (Jassid tolerant); DCH32 (Susceptible)
Bunny-Bt (Bollworm Resistant); DCH-32 (Bollworm susceptible)
(Action: Dr S. B. Patil, Dharwad, to provide seeds to all concerned)

Ent 1b. Advanced screening of promising entries: All Centres.

Previously all the scientists were expected to subject all promising entries to artificial screening under caged, net house or glass house conditions to ascertain the trait. Dr K. R. Kranthi, suggested that since such a screening programme that would be conducted by individual centers would not enable a comparative assessment of all the promising entries and also that such screening facilities do not exist in any of the centers, it would be advisable to conduct the confined intensive screening at CICR Nagpur by artificial infestation with jassids, bollworms and whiteflies and he volunteered to do so. All the coordinators were requested to send a maximum of one or two promising entries after two years of field assessment.

Ent 2. Population dynamics of key pests in relation to climatic conditions:All AICCIP Centres and RRS,Aruppukottai 626107(Tamil Nadu).

The main purpose of recording seasonal dynamics of pests in relation to weather parameters is to utilize such data in the development of forecasting models. Over the past three decades, AICCIP has accumulated a rich set of data resulting from enormous amount of painstaking efforts of entomologists and field technicians. However, thus far there is no evidence that the data have been used. The main constraints for the data not being used, pointed out by all the participants were as follows:

1. Data were not in a uniform format from all centers
2. Missing gaps in data sets in many centers
3. Data were collected under on-farm conditions, which were not representative of farmer field conditions
4. Non availability of statistical tools and software assistance for the vast exercise
5. Recording of observations on genotypes that were not representative of the popular cultivars of the region

In view of the above issues and the changing cultivar scenario with specific reference to Bt-cotton, it was recommended that

1. Selection of popular cultivar representative to the region would be crucial. Apart from susceptible genotypes, the most popular Bt and non-Bt cultivars should be selected. A list of such cultivars was finalized.
2. Since the on-farm pest dynamics data in most circumstances were different from farmer fields, a roving survey was recommended for all centers wherein field technicians were available in large numbers under the IRM programme, who were already collecting pest data from farmer field conditions.
3. The data reporting format and the data available so far with AICCIP shall be examined thoroughly for their compatibility for use in the development of algorithms for modeling purpose. Attempts to use the existing data for modeling, would give clues in the lacunae of the current system, which can be rectified

thereafter so as to ensure the development of software compatible data collection methods.

- Institutes such as NCIPM, New Delhi, CICR, Nagpur shall take the lead in using the data, which otherwise may become unutilizable if accumulated over the years in a non-uniform format. Dr Jay Kumar, Senior Scientist, NCIPM was requested to initiate the programme.

Sr.	State	Bt	Variety/Hybrid	Conditions	Centres
1	Rajasthan	RCH134 Bt	RS 2013	Irrigated	Sriganganagar
2	Punjab	RCH134 Bt	F 1816	Irrigated	Faridkot, Ludhiana.
3	Haryana	RCH134 Bt	H 1117	Irrigated	Hisar
4	Gujarat	RCH 2 Bt RCH138 Bt	Hybrid 10 Hybrid 8	Irrigated & Rainfed	Surat(I), Junagadh Bharuch
5	M. Pradesh	RCH 2 Bt	LRA 5166	Irrigated	Khandwa
6	Maharashtra	RCH138 Bt RCH 2 Bt	LRA 5166	Rainfed Irrigated	Nanded, Akola. Rahuri
7	Karnataka	Bunny Bt	Bunny NBt	Rainfed & Irrigated	Dharwad, Raichur
8	A. Pradesh	Bunny Bt	Bunny NBt	Rainfed	Guntur, Nandyal.
9	Tamil Nadu	Bunny Bt	Bunny NBt	Irrigated	Coimbatore, Srivilliputhur.

Roving survey: Data on the incidence of insect pest in the farmers field need to be collected in all IRM centres operating IRM project.

Ent 3: Testing of New insecticides for the management of cotton pests and their impact on non-target organisms.

The protocols for efficacy evaluation were discussed. The following were the most pertinent points for consideration by all concerned.

- The main objective of the trial is to assess the relative efficacy of new molecules. Most of the times, ETLs of pests, especially that of sucking pests, coincides with heavy rainfall conditions, which do not permit spray operations and recording of observations. It is common in many cases that sprays get washed off during the rainy phase and the data get vitiated.
- All centers were requested to take up 3 applications of the treatments during relatively dry phase of the season, at three intervals to coincide with occurrence of the target pests. Data on key target pests and natural enemies may be recorded 4-7 days after spraying.
- Since the new molecules also include combination products, it was strongly recommended that all such experiments should essentially include individual corresponding molecules at the **precise dose** being tested in the combination.
- All the chemical companies were requested to submit a full dossier of the product to include chemical name, group, hazards, antidote etc., to the PI and all the concerned scientists.
- The centers were identified and the chemical companies were asked to sponsor their molecules for testing at all the identified centers.

Ent 3a. Chemical control of sucking pests: Target Pests –Aphid, Jassid, Thrips, Whitefly, Mirid bugs and any other emerging pests.

Treatment No.	Chemical	Dose ml/gm/ha
1	BYI 08330 150 OD(Spirotetramat 15% OD)	400 ml/ha
2	BYI 08330 150 OD(Spirotetramat 15% OD)	500 ml/ha
3	Spinosad 45 SC w/w (Spinosin A MIN 50% and Spinosin D MAX 50%)	150 ml/ha
4	Spinosad 45 SC w/w (Spinosin A MIN 50% and Spinosin D MAX 50%)	187.5 ml/ha
5	SYN 13623	100 ml/ha
6	SYN 13623	200 ml/ha
7	SYN 13623	300 ml/ha
8	Fipronil 40%+Imidacloprid40%-80WG(40+40g.a.i/ha)	100g/ha
9	Fipronil 5% SC 40 g a.i/ha(Regent 5% SC)	800 ml/ha
10	Imidacloprid (Confidor)200SL (40 g a.i/ha)	200 ml/ha
11	Acetamiprid 20 SP (Std Check)20 g a.i/ha (Pride 20 SP)	100 g/ha
12	Triazophos 40 EC (Std Check) 600 g.a.i/ha (Hostathion 40%EC)	1500 ml/ha
13	Untreated control	

The experiments would be repeated for the second year without any changes.

Genotypes: RCH 2 Bt in all centres

Centres: North – ARS, Sriganganagar, PAU, Ludhiana

Central – PDKV-Akola, RARS-Nanded.

South – Lam Farm-Guntur, UAS- Dharwad and Srivilliputhur-TNAU.

Note: Maximum No. of sprays may be restricted to 4 only.

Treatments : 13, Replications : 3.

Ent 3b. Chemical control of mealy bug

The experiment shall be conducted in farmer fields with logistic arrangements to be made by the sponsoring company

A total number of nine treatments were finalized to include two combination products along with each of the individual insecticides, one individual insecticide, one standard check and control.

Treatments - 9, Replications – 3

Treatm ent No.	Chemical	Dose ml/ha
1	Spirotetramat 12% + Imidacloprid 36% 480 SC (24 + 72 g a.i./ha)	200
2	Spirotetramat 150 OD 24g a.i/ha	160
3	Imidacloprid 200SL 72 g a.i/ha	360
4	Spirotetramat 12% + Imidacloprid 36% 480 SC (36 + 108 g a.i./ha)	300
5	Spirotetramat 150OD 36 gms a.i/ha	230
6	Imidacloprid 200 SL (108 g a.i./ha)	540
7	Spirotetramat – BYI 08330 - 150 OD(93.75g a.i./ha)	625
8	Thiodicarb 75 WP(Std Check) 750 g a.i/ha (Larvin 75 WP)	1Kg/ha
9	Untreated control	

Centres: North – Faridkot, Hisar
Central – Akola, Surat

Note: Experiment has to be implemented in farmers field where infestation is observed. Industry is requested to help Entomologist in carrying out these trials on farmers' field.

Ent 3c. Chemical control of bollworms

The protocols were modified to include a popular Bt hybrid (preferably sucking pest tolerant) as a positive check and experiments conducted on the non-Bt counterpart also to include a standard check and non-Bt control.

Treatment No.	Chemical	Dose ml/ha
1	Flubendiamide 24% + Thiocloprid 24% 480 SC	250
2	Flubendiamide 480 SC 60 g a.i/ha	125
3	Calypso 240 SC 60 g a.i/ha(Thiocloprid 24% 240 SC)	250
4	Spinosad 45 SC (Std check)(Tracer 45 SC)	187.5ml/ha
5	Quinalphos 25 EC (Std Check – PBW) (Ekalux 25 EC)	2.0 lit/ha
6	Thiodicarb 75 WP (Std Check – PBW)(Larvin 75 WP)	1.0 Kg/ha
7	Bt Cotton (Check)	
8	Untreated check	

Treatments: 8 .Replications: 3

Treatment 7: Bunny Bt – Central & South zone RCH 134 Bt – North zone

Treatments 1 to 6: Bunny NBt – Central & South zone RCH 134 NBt – North zone

Centres - North zone – Faridkot, Sriganaganagar, Hisar

Central zone – Akola, Surat, Junagadh

South zone – Dharwad, Lam, CICR Coimbatore

Ent 4. Development of IPM modules for pest management with specific reference to Bt cotton

IPM Module	RPP of the state
Seed treatment with Thiomethoxam @ 5 g/kg seed	Recommended package of practices (Respective state)
After 35-40 days stem application of Imidacloprid @ 1 ml/20 ml of water	
One row of maize and cowpea all around IPM block as border crop to encourage natural enemy buildup.	
*PB ropeL @ 200 dispensers /ha	
All other routine IPM practices	

Centres: All AICCIP centres and RRS, Aruppukottai-626107, Tamilnadu.

* PB ropeL shall be purchased from M/S P.I. Industries Ltd, B-209, Himalaya arcade, opp. vastrapur, Ahmedabad-380015, (Gujarat). (Reference person: Dr. H.N. Vyas, Co-ordinator Tech&P.D),

* **whole research farm shall be considered as a unit for large scale application of PB ropeL.**

Submission of Annual Report: It should be strictly adhered by all the Centres.

North Zone: February 1st, 2008.

Central Zone: February 15th, 2008.

South Zone: March 1st, 2008.

Performa for Monthly Report -- AICCIP –Entomology, Month----- Year 2007-08.

Ent 1(a) Screening trials

Predominant /Major occurrence of sucking pests/Bollworms	Susceptible Check variety/ Hybrid					Resistant check variety/ hybrid				
	W1	W2	W3	W4	Mean	W1	W2	W3	W4	Mean
I. Sucking pests (population/3leaves)										
II. Bollworms. (Larvae/5 plants)										

W-Week.

Ent 2. Population dynamics of key pests of cotton.

- i) sucking pests including emerging pests (Mirid, Mealy bug etc) occurrence and intensity, number of times etl crossed and the period above ETL of population, natural enemies details.
- ii) bollworms occurrence and intensity, period and number of times etl crossed.
- iii) other pests (*S. litura*, leaf roller, semiloopers, stem weevil, shoot weevil etc.)

Ent 4. IPM Module for Bt cotton:

IPM components followed, stand of crop, pest occurrence and intensity shall be reported for each month

List of participants

1	Dr. S. N. Puri, Vice-Chancellor	Central Agril. University, Manipur
2	Dr. K. R. Kranthi, Principal Scientist & Head, Crop Protection Division	CICR, Nagpur (MS)
3	Dr. T. Surulivelu, Principal Investigator (AICCIP Entomology)	CICR, Coimbatore(TN)
4	Dr. A. M. Narula, Principal Scientist	ICAR, New Delhi
5	Dr. Anupam Barik, Director	DOCD, Mumbai
6	Dr. M. P. Vadodaria, Research Scientist	NAU, Surat(Gujarat)
7	Dr. B. Dhara Jothi, Senior Scientist	CICR, Coimbatore(TN)
8	Dr. N. B. Rote, Research Scientist	NAU, Surat(Gujarat)
9	Dr. S. B. Kharbade, Entomologist	MPKV, Rahuri(MS)
10	Dr. B. V. Sureja, Assoc. Res. Sci.	JAU, Junagadh(Gujarat)
11	Dr. P. R. Zanwar, Asstt. Entomologist	CRS, Nanded(MS)
12	Dr. S. Mohan, Professor	TNAU, Coimbatore(TN)
13	Dr. S. S. Udikeri, Scientist	ARS, Dharwad(Karnataka)
14	Dr. M. Bheemanna, Senior Scientist	RARS, Raichur(Karnataka)
15	Dr. Vikas Jindal, Asstt. Entomologist	PAU, RS, Faridkot(Punjab)
16	Dr. P. S. Shera, Asstt. Entomologist	PAU, Ludhiana(Punjab)
17	Dr. Navin Agrawal, Astt. Entomologist	PAU, RS, Faridkot(Punjab)
18	Dr. S. B. Patil, Senior Scientist	ARS, Dharwad(Karnataka)
19	Keshav M Deshmukh, Product Development Manager	Bayer Crop Science Ltd.
20	Rajesh Dhawan, Manager Registration	Bayer Crop Science Ltd.
21	Dr. P. Radhika, Scientist	RARS, Nandyal(AP)
22	R. K. Kalyan, Asstt. Entomologist	ARS, Banswara(Rajasthan)
23	Dr. Vichiter Singh, Entomologist	ARS, Sriganganagar (Rajasthan)
24	H. G. Dandale, Entomologist	PDKV, Akola(MS)
25	I. M. Maisuriya, Asstt. Res. Sci.	NAU, Surat(Gujarat)
26	Dr. N. V. V. S. Durga Prasad, Scientist	RARS, Lam, Guntur(AP)
27	Dr. N. H. P. Rao, Principal Scientist	RARS, Lam, Guntur(AP)
28	Dr. Sanjoy Kundu,	Dow Agro Sciences
29	Dr. Rishikan Mondgal	Dow Agro Sciences
30	Dr. S. M. A. Mandal, Asstt. Entomologist	ARS, Bhavanipattana(Orrisa)
31	S. K. Parsai, Scientist	ARS, Khandwa(MP)
32	M. Sabesh, Scientist	CICR, Coimbatore (TN)
33	Dr. S. Usha Rani, Scientist	CICR, Coimbatore (TN)
34	Dr. D. J. Koshiya, Advisor (R&D)	Dhanuka, Ahmedabad (Gujarat)
35	Dr. H. N. Vyas, Coordinator	P I Industries
36	Dr. M. K. Bhalla,	Solar Agro
37	K. K. Dahiya, Entomologist	HAU, Hisar(Haryana)
38	Dr. P. Jeyakumar, Senior Scientist	NCIPM, New Delhi
39	Dr. V. G. Mathirajan, Asstt. Prof.	ARS, Arupukottai(TN)
40	Kishor Kumar	Monsanto
41	K. B. Patel, State Incharge	Sumitomo Agro Ltd
42	S. V. Joshi, Technical Executive	Syngenta India Ltd
43	Dr. Anand Jha, Asstt. Manager	UPL, Mumbai
44	Dr. Balakrishnan, Asstt. Prof.	CRS, Srivilliputtur(TN)
45	Dr. S. P. Saxena, Asstt. Prof.	NAU, Navsari (Gujarat)
46	Prafulla Rathod, Development Officer	Biostadt India Ltd, Mumbai
47	Nagesh Naik, Development Officer	Biostadt India Ltd, Mumbai

Plant Pathology Panel

The Plant Pathology Panel meeting was held on 11th and 12th April, 2007 in the Seminar Hall of the Department of Soil Science and Water Management, Navsari Agricultural University, Navsar, Gujarat under the chairmanship of Dr. Narayan Rishi, H'ble QRT Member. Dr. P. Chidambaram, Principal Investigator, (Plant Pathology) and Principal Scientist, CICR - RS, Coimbatore acted as co-chairman. The following scientists from AICCIP Centres attended the meeting. After detailed discussion on the plant disease situation in each state, the Technical Programme for the year 2007-08 was finalized.

1. Dr. P. S. Sekhon, PAU, Ludhiana
2. Dr. Daljeet Singh, PAU, Faridkot
3. Dr. D. Monga, CICR, RS, Sirsa
4. Dr. Jagadish Beniwal, CCS HAU, Hisar
5. Dr. B. D. Ajmera, ARS (RAU), Sriganaganagar
6. Dr. K. G. More, CRS, MAU, Nanded
7. Dr. P. V. Patil, MCRS, NAU, Surat
8. Dr. H. J. Kapadia, JAU, Junagadh
9. Dr. O. V. Ingole, PDKV, Akola
10. Dr. R. R. Perane, MPKV, Rahuri
11. Dr. P. D. Mahajan, COA, MPKV, Pune
12. Dr. S. N. Chattannavar, ARS., UAS, Dharwad
13. Dr. M. P. Prasad Rao, RARS, ANGRAU, Lam, Guntur
14. Dr. O. M. Bambawale, NCIPM, NewDelhi
15. Dr. P. K. Chakrabarty, CICR, Nagpur
16. Dr. P. P. Shastry, JNKVV, Khandwa
17. Dr. A. Chandrashekar, TNAU, Coimbatore
18. Dr. Himanshu Negi, Monsanto India Ltd, Indore

Technical Programme

Path. 1: Epidemiological studies on cotton diseases

1 (a): Observations on the occurrence of the diseases (in farmer's field and research farms) - (At all centers except Pune and CICR Sirsa)

All information regarding major / minor / new (e.g. Tobacco streak virus disease, *Helminthosporium* leaf spot, *Phoma* leaf spot) have to be reported.

1 (b): Disease progress in relation to weather factors (All centers except Pune)

As per the procedure suggested during 2006-07.

The regression equation model for forecasting of diseases be developed in the next two – three years.

Path. 2: Screening of AICCIP entries for disease reaction

2 (a): Screening of breeding lines for disease resistance (all centers)

North Zone centres : Both National and Zonal entries
Central and South zones centres : Only zonal entries

The seed materials of the respective entries will be collected by the plant pathologists from the centre plant breeders.

2 (b) Screening of breeding lines for CLCuD resistance

The Pathologists of ARS (RAU), Sriganaganar and other North zone centres have identified several lines resistant to CLCuD through station trials. They have to carry out further evaluation in collaboration with the breeders of the respective centres for the advancement of the lines.

Path. 3: Management of Diseases

3 (a): Management of foliar diseases through chemicals

Experiment I: Management of fungal foliar diseases

Fungicide : **Taqat 75WP** (M/s Rallis India Ltd.)

Doses : **Two**
i. 500 g/ha formulation
ii. 750 g/ha formulation

Treatments : **Four**
T₁ – Taqat 500g/ha
T₂ – Taqat 750g/ha
T₃ – Propiconazole 0.1%
T₄ – Check (water spray)

Replications : **Five**

Variety : Local susceptible cultivar

Centres : CICR, Nagpur, CICR (RS) Coimbatore, Junagarh, Faridkot, Lam and Dharwad.

Observations to be taken: Against all fungal foliar diseases occurring in the respective centers. Three sprays at fortnightly intervals are to be given with first spray immediately after the appearance of the disease. . Observations on the disease occurrence to be noted before and after taking up the sprays.

Experiment II: Management of bacterial leaf blight

Bactericide: Copper hydroxide 46.1 % DF (30% metallic copper of M/s E.I. (Kocide) Dupont India Pvt. Ltd)

Doses: **Three**
1. 1000g/ha product
2. 1250g/ha product
3. 1500g/ha product

Treatments: Five

- T1: 1000g/ha copper hydroxide
- T2: 1250 g/ha copper hydroxide
- T3: 1500 g/ha copper hydroxide
- T4: 0.3% copper oxychloride + 100 ppm streptocycline
- T5: Check (Water spray)

Replication : Four

Variety: Local susceptible variety or Hybrid

Centres : Dharwad, Surat, Khandwa, Akola, Nanded and Rahuri

Observations to be taken: Three sprays at fortnightly intervals are to be given with first spray immediately after the appearance of the disease. Observations on the disease occurrence should be noted before and after taking up the sprays

3 (b) Biological control of foliar diseases (excluding CLCuD)

Since spraying with bio-fungicide, *Pseudomonas fluorescens* Pf-1 has been found effective in the management of various foliar diseases (excluding CLCuD), it has been decided to formulate a spray schedule for arriving at correct frequency of spraying of the biocide. The following treatments with different spray schedules will also be carried out during 2007-08.

- i) Seed treatment with *P. fluorescens* Pf-1 @ 10 g/kg seed plus foliar spray @ 0.2% on 30, 40, 50, 60, 70, 80 and 90 DAS.
- ii) Seed treatment with *P. fluorescens* Pf-1 @ 10 g/kg seed plus foliar spray @ 0.2% on 30, 50, 70 and 90 DAS.
- iii) Seed treatment with *P. fluorescens* Pf-1 @ 10 g/kg seed plus foliar spray @ 0.2% on 30, 60 and 90 DAS.
- iv) Spraying of Copperoxychloride 0.3% + Streptocycline 100 ppm / Carbendazim 50 WP @ 0.1% (for grey mildew only) 30, 60 and 90 DAS.
- v) Check (water spray)

Replication : Four

Centres :Hisar, Faridkot, Khandwa, Akola, Rahuri, Nanded, Surat, Junagadh, Dharwad, Lam, Coimbatore and CICR-Coimbatore

Observations on the disease occurrence should be noted before and after taking up the sprays

Path 4. Crop loss estimation:**4a. Grey Mildew: (Dharwad, CICR-Coimbatore and Nanded).**

Spray inoculum of *Ramularia areola* extracted from infected leaves has to be applied at 25-35 days after sowing. Epiphytotic conditions should be created through sprinkler system. The following are the treatments.

- i) Carbendazim (0.1%) spray at 35 DAS
- ii) Carbendazim (0.1%) spray at 35 and 50DAS
- iii) Carbendazim (0.1%) spray at 35, 50 and 65 DAS

- iv) Carbendazim (0.1%) spray at 35, 50, 65 and 80 DAS
- v) Carbendazim (0.1%) spray at 35, 50, 65, 80 and 95 DAS
- vi) Carbendazim (0.1%) spray at 50, 65, 80 and 95 DAS
- vii) Carbendazim (0.1%) spray at 65, 80 and 95 DAS
- viii) Carbendazim (0.1%) spray at 80 and 95 DAS
- ix) Carbendazim (0.1%) spray at 95 DAS
- x) Water spray

Design: RBD with Three replications

Variety: LRA-5166

4b. Alternaria Leaf spot (LAM, Dharwad and Rahuri)

(Procedure similar to Grey mildew).

Variety: LRA-5166

Fungicide: Propiconazole @ 0.1%

Above trial will also be utilized for assessing the importance of Helminthosporium leaf spot at LAM.

4c. Bacterial blight (to be carried out at Dharwad)

(Procedure similar to Grey mildew)

Variety : Local susceptible

Fungicide : Copper oxychloride 0.3% + Streptocycline 100 ppm

4d. Myrothecium leaf spot (Khandwa)

(Procedure similar to grey mildew)

Variety: Local susceptible

Fungicide: Propiconazole @ 0.1%.

4e. Crop Loss Estimation due to CLCuD

Experiment : To work out relationship between Disease index and yield reduction in cotton leaf curl virus disease

Locations : Hisar, Sirsa, Sriganagar, Ludhiana and Faridkot

Variety/Hybrid : RCH-134, F-1861 and RST-9

Treatment details:

- i) Two sets of bigger plots of each variety/hybrid with minimum 500 plants will be sown.
- ii) One set will have infector rows of RS-921 variety between and all around the plot and the other set will not have infector rows and will be protected from white fly; to have sufficient number of healthy and diseased plants.

Observations :

- i) Observations of disease index on minimum ten plants of ten replications will be recorded from each plot.
- ii) Observations on yield and quality parameters from diseased and healthy plants will be recorded

Path 5. Management of Parawilt

Studies on para wilt predisposing factors and its management in collaboration with the plant physiologists of the respective centres

Centers : Junagarh, Khandwa, Sriganagar, Ludhiana , Faridkot and Hisar

Experiment 1. Studies on predisposing factors

Treatment details :

1. Role of cultivar
2. Soil type
3. Weather data preceding the two weeks to out break of parawilt
4. Plant height and boll load
5. Farmers package of practice

Experiment 2 & 3

Management of parawilt :

Locations :

Expt. 2 PAU, Ludhiana Research Farm

Expt. 3 Ludhiana, Faridkot, Hisar, Sirsa,ii Sriganagar, Junagarh and Khandawa in farmer's plots.

a.Chemicals : Two (Cobalt Chloride and Silver Nitrate @ 10 ppm.)

b.Treatment details :

Spray to be carried out at

- i) Initial wilting stage (with in 36-48 hours)
- ii) Advanced wilting stage
- iii) Control (no spray)

c.Bt Hybrid

- i) **Ankur-651** Bt in research trial (Plot size : 20 sqm for each treatment)- for expt. 2.
- ii) **Available Bt hybrid** showing parawilt at farmers field (50 plants of each treatment with ten replications)- for expt. 3.

d.Observations :

- i) Recovery of affected plant plants (complete/partial/no recovery)
- ii) Yield parameters
- iii) Quality parameters

Path.6: Observations on the occurrence of the diseases on Bt cotton

- 1(a) For CLCuD, the details and layout of the trials will be given by the Project Coordinator. The susceptible check (RS 921) and standard resistant check (F 1861) should be included in the trial.
 - (b): Artificial screening for CLCuD in insect cages will be taken up with Bt cotton trial during current year. Ten plants of each entry will be raised in two pots and 20 (Twenty) viruliferous white flies will be used for each pot at 2-4 leaf stage (Sirsa and Ludhiana).
 - (c): In addition, the entries will also be screened in the screening nursery (Sirsa). For the above (1b) & (1c) screening trails, additional quantity of seeds of Bt entries may be supplied by the Project Coordinator.
2. Fortnightly observations on the incidence of other foliar diseases will be recorded at centers, wherever Bt cotton hybrid trails are being tested. For these trials also, a susceptible check should be raised along with the entries.
 3. Observation on various diseases in Bt cotton in farmers' field should also be recorded.

Path. 7: *Fusarium* wilt of cotton (Pune Centre)

The Pune Center was asked to screen the genotypes in combined Fusarial cultures at sick plot. Further it was suggested to sterilize the soil/any material before it goes out glass house in case of pot culture and experimental area in Pune.

Suggestions made by The Chairman

After extensive discussion on CLCuD screening and also on the use of diagnostic kits following the presentation made by Dr.P.K.Chakrabarty, the Chairman, Dr.Narayan Rishi, suggested the following points for incorporation in the technical programme for strengthening the screening as well as diagnosis for diseases.

1.CICR Regional Station, Sirsa should be the nodal centre for the screening of the lines against cotton leaf curl disease for which the following facility can be provided.

- i. A screen house with proper temperature and humidity control devices.
- ii. Ensuring 24 hours electricity supply for whitefly colony rearing all round in the year.

2. Wide and extensive use of diagnostic kits should be adopted by all pathologists.

The chairman categorically emphasized that all pathologists should be well versed with molecular diagnostic tools as these techniques should form the order of the day for rapid detection of pathogens. The molecular diagnosis not only will help the pathologists to monitor the development of new races/pathovar of different pathogens but also help in epidemiological investigation for monitoring pathogen development in soils/sources multiplexing protocols for simultaneous detection of pathogens, quantitative estimation of pathogen propagule in soils/sources, molecular genetic variability among viral strains and other pathogens are worthwhile to study. These are highly necessary in the present

day context for decision making in plant disease management. Molecular diagnostic Kits for Myrothecium, Fusarium, Phakopsora, Tobacco Necrosis Virus should also be developed.

3. Diagnostic tests developed by Dr. P. K. Chakarabarty should be validated by selected centres. The following centres will test the kits on the particular disease occurring in the respective area.

CICR, Sirsa (North)

JNKVV,Khandwa (Central)

UAS,Dharwad and TNAU, Coimbatore (South)

4. All GM materials being developed against CLCuV should be tested in a central place – i.e., CICR, Sirsa joint effort with CCSHAU.

5. CICR, Nagpur may invite photographs of all stages of CLCuD and other diseases from different places. A database for documenting various stages of CLCuD and others may be created and name of all concerned persons providing photographs should be given.

SUBMISSION OF DATA ON THE TRIALS

Zone	Date of submission of report
North	31 st January
Central	15 th February
South	1 st March

Transfer of Technology and Breeder Seed Production

Session - IV

Date: 12-4-2007

Time: 4.00 pm to 6.30 pm

Chairman: Dr. Anupam Barik, Director, DOCD, Mumbai.

**Co-Chairman: Dr. Bharat Shah, Director, Gujarat State Seed Corporation,
Gandhi Nagar.**

Rapporteurs: Dr.(Mrs.) S. Usha Rani, Scientist, CICR, RS, Coimbaore.

The Transfer of Technology (TOT) session was chaired by Dr. Anupam Barik, Director, DOCD, Mumbai and Dr. Bharat Shah, Director, Gujarat State Seed Corporation, Gandhi Nagar.

Dr. Anupam Barik, in his opening remarks mentioned that during the year 2006-07 the AICCIP has conducted 1350 demonstrations on cotton production technologies, 23 unit demonstrations on Integrated Pest Management (IPM) and 21 unit demonstrations on Farm Implements. In 2007-08, all the State Departments of Agriculture will be conducting front line demonstrations along with the AICCIP, Krishi Vigyan Kendras (KVKs), Cotton Corporation of India (CCI) and Non Government Organizations. The budget outlay will be Rs.5.25 crores in total and Rs. 75 lakh for cotton FLDs through AICCIP. Since, Ministry of Agriculture, Government of India is emphasizing the allocation of FLDs for weaker section and women, the category-wise allotment must be considered while finalizing the target beneficiaries for the year 2007-08. Due consideration may also be given for the emerging thrust areas *viz.*, reintroduction of Extra Long Staple Cotton, Organic cotton, water harvesting practices etc., while selecting the technologies for demonstration. Under demonstrations on Farm Implements, the implements recommended by the State Agricultural Universities may be purchased along with the implements mentioned in the guidelines. In potential centres, customer hiring of the purchased implements may be planned.

While reporting, the state scenario of cotton in terms of area, production and productivity may be given along with the results of FLDs conducted by the centres. The results of farm Implements must be highlighted in terms of fuel efficiency, energy savings, cost of operation and reduction in drudgery. Similarly, the results of demonstrations on IPM may be highlighted in terms of reduction in number of pesticide sprays, reduction in cost of cultivation and impact on yield.

The scientists from all participating centres presented the results of demonstrations conducted during 2006-07.

Plenary Session

Chairman: Dr K. C. Jain, ADG, Commercial Crop

Co-chairman: Dr. B. M. Khadi, Director, CICR, Nagpur

Rapporteur: Mr. M. Sabesh, CICR, Coimbatore

Date: 13:04:2007, 9:30 AM

In the plenary session, Principal Investigators of Crop Improvement, Crop Production, Entomology and Plant Pathology presented technical programmes formulated for the year 2007-08 in their respective disciplines.

Dr. Pramod Pundhir, Principal Investigator (Crop Improvement) presented the details of breeding trials formulated. The Technical Programme finalized for 11 national trials, five north zone trials, ten central zone trials and eight south zone trials were presented by him.

During the discussion, the following clarifications were made.

- ❖ Data on seed weight, seed oil content, and bio-mass to be recorded in all the AICCIP trials.
- ❖ Fibre quality improvement should receive further attention.
- ❖ Timely submission of data to be ensured so that report compilation is done in time.
- ❖ Variety release proposals should contain at least two years data pertaining to disease, pests and fibre quality should be submitted by the end of March every year.

Dr. B. M. Khadi, Director, CICR, Nagpur presented the Bt cotton trial protocol for all the three zones.

Dr. P. L. Nehra, Principal Investigator (Crop Production) presented the proceedings of Agronomy panel. During the discussion, it was emphasized that

- ❖ The agronomic recommendations should be for major region and not for individual location,
- ❖ While recommending fertilizer doses, the time of application should also be invariably mentioned.
- ❖ All the recommendations made in the Agronomy panel should be incorporated in the Department package of practices for adoption by the farmers.
- ❖ Proper agronomic practices for *G. arboreum* variety should be developed for obtaining maximum seed cotton yield,
- ❖ Wherever possible, fiber quality parameter should be furnished in the agronomical trials,

Dr. T. Surulivelu, Principal Investigator (Entomology) presented the highlights of Entomology panel meeting. During the discussion it was expressed that the IPM trials should be conducted in larger blocks. The Bt check hybrids should be common for breeding and entomological trials. In view of increasing problems of sucking pest on Bt cotton specific programme needs to be identified by the entomologist to solve the problem.

Dr. P. Chidambaram, Principal Investigator (Plant Pathology) presented the Technical Programme for the year 2007-08 in respect of cotton diseases. During the discussion, it was noted that the final report on Leaf Curl Virus diseases made by Dr. Muniappa pertains to Tomato leaf curl virus and not on Cotton leaf curl virus disease. The similarity of the molecular characteristics of both the diseases was also pointed out. The need for proper protocol for reporting CLCuV disease was emphasized. CICR, Sirsa should take up screening for CLCuV disease in respect of both Bt cotton and AICCIP trials. Also, parawilt on Bt cotton needs to be studied in detail.

Dr. S. Usharani, Scientist (Sr. Scale), CICR presented the highlights of the frontline demonstrations conducted during 2006-07 and said that it would be conducted during the year 2007-08 also with small change in the technical programme.

The meeting was concluded with vote of thanks by Dr. N. Gopalakrishnan, Project Coordinator (Cotton Improvement).

