

Evaluation of Bt Cotton Hybrids

South Zone - 2008-09

Report Submitted to

**Indian Council of Agricultural Research
New Delhi**



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EVALUATION OF BT COTTON HYBRIDS

The All India Coordinated Cotton Improvement Project (AICCIP) of the Indian Council of Agricultural Research was assigned the task of evaluating Bt Cotton hybrids of private R&D firms belonging to four events which have been approved for commercial cultivation by GEAC (Ministry of Environment and Forest, Govt. of India) in the South Zone during the crop season of 2008-09. The technical programme for the conduct of ICAR trials was formulated during All India Coordinated Cotton Improvement Project (AICCIP) Group Meeting held at Punjab Agricultural University, Ludhiana on 10th April, 2008. As the number of entries was large from the sponsoring private R&D firms, it was decided to have two sets of first year Intra *Hirsutum* Hybrid Evaluation trials viz., Trial "Set A" and Trial "Set B" for both irrigated as well as rainfed conditions separately and one inter-specific (*G.hirsutum* x *G.barbadense*) hybrid trial under irrigated conditions. The same Bt and non-Bt check hybrids were used in both the sets of trials to maintain parity in evaluation.

The following sponsored Bt cotton hybrids were evaluated during 2008-09.

IRRIGATED IHH TRIAL – SET ‘A’			IRRIGATED IHH TRIAL – SET ‘B’		
S. No	Name of Entry	Sponsoring R&D firm	S. No	Name of Entry	Sponsoring R&D firm
1.	ACH 53-2 BG II	Ajeet Seeds	1.	ABCH 148 BG II	Amar Bio
2.	ABCH 143 BG II	Amar Bio	2.	Ankur 3034 BG II	Ankur Seeds
3.	Jai BG II	Ankur Seeds	3.	SP 1171 B2	Bayer
4.	SP 700 B2	Bayer	4.	JKCH 1305 (Event 1)	JK Seeds
5.	322-2	Bioseeds	5.	MRC 7383 BG II	Mahyco
6.	JKCH 2255 (Event 1)	JK Seeds	6.	VCH 603 BGII	Monsanto
7.	JKCH 2245	JK Seeds	7.	NSPL 432 BG II	Nandi
8.	JKCH Indra Bt	JK Seeds	8.	NCEH 29	Nath
9.	KDCHH 507 BG II	Krishidhan	9.	NCS 864 Bt 2	Nuziveedu
10.	MRC 7373 BG II	Mahyco	10.	PCH 886 Bt 2	Prabhat Agri
11.	MLCH 318 BG II	Monsanto	11.	RCH 614 BG II	Rasi Seeds
12.	NSPL 423 BG II	Nandi	12.	SWCH 4720 BG II	Seedworks
13.	NCS 863 Bt 2	Nuziveedu	13.	Solar 60 BG II	Solar Agro
14.	PCH 885 Bt 2	Prabhat Agri	14.	Tulasi 171 BG II	Tulasi
15.	PRCH 333 BG II	Pravardhan	15.	UPLHH 10 (Fusion)	UEL
16.	RCH 20 BG II	Rasi Seeds	16.	UPLHH 7 (Fusion)	USB
17.	SBCH 311 (Fusion)	Safal Seeds	17.	VBCH 1520 BG II	Vibha
18.	SWCH 2 BG II	Seedworks	18.	VICH 303 BG II	Vikram
19.	Sarju BG II	Solar Agro	19.	RCH 2 Bt (C)	Bt Check
20.	Tulasi 252 BG II	Tulasi	20.	Bunny (C)	Non Bt Check
21.	UPLHH 271 (Fusion)	UEL			
22.	UPLHH 189 (Fusion)	USB			
23.	VBCH 1519 BG II	Vibha			
24.	VICH 301 BG II	Vikram			
25.	RCH 2 Bt (C)	Bt Check			
26.	Bunny (C)	Non Bt Check			

RAINFED IHH TRIAL – SET ‘A’			RAINFED IHH TRIAL – SET ‘B’		
S. No	Name of Entry	Sponsoring R&D firm	S. No	Name of Entry	Sponsoring R&D firm
1	ABCH 146 BG II	Amar Bio	1	ABCH 147 BG II	Amar Bio
2	Ankur 3066 BG II	Ankur Seeds	2	Ankur 3028 BG II	Ankur Seeds
3	SP 503 B2	Bayer	3	SP 1146 B2	Bayer
4	JKCH 2004 (Event 1)	JK Seeds	4	JKCH 2246 (Event 1)	JK Seeds
5	MRC 7375 BG II	Mahyco	5	KDCHH 9821 Bt	Krishidhan
6	Atal BG II	Monsanto	6	MRC 7377 BG II	Mahyco
7	VCH 603 BGII	Monsanto	7	MLCH 318 BG II	Monsanto
8	NCS 863 Bt 2	Nuziveedu	8	NSPL 666 BG II	Nandi
9	PCH 885 Bt 2	Prabhat Agri	9	NCS 864 Bt 2	Nuziveedu
10	PRCH 333 BG II	Pravardhan	10	PCH 886 Bt 2	Prabhat Agri
11	RCH 20 BG II	Rasi Seeds	11	RCH 614 BG II	Rasi Seeds
12	SBCH 310 (Fusion)	Safal Seeds	12	SWCH 4715 BG II	Seedworks
13	SWCH 4703 BG II	Seedworks	13	Tulasi 144 BG II	Tulasi
14	Sarju BG II	Solar Agro	14	UPLHH 10 (Fusion)	UEL
15	Tulasi 135 BG II	Tulasi	15	UPLHH 7 (Fusion)	USB
16	UPLHH 271 (Fusion)	UEL	16	VBCH 1521 BG II	Vibha
17	UPLHH 189 (Fusion)	USB	17	Bunny Bt (C)	Bt Check
18	VBCH 1516 BG II	Vibha	18	Bunny (C)	Non Bt Check
19	Bunny Bt (C)	Bt Check			
20	Bunny (C)	Non Bt Check			

IRRIGATED INTERSPECIFIC HYBRID TRIAL					
S. No	Name of Entry	Sponsoring R&D firm	S. No	Name of Entry	Sponsoring R&D firm
1	ACHB 907-1 BG I	Ajeet Seeds	13	MLBCH 6 BG II	Monsanto
2	ABCH 140 BG I	Amar	14	NSPL 63 BG II	Nandi Seeds
3	ABCH 137 BG I	Amar	15	NCHB 991 Bt 2	Nuziveedu
4	Ankur HB 2104 BG II	Ankur	16	NCHB 990 Bt 2	Nuziveedu
5	Ankur HB 2110 BG II	Ankur	17	SWCH 5017 BG II	Seed Works
6	SP 911 B2	Bayer	18	Tulasi 888 BG II	Tulasi
7	JKCHB 212 (Event 1)	JK Seeds	19	VBCHB 1525 BG II	Vibha
8	JKCHB 2250 (Event 1)	JK Seeds	20	VBCHB 1526 BG II	Vibha
9	JKCHB 5 Bt	JK Seeds	21	VICHB 502 BG II	Vikram
10	JKCHB 229 Bt	JK Seeds	22	MRC 6918 (Bt-CC)	Bt Check
11	MCHB 7945 BG II	Mahyco	23	DCH 32 (Non Bt –C)	Non Bt Check
12	MCHB 7941 BG II	Mahyco			

Trial locations

The following were the trial locations:

Locations

Irrigated: (5) Warangal, Siruguppa, Raichur, 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 (Irrigated), Bunny Bt (Rainfed) , Bunny Non Bt

Interspecific (H x B) hybrid trial (Irrigated)

Locations (4): Amravathi (Lam), Coimbatore, Dharwad, Siruguppa

Spacing: Amravathi (Lam), Coimbatore, Dharwad and Siruguppa –120 x 60 cm

Checks: MRC 6918 Bt, DCH 32

No. of Replications : Three
Design : Randomized Block Design
Fertilizers : As per recommendations

Observations Recorded

Entomological Evaluation: ETL Based Entomological evaluations were carried out and weekly observations were recorded from 45 DAS against major sucking pests and boll worms. The insecticide sprayings were based on the economic threshold levels (ETL) for sap sucking pests and boll worms. The insecticide sprayings were undertaken in all the replications of the entries even if in one of the replications the threshold level of infestation exceeds.

Biometrical Evaluation: All the biometrical observations were recorded under ETL based plant protection trials. The biometrical observations recorded were Germination Percentage, Final Plant Stand, Ginning Percentage, Lint Index, Seed Index, Seed Cotton Yield and Lint Yield. Fiber quality parameters were assessed using High Volume Instrument at CIRCOT. The entomological observations on sap sucking pests, boll worm damages and natural enemies were recorded under ETL based plant protection trial. The pathological observations on incidence of major diseases like Alternaria leaf spot, bacterial blight and grey mildew were also recorded under the field conditions.

INTRA HIRSUTUM HYBRID (IHH) TRIAL SET A (IRRIGATED)

BIOMETRICAL EVALUATION

Final Plant Stand: The germination was in general good in all the entries, The plant stand at harvest was ranged from 52.0 to 58.0 and adequate at all the locations in all the entries (Table 1).

Boll Weight: The overall Mean Boll weight of the Bt hybrids varied from 4.3 to 6.5 g. The non Bt check hybrid recorded a mean boll weight of 4.9 g. ACH 53-2 BG II and UPLHH 271 (Fusion) recorded the highest boll weight of 6.5g and 5.9g, respectively (Table 2).

Ginning Outturn: The mean ginning outturn of the Bt cotton hybrids varied from 31.6 to 38.4 %. Hybrid Sarju BG II recorded the highest ginning outturn of 38.4 percent. The Bt check hybrid RCH 2 Bt and non Bt check hybrid recorded a mean ginning out turn of 34.6 and 34.5 percent, respectively (Table 3).

Lint Index and Seed Index : The Bt hybrids had lint index in the range of 5.1 to 6.9g with the maximum lint index recorded in the hybrid Sarju BG II. Bt check hybrid and non-Bt check hybrid recorded 5.6 and 6.0g respectively (Table 4). The seed index ranged from 10.1 to 12.6g with ACH 53-2 BG II having higher index of 12.6g (Table 5)

Mean Seed Cotton Yield under ETL based Plant Protection: The mean seed cotton yield recorded by the Bt cotton hybrids under irrigated conditions are presented in Table 6. Seventeen test Bt cotton hybrids recorded higher seed cotton yield than Bt check hybrid RCH 2 Bt, while twenty one test hybrids recorded higher seed cotton yield over non-Bt check hybrid. JKCH Indra Bt recorded higher seed cotton yield of over 27q/ha. Around 18 hybrids showed better lint yield as compared to Bt check hybrid. (Table 7)

Fiber Quality Evaluation: Fiber quality evaluation of the lint samples of all test entries from many centres were carried out and the details like fiber length, strength, micronaire, uniformity ratio are presented in Tables 8 and 9. Most of the test hybrids had equal or better fiber length than that of Bt check hybrid (30.5 mm). Entry VBCH 1519 BG II consistently recorded higher staple length across centers and entry MLCH 318 BG II had lesser mean fiber length of 28.4 mm compared to Bt check hybrid. The hybrid entries had around 4.1 – 5.1 as regards micronaire is concerned and lower micronaire value of 4.1 was recorded in the entry PRCH 333 BG II. Similarly, fiber strength did not exhibit much variation; however, entry PRCH 333 BG II had recorded higher strength value of 23.2. The hybrids had fiber strength in the range of 20.9 – 23.2 g/tex. Notable variation could not be established regarding uniformity ratio with most of the hybrids showing around 49%.

ETL BASED ENTOMOLOGICAL EVALUATION

Sucking pests and bollworms: The data on incidences of sap sucking pests and bollworms were recorded and the details are given in Tables 10 – 14. Jassids, whitefly, thrips, aphid and mealy bugs were observed in all test Bt hybrids at different centres under irrigated conditions. High jaasid infestation was recorded at Srivilliputtur center and entries ACH 53-2 BG II, KDCHH 507 BG II, and Tulasi 252 BG II seems susceptible to Jassids and entries VBCH 1519 BG II and ACH 53-2 BG II had shown higher infestation of aphids; however, not much variation in infestation levels was observed in all entries as regards aphids, thrips and whitefly population.

Larval populations of *Earias sp.*, and *Pectinophora gossypiella* were, in general, rather low. Open boll damage seems higher in Siruguppa and Srivilliputtur as compared to Coimbatore center.

Pathological Evaluation: At Raichur, hybrids SWCH 2 BG II, PCH 885 Bt 2, MLCH 318 BG II, ACH 53-2 BG II, KDCHH 507 BG II, UPLHH 189 (Fusion), SP 700 B2, NSPL 423 BG II were seen prone to Alternaria Leaf Spot disease with higher level of incidence compared to other entries. The severity of rust ranged from 1 to 4 grades with entries SWCH 2 BG II, PCH 885 Bt 2, ABCH 143 BG II, MRC 7373 BG II, SBCH 311(Fusion), JKCH 2245 recording higher grade of rust.

Summary Table: SET – A Irrigated Trials

Name of Entry	Stand at harvest (number of plants)	Mean boll weight (g)	Mean Ginning Out Turn (%)	Lint index	Seed index (g)	Seed cotton yield (kg/ha)	Lint yield (kg/ha)	2.5% span length (mm)	Micronaire value	Uniformity ratio	Strength (g/tex)
SWCH 2 BG II	56.7	5.3	36.2	6.0	10.5	2225	802	30.3	4.6	46.0	21.4
PCH 885 Bt 2	52.7	5.4	36.2	5.8	10.4	2163	780	30.8	4.7	49.0	22.7
UPLHH 271 (Fusion)	54.3	5.9	37.2	6.5	11.4	2093	781	30.6	5.1	50.3	21.3
322-2	56.3	5.6	36.4	6.1	10.5	2094	762	31.5	5.0	47.7	22.1
VBCH 1519 BG II	57.3	5.7	34.4	6.1	11.4	2153	742	32.7	4.6	46.7	22.6
MLCH 318 BG II	54.0	4.3	35.4	5.5	10.1	2010	709	28.4	4.7	48.3	20.9
RCH 20 BG II	55.3	5.3	33.9	6.2	12.0	2256	763	31.0	4.7	48.0	21.0
RCH 2 Bt (C)	55.3	5.1	34.6	5.6	10.6	2058	708	30.5	4.3	48.3	21.7
NCS 863 Bt 2	52.0	5.4	35.1	5.5	10.1	1975	701	31.6	4.3	51.0	22.6
PRCH 333 BG II	52.7	5.3	32.8	5.1	10.4	1882	614	30.6	4.1	49.0	23.2
ACH 53-2 BG II	55.3	6.5	35.2	6.8	12.6	1917	677	29.9	4.7	49.7	22.6
JKCH 2255 (Event 1)	57.7	4.9	34.2	6.0	11.5	2262	771	28.8	4.3	49.0	22.2
KDCHH 507 BG II	57.7	5.4	35.7	6.0	10.8	2378	847	30.0	5.0	50.3	21.4
ABCH 143 BG II	55.3	5.4	33.8	6.0	11.7	2044	698	30.9	4.3	51.0	22.0
Bunny (C)	56.7	4.9	34.5	6.0	11.3	2005	685	31.3	4.6	48.0	22.0
VICH 301 BG II	57.7	5.4	32.6	5.6	11.7	2370	773	30.2	4.9	51.0	21.9
UPLHH 189 (Fusion)	56.0	5.2	31.6	5.2	11.2	1788	564	31.0	4.5	49.0	22.1
SP 700 B2	55.0	4.7	34.5	5.8	11.0	2113	730	30.4	4.6	51.3	22.8
MRC 7373 BG II	57.0	5.6	35.5	6.1	11.2	2417	860	31.4	4.8	48.3	21.4
Tulasi 252 BG II	53.3	5.1	32.8	5.4	11.0	2019	662	30.5	4.5	48.7	22.0
Sarju BG II	55.0	5.5	38.4	6.9	11.0	2066	789	29.4	4.4	49.7	21.8
Jai BG II	55.3	5.2	36.1	6.4	11.2	2090	757	31.9	4.6	46.0	22.3
SBCH 311 (Fusion)	57.0	5.1	35.2	5.6	10.3	2290	805	28.5	4.8	51.7	22.4
NSPL 423 BG II	55.0	5.0	36.2	6.0	10.6	2260	820	31.0	4.6	48.7	21.7
JKCH 2245	58.0	5.3	36.3	6.1	10.7	2322	844	32.3	4.6	47.7	22.4
JKCH Indra Bt	57.3	5.5	36.4	6.1	10.7	2728	993	30.8	4.9	50.7	21.9

Summary Table: SET – A Irrigated Trials

Name of Entry	Jassid/ plant	Whitefly/ plant	Thrips / 3 leaves	Aphids / 3 leaves	Mealy bug Grading (0- 4)	Open boll damage (%)	Locule damage (%)	No. of Sprays for Sucking pests	No. of Sprays for Bollworms
SWCH 2 BG II	7.9	1.0	6.9	7.9	2.0	4.9	1.3	2.7	0.7
PCH 885 Bt 2	4.1	1.3	3.8	8.6	2.1	5.6	1.6	2.3	0.7
UPLHH 271 (Fusion)	9.2	1.0	5.2	9.6	2.1	6.2	2.2	2.7	1.7
322-2	5.7	1.0	4.2	9.4	2.6	6.6	2.9	2.3	2.0
VBCH 1519 BG II	5.5	0.8	4.7	10.2	1.8	6.3	1.8	2.3	1.7
MLCH 318 BG II	5.4	1.1	7.2	8.7	1.5	7.7	3.4	2.3	2.0
RCH 20 BG II	5.2	1.0	5.0	7.9	2.5	5.0	1.6	2.3	0.7
RCH 2 Bt (C)	9.5	1.3	4.7	9.6	2.2	6.3	1.7	2.7	0.7
NCS 863 Bt 2	4.8	1.5	4.7	9.1	2.1	5.2	2.2	2.3	1.7
PRCH 333 BG II	3.5	1.4	5.9	9.0	2.0	7.1	1.6	2.3	0.7
ACH 53-2 BG II	10.1	1.0	4.4	10.9	1.5	7.9	2.9	2.7	0.7
JKCH 2255 (Event 1)	5.2	1.1	3.0	8.3	2.6	4.8	1.1	2.3	0.7
KDCHH 507 BG II	10.9	1.6	6.1	9.1	1.6	6.3	2.2	2.7	1.3
ABCH 143 BG II	9.4	0.8	5.0	8.5	2.1	4.8	1.4	2.7	1.0
Bunny (C)	4.7	1.2	3.7	8.2	2.8	7.9	4.8	2.3	1.3
VICH 301 BG II	6.1	1.3	4.4	7.5	2.7	6.7	1.7	2.3	1.7
UPLHH 189 (Fusion)	5.5	1.9	5.0	8.1	2.6	6.6	1.6	2.3	1.3
SP 700 B2	5.4	1.4	4.6	8.9	2.1	6.6	1.6	2.3	1.3
MRC 7373 BG II	5.1	1.6	5.5	8.7	2.5	5.3	2.3	2.3	1.7
Tulasi 252 BG II	10.2	1.6	7.7	7.4	2.1	5.5	1.9	2.7	0.7
Sarju BG II	9.4	2.0	5.8	7.3	2.5	6.4	2.8	2.7	1.0
Jai BG II	9.6	1.0	6.3	7.8	2.0	4.0	2.2	2.7	0.7
SBCH 311 (Fusion)	5.4	1.1	3.6	5.6	2.6	4.9	2.1	2.3	1.3
NSPL 423 BG II	9.9	1.1	5.8	7.4	2.2	4.6	2.0	2.3	0.7
JKCH 2245	3.3	1.2	6.9	8.5	2.6	5.1	3.1	2.3	1.0
JKCH Indra Bt	5.3	1.6	6.0	11.0	2.3	4.7	2.3	2.3	1.3

Table 1: Stand at harvest (number of plants)

Name of Entry	Siruguppa	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	59.0	57	54.0	56.7
PCH 885 Bt 2	58.0	51	49.0	52.7
UPLHH 271 (Fusion)	59.0	56	48.0	54.3
322-2	59.0	56	54.0	56.3
VBCH 1519 BG II	60.0	57	55.0	57.3
MLCH 318 BG II	60.0	49	53.0	54.0
RCH 20 BG II	60.0	54	52.0	55.3
RCH 2 Bt (C)	59.0	56	51.0	55.3
NCS 863 Bt 2	58.0	54	44.0	52.0
PRCH 333 BG II	60.0	50	48.0	52.7
ACH 53-2 BG II	60.0	49	57.0	55.3
JKCH 2255 (Event 1)	60.0	58	55.0	57.7
KDCHH 507 BG II	59.0	57	57.0	57.7
ABCH 143 BG II	60.0	50	56.0	55.3
Bunny (C)	60.0	55	55.0	56.7
VICH 301 BG II	59.0	58	56.0	57.7
UPLHH 189 (Fusion)	60.0	54	54.0	56.0
SP 700 B2	59.0	55	51.0	55.0
MRC 7373 BG II	59.0	56	56.0	57.0
Tulasi 252 BG II	59.0	48	53.0	53.3
Sarju BG II	60.0	53	52.0	55.0
Jai BG II	60.0	53	53.0	55.3
SBCH 311 (Fusion)	60.0	58	53.0	57.0
NSPL 423 BG II	59.0	56	50.0	55.0
JKCH 2245	60.0	56	58.0	58.0
JKCH Indra Bt	60.0	58	54.0	57.3

Table 2: Mean boll weight (g)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	5.4	6.0	6.2	5.2	3.8	5.3
PCH 885 Bt 2	5.3	6.4	5.9	4.9	4.4	5.4
UPLHH 271 (Fusion)	6.1	6.2	6.8	5.6	4.6	5.9
322-2	5.6	6.2	6.8	5.5	4.0	5.6
VBCH 1519 BG II	5.6	6.6	6.8	5.9	3.8	5.7
MLCH 318 BG II	4.5	4.5	4.7	4.5	3.4	4.3
RCH 20 BG II	5.8	5.2	6.2	5.8	3.3	5.3
RCH 2 Bt (C)	5.2	5.3	6.0	5.2	3.9	5.1
NCS 863 Bt 2	5.2	6.0	6.7	5.1	3.8	5.4
PRCH 333 BG II	5.3	6.0	6.0	5.4	3.9	5.3
ACH 53-2 BG II	7.0	6.3	8.2	5.9	5.1	6.5
JKCH 2255 (Event 1)	4.6	5.7	5.8	4.4	4.2	4.9
KDCHH 507 BG II	5.2	5.7	6.3	5.1	4.8	5.4
ABCH 143 BG II	6.4	5.2	6.4	4.7	4.2	5.4
Bunny (C)	5.1	4.9	5.7	5.2	3.8	4.9
VICH 301 BG II	6.2	5.9	6.2	4.8	4.1	5.4
UPLHH 189 (Fusion)	5.8	5.3	6.2	5.1	3.8	5.2
SP 700 B2	5.1	4.7	5.4	4.5	3.8	4.7
MRC 7373 BG II	5.4	5.7	7.1	6.0	3.6	5.6
Tulasi 252 BG II	5.3	5.2	5.8	4.7	4.5	5.1
Sarju BG II	5.6	5.7	6.2	4.9	4.9	5.5
Jai BG II	5.3	4.8	6.1	5.8	3.8	5.2
SBCH 311 (Fusion)	5.4	5.0	6.8	5.2	3.1	5.1
NSPL 423 BG II	5.2	5.2	5.6	5.2	3.9	5.0
JKCH 2245	5.5	5.6	6.0	5.7	3.7	5.3
JKCH Indra Bt	5.4	6.0	6.0	5.6	4.4	5.5

Table 3: Mean Ginning Out Turn (%)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	37.5	35.9	34.3	36.5	36.6	36.2
PCH 885 Bt 2	36.8	37.2	35.2	36.3	35.3	36.2
UPLHH 271 (Fusion)	38.3	37.4	38.7	35.3	36.2	37.2
322-2	34.7	38.0	36.2	36.0	37.2	36.4
VBCH 1519 BG II	32.2	35.1	34.7	34.4	35.5	34.4
MLCH 318 BG II	34.7	35.3	34.7	35.5	37.0	35.4
RCH 20 BG II	33.3	32.8	36.7	32.7	33.8	33.9
RCH 2 Bt (C)	34.7	34.0	37.0	35.4	31.7	34.6
NCS 863 Bt 2	30.4	35.6	38.7	37.5	33.2	35.1
PRCH 333 BG II	31.5	34.2	33.2	35.2	29.7	32.8
ACH 53-2 BG II	33.3	35.3	36.7	34.8	35.8	35.2
JKCH 2255 (Event 1)	34.6	33.1	36.5	33.4	33.4	34.2
KDCHH 507 BG II	30.7	36.5	38.0	37.1	36.2	35.7
ABCH 143 BG II	30.7	33.6	38.5	32.8	33.4	33.8
Bunny (C)	31.5	34.5	37.5	34.9	33.9	34.5
VICH 301 BG II	29.9	31.2	34.0	33.6	34.1	32.6
UPLHH 189 (Fusion)	30.9	29.9	32.2	31.4	33.8	31.6
SP 700 B2	35.0	32.5	36.2	32.8	36.2	34.5
MRC 7373 BG II	38.4	34.4	36.5	34.1	34.0	35.5
Tulasi 252 BG II	30.9	32.7	35.2	32.9	32.3	32.8
Sarju BG II	41.5	38.5	42.2	37.4	32.6	38.4
Jai BG II	34.7	36.5	37.5	35.4	36.6	36.1
SBCH 311 (Fusion)	34.7	34.3	38.2	34.5	34.4	35.2
NSPL 423 BG II	35.6	36.7	39.0	36.5	33.3	36.2
JKCH 2245	35.6	35.2	41.0	34.6	35.3	36.3
JKCH Indra Bt	34.6	36.7	39.0	34.7	37.2	36.4

Table 4: Lint index

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	5.0	6.2	6.1	6.2	6.3	6.0
PCH 885 Bt 2	5.0	6.7	6.0	5.8	5.5	5.8
UPLHH 271 (Fusion)	5.5	7.1	6.2	6.6	7.0	6.5
322-2	5.3	6.4	6.6	6.0	6.3	6.1
VBCH 1519 BG II	4.2	6.7	6.6	6.7	6.2	6.1
MLCH 318 BG II	5.3	5.7	5.3	5.7	5.7	5.5
RCH 20 BG II	4.6	5.8	7.9	7.1	5.5	6.2
RCH 2 Bt (C)	4.5	6.4	6.0	6.8	4.3	5.6
NCS 863 Bt 2	4.0	6.2	6.5	5.9	4.8	5.5
PRCH 333 BG II	4.3	5.9	5.4	5.8	4.2	5.1
ACH 53-2 BG II	6.4	7.1	7.3	6.7	6.7	6.8
JKCH 2255 (Event 1)	5.1	6.3	7.6	5.4	5.5	6.0
KDCHH 507 BG II	4.6	6.1	6.9	6.2	6.3	6.0
ABCH 143 BG II	5.6	5.8	6.9	5.5	6.0	6.0
Bunny (C)	5.5	6.1	6.4	6.1	5.7	6.0
VICH 301 BG II	4.2	6.0	6.2	6.0	5.8	5.6
UPLHH 189 (Fusion)	4.4	5.1	5.6	5.0	5.8	5.2
SP 700 B2	5.8	5.6	6.9	5.6	5.0	5.8
MRC 7373 BG II	5.7	5.8	7.0	6.9	5.3	6.1
Tulasi 252 BG II	3.1	5.5	6.5	6.0	6.0	5.4
Sarju BG II	6.3	7.3	8.6	6.8	5.3	6.9
Jai BG II	5.3	6.6	7.7	6.0	6.2	6.4
SBCH 311 (Fusion)	4.8	5.7	5.9	6.1	5.5	5.6
NSPL 423 BG II	5.6	6.2	6.6	6.3	5.3	6.0
JKCH 2245	5.6	6.0	7.3	6.5	5.3	6.1
JKCH Indra Bt	5.1	6.1	6.7	6.4	6.3	6.1

Table 5: Seed index (g)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	8.3	11.1	11.4	10.7	11.0	10.5
PCH 885 Bt 2	8.6	11.3	11.7	10.3	10.2	10.4
UPLHH 271 (Fusion)	8.8	11.9	11.6	12.2	12.3	11.4
322-2	10.0	10.5	10.5	10.7	10.7	10.5
VBCH 1519 BG II	8.7	12.4	11.7	12.8	11.2	11.4
MLCH 318 BG II	10.0	10.5	10.1	10.4	9.7	10.1
RCH 20 BG II	9.2	11.9	13.6	14.6	10.8	12.0
RCH 2 Bt (C)	8.5	12.5	10.3	12.4	9.3	10.6
NCS 863 Bt 2	9.1	11.3	10.4	9.8	9.7	10.1
PRCH 333 BG II	9.3	11.3	10.9	10.5	9.8	10.4
ACH 53-2 BG II	12.7	13.1	12.7	12.5	12.0	12.6
JKCH 2255 (Event 1)	9.6	12.7	13.2	10.8	11.0	11.5
KDCHH 507 BG II	10.3	10.6	11.3	10.5	11.2	10.8
ABCH 143 BG II	12.6	11.4	11.1	11.3	12.0	11.7
Bunny (C)	12.0	11.5	10.7	11.3	11.0	11.3
VICH 301 BG II	9.7	13.3	12.6	11.9	11.2	11.7
UPLHH 189 (Fusion)	9.8	12.0	11.8	11.0	11.5	11.2
SP 700 B2	10.7	11.7	12.2	11.6	9.0	11.0
MRC 7373 BG II	9.2	11.0	12.3	13.4	10.3	11.2
Tulasi 252 BG II	6.9	11.3	11.9	12.2	12.5	11.0
Sarju BG II	8.8	11.7	11.9	11.5	11.0	11.0
Jai BG II	10.0	11.5	12.9	10.9	10.7	11.2
SBCH 311 (Fusion)	9.0	10.9	9.7	11.5	10.5	10.3
NSPL 423 BG II	10.0	10.8	10.4	11.0	10.7	10.6
JKCH 2245	10.0	11.1	10.6	12.2	9.7	10.7
JKCH Indra Bt	9.6	10.6	10.5	12.0	10.7	10.7

Table 6: Seed cotton yield (kg/ha)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean	% Inc. Over RCH 2 Bt (c)	% Inc. Over Bunny (c)
SWCH 2 BG II	1470	2701	2185	1692	3077	2225	8.1	11.0
PCH 885 Bt 2	2130	2646	2041	1438	2562	2163	5.1	7.9
UPLHH 271 (Fusion)	2284	2331	2216	1471	2164	2093	1.7	4.4
322-2	1805	2120	2260	2061	2225	2094	1.8	4.5
VBCH 1519 BG II	2064	2468	2569	1517	2147	2153	4.6	7.4
MLCH 318 BG II	1705	2775	2681	1569	1319	2010	-2.3	0.2
RCH 20 BG II	2103	2702	2223	2428	1825	2256	9.6	12.5
RCH 2 Bt (C)	1453	2479	2233	1646	2480	2058	0.0	2.6
NCS 863 Bt 2	1596	2687	2455	1734	1404	1975	-4.0	-1.5
PRCH 333 BG II	1500	2238	2125	1322	2225	1882	-8.5	-6.1
ACH 53-2 BG II	1748	1610	2124	1029	3074	1917	-6.8	-4.4
JKCH 2255 (Event 1)	1893	3121	2080	1240	2977	2262	9.9	12.8
KDCHH 507 BG II	2346	2369	2174	1980	3020	2378	15.5	18.6
ABCH 143 BG II	1790	2651	2490	1283	2007	2044	-0.7	2.0
Bunny (C)	2272	2430	1356	1718	2251	2005	-2.6	0.0
VICH 301 BG II	2341	2402	2009	1582	3518	2370	15.2	18.2
UPLHH 189 (Fusion)	1500	2564	1978	1142	1757	1788	-13.1	-10.8
SP 700 B2	2056	2341	2333	1662	2175	2113	2.7	5.4
MRC 7373 BG II	2560	2478	2694	2454	1897	2417	17.4	20.5
Tulasi 252 BG II	1963	2221	2079	1427	2406	2019	-1.9	0.7
Sarju BG II	1836	2181	2224	1456	2634	2066	0.4	3.1
Jai BG II	2251	2254	2309	1492	2143	2090	1.5	4.2
SBCH 311 (Fusion)	2705	2069	1943	2298	2437	2290	11.3	14.2
NSPL 423 BG II	2185	2455	2407	2155	2096	2260	9.8	12.7
JKCH 2245	2881	2188	2094	1872	2574	2322	12.8	15.8
JKCH Indra Bt	3078	2683	2344	2582	2954	2728	32.6	36.1
CD 5 %	441	448	998	274	341			
CV %	13	11	9	10	9			

Table 7: Lint yield (kg/ha)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean	% Inc. Over RCH 2 Bt (c)	% Inc. Over Bunny (c)
SWCH 2 BG II	551	969	750	618	1124	802	13.3	17.1
PCH 885 Bt 2	784	984	718	523	892	780	10.2	13.9
UPLHH 271 (Fusion)	875	872	857	518	784	781	10.3	14.0
322-2	626	795	818	742	829	762	7.6	11.3
VBCH 1519 BG II	665	867	891	523	764	742	4.8	8.3
MLCH 318 BG II	592	979	930	557	488	709	0.2	3.5
RCH 20 BG II	700	888	816	794	616	763	7.7	11.4
RCH 2 Bt (C)	504	843	826	582	784	708	0.0	3.3
NCS 863 Bt 2	485	957	950	652	461	701	-1.0	2.3
PRCH 333 BG II	473	765	706	466	661	614	-13.3	-10.4
ACH 53-2 BG II	582	567	780	358	1100	677	-4.3	-1.1
JKCH 2255 (Event 1)	655	1032	759	416	993	771	8.9	12.6
KDCHH 507 BG II	720	864	826	734	1093	847	19.7	23.7
ABCH 143 BG II	550	891	959	421	671	698	-1.4	1.9
Bunny (C)	716	839	509	599	764	685	-3.2	0.0
VICH 301 BG II	700	749	683	532	1201	773	9.2	12.8
UPLHH 189 (Fusion)	464	766	637	357	599	564	-20.3	-17.6
SP 700 B2	720	760	845	543	782	730	3.1	6.5
MRC 7373 BG II	983	852	984	836	646	860	21.5	25.6
Tulasi 252 BG II	607	727	732	469	774	662	-6.5	-3.4
Sarju BG II	762	841	939	544	858	789	11.4	15.1
Jai BG II	781	822	866	529	787	757	6.9	10.5
SBCH 311 (Fusion)	939	710	742	795	838	805	13.7	17.5
NSPL 423 BG II	778	900	939	786	698	820	15.8	19.7
JKCH 2245	1026	771	859	650	915	844	19.2	23.2
JKCH Indra Bt	1065	984	914	901	1100	993	40.2	44.9
CD 5 %		154		106	147			
CV %		11		11	11			

Table 8: 2.5% span length (mm) and Micronaire value

Name of Entry	2.5% span length (mm)				Micronaire value			
	Warangal	Coimbatore	Srivilliputtur	Mean	Warangal	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	27.9	28.4	34.5	30.3	3.2	4.3	6.3	4.6
PCH 885 Bt 2	31.3	29.3	31.8	30.8	4.0	4.6	5.5	4.7
UPLHH 271 (Fusion)	32.8	30.5	28.6	30.6	3.7	4.5	7.0	5.1
322-2	32.0	31.1	31.4	31.5	3.9	4.7	6.3	5.0
VBCH 1519 BG II	33.8	31.7	32.6	32.7	3.5	4.1	6.2	4.6
MLCH 318 BG II	28.6	28.6	28.1	28.4	3.8	4.6	5.7	4.7
RCH 20 BG II	33.9	31.7	27.5	31.0	3.8	4.7	5.5	4.7
RCH 2 Bt (C)	30.7	29.8	30.9	30.5	3.9	4.8	4.3	4.3
NCS 863 Bt 2	32.9	30.5	31.3	31.6	3.6	4.4	4.8	4.3
PRCH 333 BG II	30.9	30.2	30.8	30.6	3.3	4.8	4.2	4.1
ACH 53-2 BG II	29.6	30.3	29.9	29.9	3.0	4.3	6.7	4.7
JKCH 2255 (Event 1)	29.3	29.9	27.1	28.8	3.4	4.1	5.5	4.3
KDCHH 507 BG II	31.5	28.6	29.8	30.0	4.3	4.5	6.3	5.0
ABCH 143 BG II	32.2	29.4	31.0	30.9	3.1	3.9	6.0	4.3
Bunny (C)	31.8	31.2	30.9	31.3	3.8	4.4	5.7	4.6
VICH 301 BG II	32.0	28.5	30.0	30.2	4.4	4.4	5.8	4.9
UPLHH 189 (Fusion)	32.1	29.6	31.2	31.0	3.3	4.3	5.8	4.5
SP 700 B2	31.2	29.0	31.1	30.4	4.2	4.6	5.0	4.6
MRC 7373 BG II	32.3	31.3	30.5	31.4	4.5	4.6	5.3	4.8
Tulasi 252 BG II	30.6	30.3	30.5	30.5	3.5	4.1	6.0	4.5
Sarju BG II	29.2	28.3	30.8	29.4	3.7	4.3	5.3	4.4
Jai BG II	31.8	30.3	33.6	31.9	3.4	4.3	6.2	4.6
SBCH 311 (Fusion)	28.5	29.1	27.9	28.5	4.1	4.9	5.5	4.8
NSPL 423 BG II	32.1	30.2	30.7	31.0	4.1	4.5	5.3	4.6
JKCH 2245	33.2	31.2	32.6	32.3	3.9	4.7	5.3	4.6
JKCH Indra Bt	31.2	31.6	29.7	30.8	4.1	4.2	6.3	4.9

Table 9: Uniformity ratio and Strength (g/tex)

Name of Entry	Uniformity ratio				Strength (g/tex)			
	Warangal	Coimbatore	Srivilliputtur	Mean	Warangal	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	43.0	48.0	47.0	46.0	21.0	19.4	23.9	21.4
PCH 885 Bt 2	48.0	49.0	50.0	49.0	24.9	20.1	23.0	22.7
UPLHH 271 (Fusion)	50.0	49.0	52.0	50.3	24.0	20.0	19.8	21.3
322-2	48.0	49.0	46.0	47.7	23.8	21.1	21.5	22.1
VBCH 1519 BG II	46.0	47.0	47.0	46.7	22.4	20.7	24.7	22.6
MLCH 318 BG II	48.0	49.0	48.0	48.3	22.2	19.8	20.8	20.9
RCH 20 BG II	47.0	49.0	48.0	48.0	22.7	20.0	20.4	21.0
RCH 2 Bt (C)	47.0	49.0	49.0	48.3	23.2	20.5	21.5	21.7
NCS 863 Bt 2	50.0	51.0	52.0	51.0	24.4	21.1	22.2	22.6
PRCH 333 BG II	48.0	50.0	49.0	49.0	24.5	21.3	23.7	23.2
ACH 53-2 BG II	49.0	49.0	51.0	49.7	23.6	21.0	23.2	22.6
JKCH 2255 (Event 1)	44.0	51.0	52.0	49.0	24.1	23.0	19.4	22.2
KDCHH 507 BG II	50.0	53.0	48.0	50.3	22.2	19.7	22.2	21.4
ABCH 143 BG II	49.0	52.0	52.0	51.0	23.9	20.7	21.5	22.0
Bunny (C)	47.0	49.0	48.0	48.0	24.0	20.3	21.8	22.0
VICH 301 BG II	50.0	52.0	51.0	51.0	23.5	19.8	22.3	21.9
UPLHH 189 (Fusion)	49.0	50.0	48.0	49.0	23.0	20.6	22.7	22.1
SP 700 B2	50.0	53.0	51.0	51.3	24.2	20.7	23.5	22.8
MRC 7373 BG II	50.0	48.0	47.0	48.3	24.0	19.7	20.5	21.4
Tulasi 252 BG II	50.0	48.0	48.0	48.7	24.0	20.5	21.4	22.0
Sarju BG II	50.0	50.0	49.0	49.7	23.5	19.7	22.1	21.8
Jai BG II	43.0	48.0	47.0	46.0	23.4	21.1	22.5	22.3
SBCH 311 (Fusion)	51.0	52.0	52.0	51.7	24.6	21.0	21.6	22.4
NSPL 423 BG II	49.0	48.0	49.0	48.7	23.9	20.3	20.9	21.7
JKCH 2245	49.0	47.0	47.0	47.7	23.7	21.0	22.4	22.4
JKCH Indra Bt	49.0	50.0	53.0	50.7	22.5	21.6	21.5	21.9

Table 10: Jassid/ plant and Overall Jassid Injury Grade

Name of Entry	Jassid/ plant					Overall JIG		
	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	3.1	1.7	2.5	24.5	7.9	1.0	2.0	1.5
PCH 885 Bt 2	3.9	0.3	1.7	10.5	4.1	1.0	1.0	1.0
UPLHH 271 (Fusion)	2.5	1.3	1.6	31.5	9.2	1.0	3.0	2.0
322-2	4.4	1.2	2.1	15.0	5.7	2.0	1.0	1.5
VBCH 1519 BG II	4.3	1.8	2.2	13.5	5.5	2.0	1.0	1.5
MLCH 318 BG II	3.6	2.0	1.9	14.0	5.4	1.0	1.0	1.0
RCH 20 BG II	3.4	1.7	2.2	13.5	5.2	1.0	1.5	1.3
RCH 2 Bt (C)	3.7	2.3	1.8	30.0	9.5	2.0	3.0	2.5
NCS 863 Bt 2	3.0	1.3	1.8	13.0	4.8	2.0	1.5	1.8
PRCH 333 BG II	2.7	1.5	1.5	8.5	3.5	1.0	1.5	1.3
ACH 53-2 BG II	3.3	1.8	1.7	33.5	10.1	1.0	3.0	2.0
JKCH 2255 (Event 1)	4.1	0.0	1.9	15.0	5.2	2.0	1.5	1.8
KDCHH 507 BG II	4.4	2.5	1.8	35.0	10.9	1.0	3.0	2.0
ABCH 143 BG II	4.6	1.3	1.3	30.5	9.4	2.0	2.0	2.0
Bunny (C)	2.7	1.3	1.7	13.0	4.7	1.0	1.5	1.3
VICH 301 BG II	3.5	3.0	2.1	16.0	6.1	2.0	1.5	1.8
UPLHH 189 (Fusion)	3.7	1.8	1.9	14.5	5.5	2.0	1.5	1.8
SP 700 B2	3.3	2.0	1.9	14.5	5.4	2.0	1.0	1.5
MRC 7373 BG II	3.8	1.8	2.1	12.5	5.1	0.0	1.5	0.8
Tulasi 252 BG II	3.3	3.2	2.7	31.5	10.2	1.0	3.0	2.0
Sarju BG II	3.3	2.0	2.8	29.5	9.4	1.0	2.0	1.5
Jai BG II	4.1	1.7	2.1	30.5	9.6	1.0	2.0	1.5
SBCH 311 (Fusion)	4.2	0.5	1.7	15.0	5.4	1.0	1.0	1.0
NSPL 423 BG II	2.5	2.7	2.0	32.5	9.9	1.0	1.0	1.0
JKCH 2245	1.4	1.3	2.1	8.5	3.3	2.0	1.5	1.8
JKCH Indra Bt	2.2	0.5	2.1	16.5	5.3	1.0	1.0	1.0

Table 11: Whitefly/ plant and Thrips / 3 leaves

Name of Entry	Whitefly/ plant			Thrips / 3 leaves			
	Siruguppa	Coimbatore	Mean	Siruguppa	Raichur	Coimbatore	Mean
SWCH 2 BG II	2.1	0.0	1.0	3.3	16.5	0.9	6.9
PCH 885 Bt 2	2.7	0.0	1.3	3.5	7.3	0.4	3.8
UPLHH 271 (Fusion)	1.9	0.1	1.0	2.8	12.0	0.7	5.2
322-2	1.7	0.3	1.0	2.8	9.3	0.5	4.2
VBCH 1519 BG II	1.5	0.0	0.8	3.5	10.3	0.3	4.7
MLCH 318 BG II	2.2	0.0	1.1	3.9	17.5	0.1	7.2
RCH 20 BG II	1.6	0.4	1.0	2.7	12.3	0.1	5.0
RCH 2 Bt (C)	2.5	0.0	1.3	2.9	11.0	0.1	4.7
NCS 863 Bt 2	2.7	0.3	1.5	4.4	9.5	0.1	4.7
PRCH 333 BG II	2.9	0.0	1.4	3.3	14.3	0.0	5.9
ACH 53-2 BG II	1.9	0.0	1.0	2.1	10.7	0.4	4.4
JKCH 2255 (Event 1)	2.3	0.0	1.1	2.2	6.3	0.4	3.0
KDCHH 507 BG II	3.0	0.1	1.6	3.0	15.2	0.2	6.1
ABCH 143 BG II	1.6	0.0	0.8	3.9	11.0	0.0	5.0
Bunny (C)	2.3	0.1	1.2	3.1	8.0	0.0	3.7
VICH 301 BG II	2.5	0.0	1.3	3.6	9.7	0.0	4.4
UPLHH 189 (Fusion)	3.3	0.5	1.9	3.1	11.8	0.1	5.0
SP 700 B2	2.3	0.6	1.4	3.4	10.3	0.1	4.6
MRC 7373 BG II	2.7	0.4	1.6	2.9	13.5	0.0	5.5
Tulasi 252 BG II	2.7	0.5	1.6	2.9	19.8	0.3	7.7
Sarju BG II	4.1	0.0	2.0	2.8	14.5	0.0	5.8
Jai BG II	2.0	0.0	1.0	4.2	14.8	0.0	6.3
SBCH 311 (Fusion)	2.3	0.0	1.1	2.5	8.2	0.2	3.6
NSPL 423 BG II	2.3	0.0	1.1	6.1	10.8	0.5	5.8
JKCH 2245	2.5	0.0	1.2	5.1	15.7	0.1	6.9
JKCH Indra Bt	3.1	0.0	1.6	4.1	14.0	0.0	6.0

Table 12: Aphids / 3 leaves and Mealy bug Grading (0-4)

Name of Entry	Aphids / 3 leaves			Mealybug Grading (0-4)		
	Coimbatore	Srivilli puttur	Mean	Coimbatore	Srivilli puttur	Mean
SWCH 2 BG II	7.5	8.2	7.9	2.0	2.0	2.0
PCH 885 Bt 2	7.5	9.6	8.6	2.0	2.2	2.1
UPLHH 271 (Fusion)	9.4	9.7	9.6	2.0	2.1	2.1
322-2	10.3	8.4	9.4	3.0	2.1	2.6
VBCH 1519 BG II	7.7	12.7	10.2	1.0	2.5	1.8
MLCH 318 BG II	6.9	10.4	8.7	1.0	2.0	1.5
RCH 20 BG II	8.1	7.6	7.9	3.0	2.0	2.5
RCH 2 Bt (C)	10.5	8.6	9.6	2.0	2.3	2.2
NCS 863 Bt 2	10.6	7.6	9.1	2.0	2.2	2.1
PRCH 333 BG II	8.9	9.1	9.0	2.0	2.0	2.0
ACH 53-2 BG II	6.3	15.5	10.9	1.0	2.0	1.5
JKCH 2255 (Event 1)	5.1	11.4	8.3	3.0	2.2	2.6
KDCHH 507 BG II	6.6	11.5	9.1	1.0	2.2	1.6
ABCH 143 BG II	6.7	10.3	8.5	2.0	2.1	2.1
Bunny (C)	8.5	7.9	8.2	3.0	2.5	2.8
VICH 301 BG II	7.0	8.0	7.5	3.0	2.4	2.7
UPLHH 189 (Fusion)	9.3	6.8	8.1	3.0	2.1	2.6
SP 700 B2	7.8	9.9	8.9	2.0	2.1	2.1
MRC 7373 BG II	8.4	8.9	8.7	3.0	2.0	2.5
Tulasi 252 BG II	5.3	9.5	7.4	2.0	2.2	2.1
Sarju BG II	5.3	9.2	7.3	3.0	2.0	2.5
Jai BG II	7.4	8.2	7.8	2.0	2.0	2.0
SBCH 311 (Fusion)	6.0	5.1	5.6	3.0	2.2	2.6
NSPL 423 BG II	7.0	7.7	7.4	2.0	2.3	2.2
JKCH 2245	7.8	9.1	8.5	3.0	2.2	2.6
JKCH Indra Bt	6.5	15.5	11.0	2.0	2.5	2.3

Table 13: Open boll damage (%) and Locule damage (%)

Name of Entry	Open boll damage (%)				Locule damage (%)		
	Siruguppa	Coimbatore	Srivilli puttur	Mean	Siruguppa	Coimbatore	Mean
SWCH 2 BG II	6.4	0.3	8.1	4.9	2.5	0.0	1.3
PCH 885 Bt 2	8.2	1.0	7.7	5.6	3.2	0.0	1.6
UPLHH 271 (Fusion)	9.2	1.0	8.5	6.2	4.2	0.3	2.2
322-2	11.2	0.3	8.3	6.6	5.2	0.5	2.9
VBCH 1519 BG II	9.8	0.7	8.5	6.3	3.6	0.0	1.8
MLCH 318 BG II	10.8	0.0	12.3	7.7	6.8	0.0	3.4
RCH 20 BG II	6.8	0.0	8.2	5.0	3.2	0.0	1.6
RCH 2 Bt (C)	10.2	0.7	8.0	6.3	3.4	0.0	1.7
NCS 863 Bt 2	6.9	0.3	8.5	5.2	4.3	0.0	2.2
PRCH 333 BG II	12.4	1.0	8.0	7.1	3.2	0.0	1.6
ACH 53-2 BG II	14.8	0.7	8.2	7.9	5.9	0.0	2.9
JKCH 2255 (Event 1)	6.4	0.0	8.1	4.8	2.3	0.0	1.1
KDCHH 507 BG II	8.2	0.7	10.0	6.3	4.3	0.0	2.2
ABCH 143 BG II	7.9	0.3	6.2	4.8	2.8	0.0	1.4
Bunny (C)	15.7	1.3	6.6	7.9	9.3	0.3	4.8
VICH 301 BG II	11.4	0.0	8.8	6.7	3.4	0.0	1.7
UPLHH 189 (Fusion)	9.6	0.7	9.6	6.6	3.2	0.0	1.6
SP 700 B2	10.8	0.0	9.0	6.6	3.2	0.0	1.6
MRC 7373 BG II	8.3	1.3	6.2	5.3	4.6	0.0	2.3
Tulasi 252 BG II	6.7	1.7	8.0	5.5	3.9	0.0	1.9
Sarju BG II	12.7	0.3	6.2	6.4	5.6	0.0	2.8
Jai BG II	6.9	0.0	5.0	4.0	4.3	0.0	2.2
SBCH 311 (Fusion)	8.6	0.0	6.2	4.9	4.3	0.0	2.1
NSPL 423 BG II	7.7	0.0	6.2	4.6	4.0	0.0	2.0
JKCH 2245	10.2	0.0	5.0	5.1	6.2	0.0	3.1
JKCH Indra Bt	5.9	0.0	8.2	4.7	4.6	0.0	2.3

Table 14: Number of sprays for Sucking pests and Bollworm

Name of Entry	Sucking pests				Bollworms			
	Siruguppa	Coimbatore	Srivilliputtur	Mean	Siruguppa	Coimbatore	Srivilliputtur	Mean
SWCH 2 BG II	3.0	3.0	2.0	2.7	2.0	0.0	0.0	0.7
PCH 885 Bt 2	3.0	3.0	1.0	2.3	2.0	0.0	0.0	0.7
UPLHH 271 (Fusion)	3.0	3.0	2.0	2.7	2.0	0.0	3.0	1.7
322-2	3.0	3.0	1.0	2.3	3.0	0.0	3.0	2.0
VBCH 1519 BG II	3.0	3.0	1.0	2.3	2.0	0.0	3.0	1.7
MLCH 318 BG II	3.0	3.0	1.0	2.3	3.0	0.0	3.0	2.0
RCH 20 BG II	3.0	3.0	1.0	2.3	2.0	0.0	0.0	0.7
RCH 2 Bt (C)	3.0	3.0	2.0	2.7	2.0	0.0	0.0	0.7
NCS 863 Bt 2	3.0	3.0	1.0	2.3	3.0	0.0	2.0	1.7
PRCH 333 BG II	3.0	3.0	1.0	2.3	2.0	0.0	0.0	0.7
ACH 53-2 BG II	3.0	3.0	2.0	2.7	2.0	0.0	0.0	0.7
JKCH 2255 (Event 1)	3.0	3.0	1.0	2.3	2.0	0.0	0.0	0.7
KDCHH 507 BG II	3.0	3.0	2.0	2.7	2.0	0.0	2.0	1.3
ABCH 143 BG II	3.0	3.0	2.0	2.7	3.0	0.0	0.0	1.0
Bunny (C)	3.0	3.0	1.0	2.3	4.0	0.0	0.0	1.3
VICH 301 BG II	3.0	3.0	1.0	2.3	3.0	0.0	2.0	1.7
UPLHH 189 (Fusion)	3.0	3.0	1.0	2.3	2.0	0.0	2.0	1.3
SP 700 B2	3.0	3.0	1.0	2.3	2.0	0.0	2.0	1.3
MRC 7373 BG II	3.0	3.0	1.0	2.3	3.0	0.0	2.0	1.7
Tulasi 252 BG II	3.0	3.0	2.0	2.7	2.0	0.0	0.0	0.7
Sarju BG II	3.0	3.0	2.0	2.7	3.0	0.0	0.0	1.0
Jai BG II	3.0	3.0	2.0	2.7	2.0	0.0	0.0	0.7
SBCH 311 (Fusion)	3.0	3.0	1.0	2.3	2.0	0.0	2.0	1.3
NSPL 423 BG II	3.0	3.0	1.0	2.3	2.0	0.0	0.0	0.7
JKCH 2245	3.0	3.0	1.0	2.3	3.0	0.0	0.0	1.0
JKCH Indra Bt	3.0	3.0	1.0	2.3	2.0	0.0	2.0	1.3

INTRA HIRSUTUM HYBRID (IHH) TRIAL SET B (IRRIGATED)

BIOMETRICAL EVALUATION

Final Plant Stand: Plant stand at harvest was adequate at all the locations in all the entries, except that of VBCH 1520 BG II at Srivilliputtur and Coimbatore (Table 15).

Boll Weight: The overall Mean Boll weight of the Bt hybrids varied from 4.6 to 6.0g. The Bt check hybrid recorded a mean boll weight of 4.8g. SWCH 4720 BG II recorded the highest boll weight of 6.0 g (Table 16).

Ginning Outturn: The mean ginning outturn of the Bt cotton hybrids varied from 32.7 to 37.0%. Hybrid Solar 60 BG II and UPLHH 10 (Fusion) have recorded the highest ginning outturn of 37 per cent. The Bt check hybrid RCH 2 Bt and non-Bt check hybrid both recorded a mean ginning out turn of 34.8 per cent (Table 17).

Lint Index and Seed Index: The Bt hybrids had lint index in the range of 5.1 to 6.4 with Bt hybrid check and non-Bt check hybrid both recording 6.0 (Table 18). The seed index ranged from 9.4 to 12.3 with RCH 614 BG II and VICH 303 BG II having higher index of 12.3 (Table 19).

Mean Seed Cotton Yield under ETL based Plant Protection: The mean seed cotton yield recorded by the Bt cotton hybrids under irrigated conditions are presented in Table 20. Fifteen test Bt cotton hybrids recorded higher seed cotton yield than Bt check hybrid RCH 2 Bt, while nineteen test hybrids recorded higher seed cotton yield over non-Bt check hybrid. JKCH 1305 (Event 1) and SWCH 4720 BG II recorded the highest mean yield or around 26 q/ha. Three hybrids showed lesser lint yield as compared to Bt check hybrid (679 kg/ha) (Table 21).

Fiber Quality Evaluation: Fiber quality data on fiber length, strength, micronaire, uniformity ratio are presented in Tables 22 and 23. Most of the test hybrids had equal or better fiber length than that of Bt check hybrid (29.3 mm). Entry RCH 614 BG II recorded higher span length of 34.7 mm. Entries UPLHH 10 (Fusion) and UPLHH 7 (Fusion) had lesser fiber lengths of 27.6 mm. The hybrid entries had around 3.8 – 4.5 as regards micronaire is concerned; Similarly, fiber strength did not exhibit much variation. The Bt hybrids had fiber strength in the range of 19.3 – 23.2 g/tex. Characteristic variation could not be noticed for the uniformity ratio with most of the hybrids showing around 49%.

ETL BASED ENTOMOLOGICAL EVALUATION

Sucking pests and bollworms: The data on incidences of sap sucking pests and bollworms were recorded and the details are given in Tables 24-29. Jassids, whitefly, thrips and mealy bugs were observed in all test Bt hybrids at different centres under irrigated conditions. Jassid population was high at Srivilliputtur center and the entry UPLHH 7 (Fusion) recorded less jassid infestation level of 3.7 per three leaves. However, there was no difference in the population level of thrips, aphid, whitefly and mealy bug among test hybrids including Bt and non-Bt checks across the centers.

Larval populations of *Earias sp.*, *Helicoverpa armigera* and *Pectinophora gossypiella* were, in general, rather low. Open boll damage per cent ranged from 4.3 to 7 % while locule damage per cent ranged from 1.1 to 3.6 in test hybrids. Open boll damage and locule damage was high at Siruguppa center and the entry JKCH 1305 (Event 1) recorded maximum open boll damage of 15.4 at Srivilliputtur. Fifteen test hybrids recorded less open boll damage as compared to Bt check and all the eighteen test entries have shown less locule damage as compared to Bt Check.

Pathological Evaluation: It was seen that PCH 886 Bt 2, UPLHH 10 (Fusion), ABCH 148 BG II recorded higher level of incidence of Alternaria Leaf Spot (PDI being 60 and above), while Solar 60 BG II exhibited higher susceptibility to rust.

Summary Table: SET – B Irrigated Trials

Name of Entry	Stand at harvest (no. of plants)	Mean boll weight (g)	Mean Ginning Out Turn (%)	Lint index	Seed index (g)	Seed cotton yield (kg/ha)	Lint yield (kg/ha)	2.5% span length (mm)	Micronaire value	Uniformity ratio	Strength (g/tex)
VCH 603 BGII	55.0	5.4	36.6	5.9	10.1	2268	832	29.1	4.3	49.0	20.0
MRC 7383 BG II	54.3	5.4	33.3	5.6	11.0	2193	729	31.3	4.2	48.3	21.2
Bunny (C)	55.0	5.0	34.8	6.0	11.3	1600	557	30.6	4.2	48.7	22.0
Ankur 3034 BG II	55.7	5.1	33.5	5.6	10.8	2405	809	31.8	4.1	48.0	22.4
Tulasi 171 BG II	54.0	5.6	32.7	5.5	11.3	2315	758	29.7	4.2	48.7	22.3
VBCH 1520 BG II	44.3	5.6	32.8	5.1	10.2	1826	602	28.5	4.5	51.0	22.1
Solar 60 BG II	53.7	5.4	37.0	6.4	10.9	2305	853	30.1	4.5	49.3	21.4
UPLHH 10 (Fusion)	56.7	5.6	37.0	6.1	10.2	1831	686	27.6	4.1	48.7	19.3
ABCH 148 BG II	55.0	4.9	36.3	5.8	10.2	2246	814	30.3	4.1	50.7	21.3
RCH 2 Bt (C)	54.7	4.8	34.8	6.0	11.2	1948	679	29.3	4.1	47.7	20.4
RCH 614 BG II	55.3	5.5	34.2	6.2	12.3	2323	780	34.7	3.9	46.0	22.2
JKCH 1305 (Event 1)	54.0	5.2	36.2	6.4	10.8	2630	973	29.5	4.4	49.7	20.7
NCS 864 Bt 2	55.0	5.4	36.1	5.9	10.4	2445	884	30.4	4.3	50.3	22.5
SWCH 4720 BG II	55.3	6.0	33.8	5.8	11.8	2581	878	31.0	4.1	46.0	21.1
UPLHH 7 (Fusion)	53.7	4.6	34.2	4.9	9.4	1919	646	27.6	3.8	48.3	20.7
NSPL 432 BG II	55.0	4.9	34.6	5.5	10.6	2441	840	33.2	3.9	48.7	23.2
VICH 303 BG II	55.3	5.5	34.1	6.2	12.3	2143	723	31.2	4.5	50.0	22.5
NCEH 29	54.0	5.4	35.5	5.4	10.4	2118	739	32.0	4.3	48.7	22.4
PCH 886 Bt 2	52.0	5.4	35.0	5.6	10.3	2366	835	30.7	4.3	49.0	22.4
SP 1171 B2	52.7	5.2	34.1	5.6	11.1	2124	712	31.7	4.3	49.7	22.9

Summary Table: SET –B Irrigated Trials

Name of Entry	Jassid/ plant	Whitefly/ plant	Thrips / 3 leaves	Aphids / 3 leaves	Mealy bug Grading (0-4)	Open boll damage (%)	Locule damage (%)	No. of Sprays for Sucking pests	No. of Sprays for Bollworms
VCH 603 BGII	10.8	0.6	2.6	9.9	1.7	4.6	1.6	2.7	1.0
MRC 7383 BG II	9.1	0.5	2.3	8.6	2.2	4.5	2.2	2.7	1.0
Bunny (C)	5.9	0.5	2.3	8.6	1.5	12.8	3.8	2.3	2.0
Ankur 3034 BG II	5.5	1.3	2.4	7.1	1.4	5.2	3.1	2.3	1.0
Tulasi 171 BG II	11.6	0.6	2.6	7.2	1.4	5.9	1.9	2.7	1.0
VBCH 1520 BG II	9.0	0.6	2.3	7.5	1.4	6.7	3.4	2.7	1.0
Solar 60 BG II	8.7	0.6	2.6	6.6	0.9	4.3	1.1	2.7	0.7
UPLHH 10 (Fusion)	11.1	0.6	2.7	5.5	1.2	6.3	3.3	2.7	1.0
ABCH 148 BG II	5.1	0.6	2.7	6.9	1.2	5.8	3.6	2.3	1.0
RCH 2 Bt (C)	11.4	0.6	2.3	7.2	0.9	6.5	4.7	2.7	1.0
RCH 614 BG II	9.3	0.9	2.3	8.3	0.9	6.0	3.1	2.7	1.0
JKCH 1305 (Event 1)	5.2	0.8	2.9	8.7	0.7	6.7	1.1	2.3	1.7
NCS 864 Bt 2	11.8	0.6	2.5	10.0	0.8	6.4	2.7	2.7	1.3
SWCH 4720 BG II	5.4	0.7	2.0	9.1	0.6	6.4	1.1	2.3	0.7
UPLHH 7 (Fusion)	3.7	0.7	2.9	6.3	1.7	7.0	3.6	2.3	1.0
NSPL 432 BG II	7.4	0.5	2.2	7.7	1.7	4.9	1.8	2.7	0.7
VICH 303 BG II	4.4	0.5	2.7	6.2	1.2	5.2	3.5	2.3	1.0
NCEH 29	5.9	0.5	2.1	7.9	1.1	6.3	2.4	2.3	0.7
PCH 886 Bt 2	8.7	0.6	2.7	9.0	2.2	4.9	1.9	2.7	0.7
SP 1171 B2	10.8	0.5	1.9	8.2	1.3	5.3	3.2	2.7	0.7

Table 15: Stand at harvest (number of plants)

Name of Entry	Siruguppa	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	60.0	52.0	53.0	55.0
MRC 7383 BG II	59.0	52.0	52.0	54.3
Bunny (C)	59.0	52.0	54.0	55.0
Ankur 3034 BG II	59.0	52.0	56.0	55.7
Tulasi 171 BG II	59.0	50.0	53.0	54.0
VBCH 1520 BG II	58.0	41.0	34.0	44.3
Solar 60 BG II	59.0	46.0	56.0	53.7
UPLHH 10 (Fusion)	60.0	54.0	56.0	56.7
ABCH 148 BG II	59.0	51.0	55.0	55.0
RCH 2 Bt (C)	59.0	52.0	53.0	54.7
RCH 614 BG II	60.0	53.0	53.0	55.3
JKCH 1305 (Event 1)	59.0	51.0	52.0	54.0
NCS 864 Bt 2	59.0	53.0	53.0	55.0
SWCH 4720 BG II	59.0	55.0	52.0	55.3
UPLHH 7 (Fusion)	58.0	52.0	51.0	53.7
NSPL 432 BG II	59.0	53.0	53.0	55.0
VICH 303 BG II	59.0	54.0	53.0	55.3
NCEH 29	59.0	53.0	50.0	54.0
PCH 886 Bt 2	59.0	48.0	49.0	52.0
SP 1171 B2	59.0	47.0	52.0	52.7

Table 16: Mean boll weight (g)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	4.8	5.6	6.1	5.4	5.0	5.4
MRC 7383 BG II	4.9	6.0	6.3	5.5	4.5	5.4
Bunny (C)	5.0	5.3	5.9	5.4	3.6	5.0
Ankur 3034 BG II	4.8	5.2	5.7	5.6	4.4	5.1
Tulasi 171 BG II	5.2	6.0	6.1	5.3	5.2	5.6
VBCH 1520 BG II	4.9	5.3	6.5	5.9	5.2	5.6
Solar 60 BG II	4.7	5.6	6.3	5.8	4.4	5.4
UPLHH 10 (Fusion)	5.0	5.9	6.6	5.4	5.3	5.6
ABCH 148 BG II	4.5	5.3	5.2	4.9	4.5	4.9
RCH 2 Bt (C)	4.6	5.0	5.4	4.9	4.0	4.8
RCH 614 BG II	5.5	5.7	6.2	5.9	4.2	5.5
JKCH 1305 (Event 1)	4.6	4.9	5.9	5.7	5.1	5.2
NCS 864 Bt 2	5.5	5.3	6.3	5.3	4.7	5.4
SWCH 4720 BG II	5.9	6.4	7.0	5.6	5.3	6.0
UPLHH 7 (Fusion)	4.2	4.7	4.7	4.3	5.2	4.6
NSPL 432 BG II	4.5	5.2	5.3	5.0	4.4	4.9
VICH 303 BG II	5.5	5.6	6.1	5.4	4.8	5.5
NCEH 29	5.5	5.5	5.9	5.3	4.7	5.4
PCH 886 Bt 2	5.3	5.6	6.1	5.5	4.3	5.4
SP 1171 B2	5.3	5.2	6.0	5.1	4.2	5.2

Table 17: Mean Ginning Out Turn (%)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	35.4	38.5	37.5	34.0	37.5	36.6
MRC 7383 BG II	34.8	32.9	33.0	33.0	32.6	33.3
Bunny (C)	35.7	34.3	34.5	33.9	35.7	34.8
Ankur 3034 BG II	32.0	35.2	32.5	33.6	34.4	33.5
Tulasi 171 BG II	33.0	31.1	33.0	32.7	33.5	32.7
VBCH 1520 BG II	28.4	33.9	33.5	34.2	33.8	32.8
Solar 60 BG II	36.6	36.9	38.0	37.5	36.1	37.0
UPLHH 10 (Fusion)	29.9	39.2	39.5	37.7	38.8	37.0
ABCH 148 BG II	35.6	36.2	37.0	37.1	35.6	36.3
RCH 2 Bt (C)	33.8	35.3	34.0	35.5	35.5	34.8
RCH 614 BG II	34.0	35.3	39.5	31.2	31.2	34.2
JKCH 1305 (Event 1)	33.2	35.3	40.9	36.4	35.2	36.2
NCS 864 Bt 2	37.0	35.3	37.0	36.0	35.1	36.1
SWCH 4720 BG II	29.6	35.3	35.0	34.5	34.8	33.8
UPLHH 7 (Fusion)	33.3	35.3	35.0	35.4	31.9	34.2
NSPL 432 BG II	32.3	35.3	36.0	33.0	36.3	34.6
VICH 303 BG II	33.9	35.3	36.0	33.1	32.0	34.1
NCEH 29	37.4	35.3	35.5	36.8	32.3	35.5
PCH 886 Bt 2	29.9	35.3	37.5	37.0	35.5	35.0
SP 1171 B2	32.6	35.3	36.0	33.7	32.7	34.1

Table 18: Lint index

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	4.6	6.6	5.9	7.0	5.5	5.9
MRC 7383 BG II	5.5	5.0	6.0	6.1	5.5	5.6
Bunny (C)	5.9	6.0	6.0	6.3	5.8	6.0
Ankur 3034 BG II	3.9	6.1	6.1	6.4	5.5	5.6
Tulasi 171 BG II	3.9	5.5	6.1	6.4	5.7	5.5
VBCH 1520 BG II	2.8	5.3	5.7	6.2	5.3	5.1
Solar 60 BG II	5.0	6.6	7.3	6.6	6.5	6.4
UPLHH 10 (Fusion)	3.3	7.1	7.2	6.7	6.3	6.1
ABCH 148 BG II	4.7	6.0	6.0	6.2	6.2	5.8
RCH 2 Bt (C)	4.7	6.1	6.2	6.5	6.3	6.0
RCH 614 BG II	4.6	6.3	7.3	7.3	5.3	6.2
JKCH 1305 (Event 1)	4.3	6.7	7.1	7.5	6.2	6.4
NCS 864 Bt 2	5.2	5.7	5.9	6.1	6.5	5.9
SWCH 4720 BG II	3.8	6.2	6.0	5.9	7.2	5.8
UPLHH 7 (Fusion)	3.9	4.5	5.4	5.8	4.7	4.9
NSPL 432 BG II	4.2	5.2	5.7	5.9	6.5	5.5
VICH 303 BG II	6.1	5.8	6.8	6.0	6.5	6.2
NCEH 29	3.8	5.4	6.0	6.0	5.8	5.4
PCH 886 Bt 2	3.7	5.6	6.8	6.1	6.0	5.6
SP 1171 B2	3.7	5.6	6.8	6.2	5.7	5.6

Table 19: Seed index (g)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	8.4	10.5	10.0	12.6	9.2	10.1
MRC 7383 BG II	9.5	10.3	12.2	11.9	11.3	11.0
Bunny (C)	10.7	11.5	11.4	12.2	10.5	11.3
Ankur 3034 BG II	8.3	11.3	11.1	12.6	10.5	10.8
Tulasi 171 BG II	7.9	12.1	12.4	12.7	11.2	11.3
VBCH 1520 BG II	7.0	10.4	11.5	11.8	10.5	10.2
Solar 60 BG II	8.6	11.4	12.0	11.0	11.5	10.9
UPLHH 10 (Fusion)	7.7	11.0	11.2	11.1	10.0	10.2
ABCH 148 BG II	8.6	10.7	10.3	10.4	11.2	10.2
RCH 2 Bt (C)	9.3	11.2	12.1	11.8	11.5	11.2
RCH 614 BG II	8.9	13.8	11.0	16.2	11.8	12.3
JKCH 1305 (Event 1)	8.6	10.4	10.3	13.2	11.3	10.8
NCS 864 Bt 2	8.8	10.0	10.1	10.9	12.2	10.4
SWCH 4720 BG II	9.1	11.7	12.9	11.9	13.3	11.8
UPLHH 7 (Fusion)	7.9	9.0	10.0	10.3	10.0	9.4
NSPL 432 BG II	8.8	10.6	10.2	12.1	11.3	10.6
VICH 303 BG II	12.0	11.4	12.1	12.2	13.8	12.3
NCEH 29	8.8	10.1	11.0	9.8	12.3	10.4
PCH 886 Bt 2	8.6	10.5	11.4	10.4	10.8	10.3
SP 1171 B2	7.7	11.8	12.2	12.3	11.7	11.1

Table 20: Seed cotton yield (kg/ha)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean	% Inc. Over RCH 2 Bt (c)	% Inc. Over Bunny (c)
VCH 603 BGII	1237	2201	2472	2449	2981	2268	16	42
MRC 7383 BG II	2092	1787	2485	2011	2589	2193	13	37
Bunny (C)	1575	1550	1198	2027	1649	1600	-18	0
Ankur 3034 BG II	1626	1875	2574	2526	3426	2405	23	50
Tulasi 171 BG II	1519	2228	2340	1651	3839	2315	19	45
VBCH 1520 BG II	1459	1653	1845	1852	2319	1826	-6	14
Solar 60 BG II	1804	2417	2636	1883	2787	2305	18	44
UPLHH 10 (Fusion)	1460	1765	2039	1075	2814	1831	-6	14
ABCH 148 BG II	1738	1803	2499	1667	3524	2246	15	40
RCH 2 Bt (C)	1325	1655	2573	2186	2001	1948	0	22
RCH 614 BG II	2212	2141	2526	2608	2126	2323	19	45
JKCH 1305 (Event 1)	2121	2794	2361	2603	3273	2630	35	64
NCS 864 Bt 2	1746	2144	2794	2145	3397	2445	26	53
SWCH 4720 BG II	1889	3037	2448	2356	3175	2581	32	61
UPLHH 7 (Fusion)	1394	1627	2182	1584	2810	1919	-1	20
NSPL 432 BG II	1642	2479	2476	2258	3349	2441	25	53
VICH 303 BG II	2098	1877	2466	1487	2787	2143	10	34
NCEH 29	1521	2053	2123	1831	3062	2118	9	32
PCH 886 Bt 2	1712	2651	2623	2011	2834	2366	21	48
SP 1171 B2	1563	1785	2365	2202	2703	2124	9	33
CD 5 %	365	393		208	381			
CV %	13	11		8	8			

Table 21: Lint yield (kg/ha)

Name of Entry	Warangal	Siruguppa	Raichur	Coimbatore	Srivilliputtur	Mean	% Inc. Over RCH 2 Bt (c)	% Inc. Over Bunny (c)
VCH 603 BGII	438	846	927	834	1116	832	23	3
MRC 7383 BG II	728	588	820	664	845	729	7	-10
Bunny (C)	562	531	413	687	590	557	-18	-31
Ankur 3034 BG II	520	661	837	849	1178	809	19	0
Tulasi 171 BG II	501	691	772	538	1285	758	12	-6
VBCH 1520 BG II	414	560	618	633	786	602	-11	-26
Solar 60 BG II	660	890	1002	705	1006	853	26	5
UPLHH 10 (Fusion)	437	692	805	405	1091	686	1	-15
ABCH 148 BG II	619	656	925	620	1253	814	20	1
RCH 2 Bt (C)	448	584	875	777	710	679	0	-16
RCH 614 BG II	752	676	998	814	658	780	15	-4
JKCH 1305 (Event 1)	704	1095	966	947	1151	973	43	20
NCS 864 Bt 2	646	779	1034	772	1189	884	30	9
SWCH 4720 BG II	559	1055	857	813	1104	878	29	8
UPLHH 7 (Fusion)	464	543	764	560	897	646	-5	-20
NSPL 432 BG II	530	815	891	746	1218	840	24	4
VICH 303 BG II	711	631	888	492	891	723	6	-11
NCEH 29	569	716	754	673	984	739	9	-9
PCH 886 Bt 2	512	929	984	744	1006	835	23	3
SP 1171 B2	510	572	851	741	884	712	5	-12
CD 5 %		148		87	142			
CV %		12		9	9			

Table 22: 2.5% span length (mm) and Micronaire value

Name of Entry	2.5% span length (mm)				Micronaire value			
	Warangal	Coimbatore	Srivilliputtur	Mean	Warangal	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	27.6	30.7	29.0	29.1	3.3	4.8	4.9	4.3
MRC 7383 BG II	31.3	30.0	32.5	31.3	3.4	4.4	4.9	4.2
Bunny (C)	30.8	30.4	30.7	30.6	3.6	4.5	4.6	4.2
Ankur 3034 BG II	30.6	32.4	32.5	31.8	3.2	4.4	4.6	4.1
Tulasi 171 BG II	28.6	30.8	29.8	29.7	3.2	4.4	5.1	4.2
VBCH 1520 BG II	28.5	28.7	28.2	28.5	4.2	4.7	4.6	4.5
Solar 60 BG II	31.0	28.3	31.0	30.1	3.9	4.3	5.4	4.5
UPLHH 10 (Fusion)	27.1	27.3	28.5	27.6	3.2	4.4	4.7	4.1
ABCH 148 BG II	29.8	29.8	31.4	30.3	3.3	4.1	4.8	4.1
RCH 2 Bt (C)	28.1	28.9	31.0	29.3	3.3	4.6	4.4	4.1
RCH 614 BG II	35.3	34.8	34.0	34.7	3.5	4.3	3.8	3.9
JKCH 1305 (Event 1)	28.8	29.6	30.0	29.5	3.5	4.9	4.9	4.4
NCS 864 Bt 2	31.0	29.7	30.6	30.4	3.8	4.4	4.8	4.3
SWCH 4720 BG II	29.3	31.4	32.2	31.0	3.4	4.4	4.6	4.1
UPLHH 7 (Fusion)	27.8	27.1	27.9	27.6	2.8	4.1	4.4	3.8
NSPL 432 BG II	33.8	31.8	33.9	33.2	3.0	4.2	4.4	3.9
VICH 303 BG II	31.8	30.7	31.0	31.2	4.0	4.7	4.9	4.5
NCEH 29	32.9	31.7	31.3	32.0	3.8	4.3	4.7	4.3
PCH 886 Bt 2	30.9	29.9	31.3	30.7	3.8	4.5	4.6	4.3
SP 1171 B2	31.5	31.9	31.8	31.7	4.0	4.4	4.4	4.3

Table 23: Uniformity ratio and Strength (g/tex)

Name of Entry	Uniformity ratio				Strength (g/tex)			
	Warangal	Coimbatore	Srivilliputtur	Mean	Warangal	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	48.0	51.0	48.0	49.0	20.3	20.3	19.3	20.0
MRC 7383 BG II	48.0	50.0	47.0	48.3	21.8	20.1	21.6	21.2
Bunny (C)	48.0	49.0	49.0	48.7	23.6	20.7	21.8	22.0
Ankur 3034 BG II	46.0	50.0	48.0	48.0	23.7	21.2	22.2	22.4
Tulasi 171 BG II	48.0	49.0	49.0	48.7	24.6	21.8	20.4	22.3
VBCH 1520 BG II	50.0	52.0	51.0	51.0	23.5	21.1	21.8	22.1
Solar 60 BG II	50.0	49.0	49.0	49.3	23.7	19.1	21.5	21.4
UPLHH 10 (Fusion)	48.0	50.0	48.0	48.7	20.7	18.0	19.3	19.3
ABCH 148 BG II	50.0	50.0	52.0	50.7	21.5	21.2	21.3	21.3
RCH 2 Bt (C)	47.0	50.0	46.0	47.7	20.7	19.3	21.3	20.4
RCH 614 BG II	46.0	47.0	45.0	46.0	22.3	21.4	22.8	22.2
JKCH 1305 (Event 1)	48.0	51.0	50.0	49.7	21.6	18.8	21.6	20.7
NCS 864 Bt 2	50.0	51.0	50.0	50.3	24.8	20.8	21.8	22.5
SWCH 4720 BG II	46.0	46.0	46.0	46.0	21.5	19.4	22.4	21.1
UPLHH 7 (Fusion)	46.0	50.0	49.0	48.3	22.2	19.4	20.5	20.7
NSPL 432 BG II	46.0	50.0	50.0	48.7	24.6	21.0	24.0	23.2
VICH 303 BG II	49.0	51.0	50.0	50.0	24.2	21.2	22.0	22.5
NCEH 29	48.0	48.0	50.0	48.7	23.0	20.9	23.2	22.4
PCH 886 Bt 2	47.0	51.0	49.0	49.0	24.3	20.6	22.2	22.4
SP 1171 B2	49.0	49.0	51.0	49.7	23.9	21.5	23.3	22.9

Table 24: Mean number of Jassids / 3 leaves and Overall Jassid Injury Grade

Name of Entry	Jassids / 3 leaves				Overall JIG*		
	Siruguppa	Coimbatore	Srivilliputtur	Mean	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	1.3	1.7	29.5	10.8	2.0	2.5	2.3
MRC 7383 BG II	1.1	1.8	24.5	9.1	1.0	3.0	2.0
Bunny (C)	1.2	1.6	15.0	5.9	0.0	1.5	0.8
Ankur 3034 BG II	1.0	1.9	13.5	5.5	1.0	1.0	1.0
Tulasi 171 BG II	1.3	1.4	32.0	11.6	1.0	2.0	1.5
VBCH 1520 BG II	1.1	1.5	24.5	9.0	0.0	2.0	1.0
Solar 60 BG II	1.1	1.5	23.5	8.7	1.0	2.5	1.8
UPLHH 10 (Fusion)	1.3	2.0	30.0	11.1	2.0	3.0	2.5
ABCH 148 BG II	1.2	1.6	12.5	5.1	1.0	1.0	1.0
RCH 2 Bt (C)	1.1	1.6	31.5	11.4	1.0	2.5	1.8
RCH 614 BG II	1.2	1.8	25.0	9.3	1.0	2.0	1.5
JKCH 1305 (Event 1)	1.2	1.9	12.5	5.2	0.0	1.0	0.5
NCS 864 Bt 2	1.0	1.4	33.0	11.8	2.0	2.0	2.0
SWCH 4720 BG II	1.2	2.1	13.0	5.4	2.0	1.0	1.5
UPLHH 7 (Fusion)	1.1	1.6	8.5	3.7	2.0	1.0	1.5
NSPL 432 BG II	1.4	1.3	19.5	7.4	2.0	2.5	2.3
VICH 303 BG II	1.2	1.6	10.5	4.4	1.0	1.5	1.3
NCEH 29	1.6	1.6	14.5	5.9	1.0	1.0	1.0
PCH 886 Bt 2	1.3	1.2	23.5	8.7	1.0	2.5	1.8
SP 1171 B2	1.2	1.7	29.5	10.8	1.0	2.5	1.8

Table 25: Mean number of Whiteflies / 3 leaves and Thrips/ plant

Name of Entry	Mean number of Whiteflies / 3 leaves			Thrips/ plant		
	Siruguppa	Coimbatore	Mean	Siruguppa	Coimbatore	Mean
VCH 603 BGII	1.1	0.0	0.6	4.4	0.7	2.6
MRC 7383 BG II	1.1	0.0	0.5	4.6	0.0	2.3
Bunny (C)	0.9	0.0	0.5	4.1	0.5	2.3
Ankur 3034 BG II	2.5	0.1	1.3	4.4	0.3	2.4
Tulasi 171 BG II	1.2	0.0	0.6	4.6	0.6	2.6
VBCH 1520 BG II	1.1	0.2	0.6	4.5	0.0	2.3
Solar 60 BG II	1.2	0.0	0.6	5.2	0.0	2.6
UPLHH 10 (Fusion)	0.9	0.3	0.6	5.3	0.2	2.7
ABCH 148 BG II	1.2	0.0	0.6	4.9	0.5	2.7
RCH 2 Bt (C)	1.2	0.0	0.6	4.3	0.3	2.3
RCH 614 BG II	1.3	0.5	0.9	4.4	0.2	2.3
JKCH 1305 (Event 1)	1.1	0.4	0.8	5.7	0.1	2.9
NCS 864 Bt 2	1.1	0.0	0.6	4.8	0.2	2.5
SWCH 4720 BG II	1.0	0.5	0.7	3.9	0.1	2.0
UPLHH 7 (Fusion)	0.9	0.5	0.7	5.6	0.1	2.9
NSPL 432 BG II	0.9	0.0	0.5	4.4	0.0	2.2
VICH 303 BG II	1.0	0.1	0.5	5.4	0.0	2.7
NCEH 29	0.9	0.1	0.5	4.0	0.3	2.1
PCH 886 Bt 2	1.0	0.2	0.6	5.4	0.1	2.7
SP 1171 B2	0.9	0.0	0.5	3.5	0.3	1.9

Table 26: Mealybug Grading (0-4)

Name of Entry	Mealybug Grading (0-4)			Mean number of Aphids / 3 leaves		
	Coimbatore	Srivilliputtur	Mean	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	2.0	1.4	1.7	11.2	8.6	9.9
MRC 7383 BG II	2.0	2.4	2.2	8.9	8.2	8.6
Bunny (C)	1.0	1.9	1.5	8.2	8.9	8.6
Ankur 3034 BG II	1.0	1.8	1.4	7.9	6.3	7.1
Tulasi 171 BG II	1.0	1.8	1.4	6.5	7.9	7.2
VBCH 1520 BG II	1.0	1.8	1.4	7.0	8	7.5
Solar 60 BG II	0.0	1.8	0.9	4.9	8.2	6.6
UPLHH 10 (Fusion)	1.0	1.4	1.2	5.8	5.1	5.5
ABCH 148 BG II	1.0	1.3	1.2	6.4	7.3	6.9
RCH 2 Bt (C)	0.0	1.8	0.9	4.8	9.6	7.2
RCH 614 BG II	0.0	1.7	0.9	7.3	9.2	8.3
JKCH 1305 (Event 1)	0.0	1.4	0.7	9.1	8.2	8.7
NCS 864 Bt 2	0.0	1.5	0.8	10.5	9.5	10.0
SWCH 4720 BG II	0.0	1.2	0.6	9.3	8.9	9.1
UPLHH 7 (Fusion)	2.0	1.4	1.7	5.8	6.8	6.3
NSPL 432 BG II	1.0	2.4	1.7	6.9	8.4	7.7
VICH 303 BG II	1.0	1.3	1.2	5.5	6.8	6.2
NCEH 29	1.0	1.1	1.1	7.8	8	7.9
PCH 886 Bt 2	2.0	2.4	2.2	9.7	8.2	9.0
SP 1171 B2	1.0	1.5	1.3	7.8	8.5	8.2

Table 27: Open boll damage (%) and Locule damage (%)

Name of Entry	Open boll damage (%)				Locule damage (%)		
	Siruguppa	Coimbatore	Srivilliputtur	Mean	Siruguppa	Coimbatore	Mean
VCH 603 BGII	5.4	0.3	8.2	4.6	3.2	0.0	1.6
MRC 7383 BG II	6.5	0.7	6.2	4.5	4.4	0.0	2.2
Bunny (C)	15.8	1.0	21.7	12.8	7.3	0.3	3.8
Ankur 3034 BG II	8.2	1.3	6.1	5.2	6.3	0.0	3.1
Tulasi 171 BG II	11.2	0.0	6.5	5.9	3.8	0.0	1.9
VBCH 1520 BG II	11.0	0.3	8.7	6.7	6.8	0.0	3.4
Solar 60 BG II	4.5	0.7	7.6	4.3	2.2	0.0	1.1
UPLHH 10 (Fusion)	11.2	0.0	7.7	6.3	6.6	0.0	3.3
ABCH 148 BG II	10.0	1.3	6.1	5.8	7.2	0.0	3.6
RCH 2 Bt (C)	13.5	0.0	5.9	6.5	9.4	0.0	4.7
RCH 614 BG II	12.8	0.0	5.1	6.0	6.3	0.0	3.1
JKCH 1305 (Event 1)	4.5	0.3	15.4	6.7	2.2	0.0	1.1
NCS 864 Bt 2	8.7	1.0	9.6	6.4	5.4	0.0	2.7
SWCH 4720 BG II	12.3	0.3	6.6	6.4	2.2	0.0	1.1
UPLHH 7 (Fusion)	14.5	0.0	6.6	7.0	7.3	0.0	3.6
NSPL 432 BG II	6.6	1.0	7	4.9	3.6	0.0	1.8
VICH 303 BG II	8.9	0.0	6.7	5.2	6.7	0.3	3.5
NCEH 29	10.4	1.0	7.6	6.3	4.8	0.0	2.4
PCH 886 Bt 2	6.6	0.0	8.1	4.9	3.9	0.0	1.9
SP 1171 B2	7.6	0.0	8.2	5.3	6.5	0.0	3.2

Table 28: Number of sprays for Sucking pests

Name of Entry	Siruguppa	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	3.0	3.0	2.0	2.7
MRC 7383 BG II	3.0	3.0	2.0	2.7
Bunny (C)	3.0	3.0	1.0	2.3
Ankur 3034 BG II	3.0	3.0	1.0	2.3
Tulasi 171 BG II	3.0	3.0	2.0	2.7
VBCH 1520 BG II	3.0	3.0	2.0	2.7
Solar 60 BG II	3.0	3.0	2.0	2.7
UPLHH 10 (Fusion)	3.0	3.0	2.0	2.7
ABCH 148 BG II	3.0	3.0	1.0	2.3
RCH 2 Bt (C)	3.0	3.0	2.0	2.7
RCH 614 BG II	3.0	3.0	2.0	2.7
JKCH 1305 (Event 1)	3.0	3.0	1.0	2.3
NCS 864 Bt 2	3.0	3.0	2.0	2.7
SWCH 4720 BG II	3.0	3.0	1.0	2.3
UPLHH 7 (Fusion)	3.0	3.0	1.0	2.3
NSPL 432 BG II	3.0	3.0	2.0	2.7
VICH 303 BG II	3.0	3.0	1.0	2.3
NCEH 29	3.0	3.0	1.0	2.3
PCH 886 Bt 2	3.0	3.0	2.0	2.7
SP 1171 B2	3.0	3.0	2.0	2.7

Table 29: Number of sprays for Bollworms

Name of Entry	Siruguppa	Coimbatore	Srivilliputtur	Mean
VCH 603 BGII	3.0	0.0	0.0	1.0
MRC 7383 BG II	3.0	0.0	0.0	1.0
Bunny (C)	4.0	0.0	2.0	2.0
Ankur 3034 BG II	3.0	0.0	0.0	1.0
Tulasi 171 BG II	3.0	0.0	0.0	1.0
VBCH 1520 BG II	3.0	0.0	0.0	1.0
Solar 60 BG II	2.0	0.0	0.0	0.7
UPLHH 10 (Fusion)	3.0	0.0	0.0	1.0
ABCH 148 BG II	3.0	0.0	0.0	1.0
RCH 2 Bt (C)	3.0	0.0	0.0	1.0
RCH 614 BG II	3.0	0.0	0.0	1.0
JKCH 1305 (Event 1)	3.0	0.0	2.0	1.7
NCS 864 Bt 2	2.0	0.0	2.0	1.3
SWCH 4720 BG II	2.0	0.0	0.0	0.7
UPLHH 7 (Fusion)	3.0	0.0	0.0	1.0
NSPL 432 BG II	2.0	0.0	0.0	0.7
VICH 303 BG II	3.0	0.0	0.0	1.0
NCEH 29	2.0	0.0	0.0	0.7
PCH 886 Bt 2	2.0	0.0	0.0	0.7
SP 1171 B2	2.0	0.0	0.0	0.7

INTRA HIRSUTUM HYBRID (IHH) TRIAL SET - A (RAINFED)

BIOMETRICAL EVALUATION

Boll Weight and Mean bolls/plant: The overall Mean Boll weight of the Bt hybrids varied from 3.9 to 4.7 g. The entry Tulasi 135 BG II recorded higher boll weight of 6.3 g at Dharwad (Table 30). The Bt and non Bt check hybrids recorded a mean boll weight of 4.4 g.

Ginning Outturn: The mean ginning outturn of the Bt cotton hybrids varied from 34.8 to 38.7 %. Hybrid ABCH 146 BG II recorded the highest ginning outturn of 38.7 per cent. The Bt check Bt and Non-Bt check hybrid recorded a mean ginning out turn of 38.3% and 37.8%, respectively (Table 31).

Lint Index and Seed Index : The Bt hybrids had lint index in the range of 4.1 to 5.6 with Bt hybrid check and non-Bt check hybrid recording 5.1 and 5.2 respectively (Table 32). The seed index ranged from 9.3 to 11.5 with UPLHH 189 (Fusion) having higher seed index of 11.5 (Table 33).

Mean Seed Cotton Yield under ETL based Plant Protection: The mean seed cotton yield recorded by the Bt cotton hybrids under rainfed conditions of South Zone are presented in Table 34. Under rainfed conditions, only ten test Bt cotton hybrids recorded higher seed cotton yield than Bt check hybrid Bunny Bt, while fourteen test hybrids recorded higher seed cotton yield over non-Bt check hybrid. Around eight hybrids showed better lint yield as compared to Bt check hybrid (Table 35).

Fiber Quality Evaluation: Fiber quality data on fiber length, strength, micronaire, uniformity ratio are presented in Tables 36 to 39. Six test hybrids had better fiber length than Bt check hybrid (29.9mm) and nine test hybrid had higher fiber length than non-Bt check hybrid (29.7mm). The test hybrid entries had around 3.8 – 4.3 as regards micronaire is concerned. Similarly, fiber strength did not exhibit much variation, however, only three test hybrids had shown higher strength than non-Bt check. The hybrids had fiber strength in the range of 21.4 – 23.5 g/tex. Characteristic variation could not be noticed regarding uniformity ratio with most of the hybrids showing around 48%.

ETL BASED ENTOMOLOGICAL EVALUATION

Sucking pests and bollworms: The data on incidences of sap sucking pests and bollworms were recorded and the details are given in Tables 40 – 44. Jassids, whitefly, aphid, thrips and mealy bugs were observed in all test Bt hybrids at different centres under rainfed conditions. Jassid, thrips and aphid population were on the higher side in Dharwad centre and not much variation was noticed in sucking pest population in test and check hybrids.

Open boll damage was high at Dharwad and almost no damage was seen at LAM Guntur. Open boll damage, locule damage and square damage by bollworm were high UPLHH 189 (Fusion) followed by UPLHH 271 (Fusion) (Table 43, 44). The locule damage was high at Nandyal in all entries and mean locule damage varied between 2.4 and 12.4 % among entries across centers.

Pathological Evaluation: At Lam Guntur, Atal BG II, PCH 885 Bt 2, Ankur 3066 BG II and UPLHH 189 (Fusion) were moderately resistant to bacterial blight and other test hybrids showed lesser susceptibility to bacterial blight, whereas in Aruppukottai, very low to minimal incidence of bacterial blight, *Cercospora* leaf spot and grey mildew was noticed among the test entries. However, incidences of Tobacco Streak virus disease ranged from 3.13 to 15.63, with entries RCH 20 BG II, SWCH 4703 BG II, SBCH 310 (Fusion), ABCH 146 BG II, NCS 863 Bt 2 recording 15.63 PDI at Lam, Guntur.

Summary Table: SET –A Rainfed Trials

Name of Entry	Mean boll weight (g)	Mean Ginning Out Turn (%)	Lint index	Seed index (g)	Seed cotton yield (kg/ha)	Lint yield (kg/ha)	2.5% span length (mm)	Micronaire value	Uniformity ratio	Strength (g/tex)
Atal BG II	4.7	35.8	4.7	10.8	1592	530	31.5	4.1	46.7	23.0
PRCH 333 BG II	4.4	35.1	4.9	10.5	1542	501	29.5	3.8	46.7	23.4
Sarju BG II	4.4	36.7	5.3	11.2	1751	602	27.6	4.2	49.8	21.8
UPLHH 271 (Fusion)	4.6	36.2	4.4	11.0	1652	545	30.2	4.1	48.0	22.8
RCH 20 BG II	4.4	36.6	5.6	11.4	1783	614	31.3	4.0	46.6	23.0
Bunny (C)	4.4	37.8	5.2	10.2	1592	559	29.7	4.2	48.9	23.2
SWCH 4703 BG II	4.5	36.4	4.7	10.6	1568	532	30.7	4.2	47.1	22.6
PCH 885 Bt 2	4.3	36.6	5.1	10.3	1730	593	29.8	4.1	47.5	23.3
SBCH 310 (Fusion)	4.6	37.4	5.2	10.3	1857	650	28.6	4.0	48.1	21.9
Tulasi 135 BG	4.6	36.7	4.2	9.5	1516	512	28.7	4.2	49.0	22.4
Ankur 3066 BG II	4.5	36.7	5.1	10.8	1698	584	29.3	4.2	48.0	21.8
VCH 603 BGII	4.6	37.6	5.1	10.5	1641	565	27.1	4.2	50.1	21.4
ABCH 146 BG II	3.9	38.7	5.0	9.9	1536	543	27.3	4.0	49.0	21.9
JKCH 2004 (Event 1)	4.4	37.4	4.9	10.1	1876	667	27.6	4.3	49.5	21.8
SP 503 B2	4.3	36.2	5.3	10.4	1654	556	30.2	3.9	45.1	23.5
NCS 863 Bt 2	4.4	37.4	4.3	9.9	1709	595	29.8	4.3	48.8	22.5
Bunny Bt (C)	4.4	38.3	5.1	9.9	1642	581	29.9	4.1	47.0	22.0
MRC 7375 BG II	4.5	37.4	4.1	9.3	1880	663	29.8	3.9	47.6	21.7
UPLHH 189 (Fusion)	4.4	34.8	5.2	11.5	1602	514	30.1	3.8	48.7	23.0
VBCH 1516 BG II	4.5	36.5	5.0	10.2	1600	544	29.6	3.9	48.6	22.7

Summary Table: SET –A Rainfed Trials

Name of Entry	Jassid/ plant	Whitefly/ plant	Thrips / 3 leaves	Aphids / 3 leaves	% Square damage by Bollworms	Open boll damage (%)	Locule damage (%)
Atal BG II	2.9	0.9	7.6	8.4	3.4	5.7	5.7
PRCH 333 BG II	3.0	0.5	9.2	8.3	4.3	5.7	5.0
Sarju BG II	3.2	1.1	10.3	4.6	2.8	3.7	5.5
UPLHH 271 (Fusion)	3.0	1.1	9.7	4.7	5.7	9.6	10.7
RCH 20 BG II	4.2	1.2	11.2	7.8	4.2	9.9	6.1
Bunny (C)	4.3	0.9	9.4	6.5	7.9	13.0	8.2
SWCH 4703 BG II	3.0	0.7	9.3	5.4	3.7	5.7	5.2
PCH 885 Bt 2	2.9	0.8	10.6	6.0	3.7	5.7	8.0
SBCH 310 (Fusion)	3.8	0.6	10.0	7.9	4.0	4.5	8.3
Tulasi 135 BG	4.3	0.6	10.6	4.1	3.9	3.7	8.9
Ankur 3066 BG II	2.9	0.7	11.3	6.9	3.9	3.8	6.8
VCH 603 BGII	4.3	0.9	14.5	5.3	3.2	4.2	5.6
ABCH 146 BG II	4.4	0.4	9.2	4.1	3.6	6.2	11.5
JKCH 2004 (Event 1)	3.5	0.8	9.0	5.8	2.8	3.6	5.6
SP 503 B2	3.5	0.7	14.0	4.1	4.9	5.4	5.7
NCS 863 Bt 2	3.6	0.7	13.3	6.8	2.8	3.3	2.4
Bunny Bt (C)	3.3	0.6	12.0	6.6	5.0	7.8	8.1
MRC 7375 BG II	3.5	1.6	11.0	6.9	3.8	3.4	10.6
UPLHH 189 (Fusion)	2.8	0.8	13.9	3.9	5.4	11.2	12.4
VBCH 1516 BG II	3.2	0.9	13.6	6.4	3.7	6.8	10.6

Table 30: Mean boll weight (g)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppukottai	Mean
Atal BG II	5.6	5.0	5.3	3.9	3.6	4.7
PRCH 333 BG II	5.7	5.2	4.1	3.5	3.6	4.4
Sarju BG II	5.6	4.6	4.5	3.6	3.7	4.4
UPLHH 271 (Fusion)	6.2	5.7	4.5	2.9	3.5	4.6
RCH 20 BG II	5.7	4.5	4.8	3.1	3.9	4.4
Bunny (C)	5.4	4.6	5.1	3.1	3.6	4.4
SWCH 4703 BG II	5.6	5.1	4.6	3.6	3.7	4.5
PCH 885 Bt 2	5.3	5.7	4.1	3.1	3.5	4.3
SBCH 310 (Fusion)	5.3	4.8	5.3	3.6	4.0	4.6
Tulasi 135 BG II	6.3	5.2	3.7	4.2	3.4	4.6
Ankur 3066 BG II	5.7	5.5	4.2	3.7	3.2	4.5
VCH 603 BGII	5.4	5.5	4.2	4.4	3.5	4.6
ABCH 146 BG II	4.8	4.4	3.1	3.3	3.8	3.9
JKCH 2004 (Event 1)	5.4	5.2	3.6	4.0	3.9	4.4
SP 503 B2	5.0	4.7	4.7	3.8	3.5	4.3
NCS 863 Bt 2	5.9	5.1	4.2	3.6	3.1	4.4
Bunny Bt (C)	5.7	5.5	3.8	3.4	3.6	4.4
MRC 7375 BG II	5.7	5.4	4.1	3.3	3.8	4.5
UPLHH 189 (Fusion)	5.4	5.1	4.2	3.8	3.4	4.4
VBCH 1516 BG II	5.9	5.6	4.2	3.3	3.3	4.5

Table 31: Mean Ginning Out Turn (%)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppukottai	Mean
Atal BG II	37.0	35.0	37.7	32.4	36.8	35.8
PRCH 333 BG II	35.0	32.2	37.0	31.9	39.5	35.1
Sarju BG II	38.0	36.4	36.7	33.6	38.7	36.7
UPLHH 271 (Fusion)	37.0	34.2	36.7	33.5	39.7	36.2
RCH 20 BG II	35.0	37.7	37.0	33.8	39.3	36.6
Bunny (C)	37.0	38.5	39.0	33.9	40.9	37.8
SWCH 4703 BG II	38.0	35.8	37.0	34.3	37.1	36.4
PCH 885 Bt 2	40.0	35.4	36.7	34.7	36.3	36.6
SBCH 310 (Fusion)	38.0	36.1	39.3	34.5	38.9	37.4
Tulasi 135 BG II	38.0	34.2	39.3	33.5	38.5	36.7
Ankur 3066 BG II	38.0	38.7	37.0	34.7	35.2	36.7
VCH 603 BGII	40.0	38.6	41.7	31.7	35.9	37.6
ABCH 146 BG II	42.0	35.2	41.7	35.1	39.7	38.7
JKCH 2004 (Event 1)	39.0	36.8	36.3	35.4	39.3	37.4
SP 503 B2	38.0	35.7	38.0	33.4	35.7	36.2
NCS 863 Bt 2	40.0	32.8	42.7	35.5	36.2	37.4
Bunny Bt (C)	40.0	36.1	40.3	34.4	40.7	38.3
MRC 7375 BG II	39.0	36.7	38.0	33.7	39.7	37.4
UPLHH 189 (Fusion)	34.0	28.5	40.7	31.9	39.1	34.8
VBCH 1516 BG II	37.0	37.0	37.7	33.5	37.5	36.5

Table 32: Lint index

Name of Entry	Lam	Adilabad	Nandyal	Mean
Atal BG II	4.4	5.3	4.5	4.7
PRCH 333 BG II	4.2	4.4	6.1	4.9
Sarju BG II	4.9	5.1	5.8	5.3
UPLHH 271 (Fusion)	4.6	4.5	4.1	4.4
RCH 20 BG II	4.7	6.1	6.0	5.6
Bunny (C)	4.7	5.5	5.4	5.2
SWCH 4703 BG II	4.4	5.9	3.9	4.7
PCH 885 Bt 2	4.5	4.8	5.9	5.1
SBCH 310 (Fusion)	4.5	5.2	6.0	5.2
Tulasi 135 BG II	3.9	4.7	3.9	4.2
Ankur 3066 BG II	4.5	4.9	5.9	5.1
VCH 603 BGII	4.3	4.8	6.1	5.1
ABCH 146 BG II	4.3	4.6	6.1	5.0
JKCH 2004 (Event 1)	4.6	4.0	6.0	4.9
SP 503 B2	4.2	5.4	6.3	5.3
NCS 863 Bt 2	3.8	5.2	4.0	4.3
Bunny Bt (C)	4.4	4.6	6.3	5.1
MRC 7375 BG II	3.9	4.4	4.1	4.1
UPLHH 189 (Fusion)	4.6	5.2	5.9	5.2
VBCH 1516 BG II	4.7	4.1	6.2	5.0

Table 33: Seed index (g)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
Atal BG II	12.1	12.5	8.7	10.1	10.8
PRCH 333 BG II	11.5	13.0	7.2	10.3	10.5
Sarju BG II	12.7	13.6	8.6	10.1	11.2
UPLHH 271 (Fusion)	12.8	13.4	7.5	10.2	11.0
RCH 20 BG II	12.8	12.5	10.3	10.2	11.4
Bunny (C)	11.0	12.3	8.4	8.8	10.2
SWCH 4703 BG II	10.7	12.3	9.4	10.1	10.6
PCH 885 Bt 2	10.2	12.9	8.1	9.9	10.3
SBCH 310 (Fusion)	10.8	12.4	7.9	9.9	10.3
Tulasi 135 BG II	13.8	11.4	7.1	5.7	9.5
Ankur 3066 BG II	11.2	11.7	8.0	12.3	10.8
VCH 603 BGII	11.2	11.1	6.5	13.1	10.5
ABCH 146 BG II	10.6	12.3	6.3	10.2	9.9
JKCH 2004 (Event 1)	11.3	12.5	6.8	9.8	10.1
SP 503 B2	10.8	11.9	8.7	10.1	10.4
NCS 863 Bt 2	11.0	11.9	6.7	9.9	9.9
Bunny Bt (C)	10.6	12.2	6.7	10.0	9.9
MRC 7375 BG II	9.5	10.6	7.0	10.2	9.3
UPLHH 189 (Fusion)	11.8	16.4	7.5	10.1	11.5
VBCH 1516 BG II	10.9	12.8	6.6	10.3	10.2

Table 34: Seed cotton yield (kg/ha)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppu kottai	Mean	% Inc. Over Bunny Bt (c)	% Inc. Over Bunny (c)
Atal BG II	1250	1670	1029	2215	1794	1592	-3	0
PRCH 333 BG II	1276	1396	686	2594	1757	1542	-6	-3
Sarju BG II	1809	1578	914	2744	1712	1751	7	10
UPLHH 271 (Fusion)	1730	1609	800	2418	1703	1652	1	4
RCH 20 BG II	1899	1534	1029	2468	1985	1783	9	12
Bunny (C)	1044	1645	1029	2697	1546	1592	-3	0
SWCH 4703 BG II	1357	1722	686	2543	1530	1568	-5	-2
PCH 885 Bt 2	1658	1757	1040	2675	1521	1730	5	9
SBCH 310 (Fusion)	1140	1983	1371	2954	1838	1857	13	17
Tulasi 135 BG II	1689	1264	572	2640	1415	1516	-8	-5
Ankur 3066 BG II	1875	1659	801	2745	1410	1698	3	7
VCH 603 BGII	1587	1640	766	2804	1408	1641	0	3
ABCH 146 BG II	1368	1945	458	2504	1407	1536	-6	-3
JKCH 2004 (Event 1)	2114	1951	572	2935	1806	1876	14	18
SP 503 B2	1344	1707	1143	2702	1375	1654	1	4
NCS 863 Bt 2	2021	1675	915	2571	1363	1709	4	7
Bunny Bt (C)	1348	1869	1029	2636	1330	1642	0	3
MRC 7375 BG II	1964	1636	1257	2745	1800	1880	15	18
UPLHH 189 (Fusion)	1338	1241	1143	2977	1309	1602	-2	1
VBCH 1516 BG II	1793	1391	914	2599	1304	1600	-3	1
CD 5 %	294.0	225.7	105.2		461.0			
CV %	11.3	8.5	7.2		9.6			

Table 35: Lint yield (kg/ha)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppu kottai	Mean	% Inc. Over Bunny Bt (c)	% Inc. Over Bunny (c)
Atal BG II	462	585	388	556	661	530	-9	-5
PRCH 333 BG II	447	449	247	669	694	501	-14	-10
Sarju BG II	684	574	335	755	663	602	4	8
UPLHH 271 (Fusion)	646	550	211	643	676	545	-6	-3
RCH 20 BG II	666	578	381	666	781	614	6	10
Bunny (C)	383	633	402	744	633	559	-4	0
SWCH 4703 BG II	521	616	257	700	568	532	-8	-5
PCH 885 Bt 2	657	621	381	753	552	593	2	6
SBCH 310 (Fusion)	433	716	540	847	715	650	12	16
Tulasi 135 BG II	639	432	226	717	546	512	-12	-8
Ankur 3066 BG II	703	642	299	779	497	584	1	4
VCH 603 BGII	638	633	319	731	506	565	-3	1
ABCH 146 BG II	575	685	191	704	559	543	-7	-3
JKCH 2004 (Event 1)	834	719	208	862	710	667	15	19
SP 503 B2	509	609	435	736	491	556	-4	-1
NCS 863 Bt 2	805	550	390	736	493	595	2	6
Bunny Bt (C)	539	675	415	736	541	581	0	4
MRC 7375 BG II	765	601	478	757	715	663	14	19
UPLHH 189 (Fusion)	449	354	465	792	513	514	-11	-8
VBCH 1516 BG II	671	514	344	704	488	544	-6	-3
CD 5 %			48.3	93.4	205.0			
CV %			8.5	9.1	11.2			

Table 36: 2.5% span length (mm)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
Atal BG II	31.1	31.5	29.8	33.8	31.5
PRCH 333 BG II	30.0	29.2	26.2	32.8	29.5
Sarju BG II	28.3	26.9	27.3	28.0	27.6
UPLHH 271 (Fusion)	31.4	30.7	28.9	30.0	30.2
RCH 20 BG II	31.2	32.3	28.9	32.7	31.3
Bunny (C)	30.8	30.5	29.1	28.4	29.7
SWCH 4703 BG II	30.1	30.1	30.8	32.0	30.7
PCH 885 Bt 2	28.6	30.6	28.9	31.1	29.8
SBCH 310 (Fusion)	28.5	29.3	27.5	29.3	28.6
Tulasi 135 BG II	28.8	28.7	27.7	29.5	28.7
Ankur 3066 BG II	29.0	30.8	28.8	28.7	29.3
VCH 603 BGII	28.0	28.0	25.1	27.3	27.1
ABCH 146 BG II	28.6	28.0	24.0	28.6	27.3
JKCH 2004 (Event 1)	28.7	27.0	25.0	29.7	27.6
SP 503 B2	30.1	29.7	29.1	32.0	30.2
NCS 863 Bt 2	30.0	31.2	27.2	30.9	29.8
Bunny Bt (C)	29.6	31.3	27.4	31.2	29.9
MRC 7375 BG II	30.0	29.7	28.2	31.4	29.8
UPLHH 189 (Fusion)	31.0	30.5	27.9	31.0	30.1
VBCH 1516 BG II	29.0	30.4	27.4	31.6	29.6

Table 37: Micronaire value

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
Atal BG II	4.4	4.5	3.5	3.9	4.1
PRCH 333 BG II	4.3	4.2	3.0	3.7	3.8
Sarju BG II	4.4	4.5	3.4	4.5	4.2
UPLHH 271 (Fusion)	4.4	4.5	3.3	4.2	4.1
RCH 20 BG II	4.2	4.4	3.5	4.0	4.0
Bunny (C)	4.5	4.5	3.3	4.4	4.2
SWCH 4703 BG II	4.8	4.6	3.0	4.3	4.2
PCH 885 Bt 2	4.6	4.7	3.5	3.7	4.1
SBCH 310 (Fusion)	4.4	4.6	3.2	3.8	4.0
Tulasi 135 BG II	4.7	4.6	3.1	4.5	4.2
Ankur 3066 BG II	4.4	4.6	3.4	4.5	4.2
VCH 603 BGII	4.4	4.9	3.2	4.4	4.2
ABCH 146 BG II	4.6	4.9	3.0	3.4	4.0
JKCH 2004 (Event 1)	4.6	4.8	2.9	4.9	4.3
SP 503 B2	4.5	4.5	3.1	3.4	3.9
NCS 863 Bt 2	4.5	4.5	3.3	4.7	4.3
Bunny Bt (C)	4.4	4.6	3.1	4.5	4.1
MRC 7375 BG II	4.1	4.7	3.2	3.5	3.9
UPLHH 189 (Fusion)	4.2	4.3	3.3	3.5	3.8
VBCH 1516 BG II	4.2	4.1	2.8	4.4	3.9

Table 38: Uniformity ratio

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
Atal BG II	45.0	48.2	49.0	44.4	46.7
PRCH 333 BG II	45.0	48.6	49.0	44.1	46.7
Sarju BG II	49.0	48.7	50.0	51.4	49.8
UPLHH 271 (Fusion)	47.0	50.1	49.0	45.9	48.0
RCH 20 BG II	46.0	46.7	49.0	44.6	46.6
Bunny (C)	47.0	51.0	50.0	47.8	48.9
SWCH 4703 BG II	47.0	50.0	46.0	45.5	47.1
PCH 885 Bt 2	48.0	47.2	49.0	45.6	47.5
SBCH 310 (Fusion)	48.0	47.9	50.0	46.6	48.1
Tulasi 135 BG II	47.0	49.8	50.0	49.2	49.0
Ankur 3066 BG II	46.0	49.4	48.0	48.4	48.0
VCH 603 BGII	49.0	49.4	50.0	51.9	50.1
ABCH 146 BG II	48.0	50.3	49.0	48.7	49.0
JKCH 2004 (Event 1)	50.0	49.1	48.0	51.0	49.5
SP 503 B2	44.0	46.3	46.0	44.2	45.1
NCS 863 Bt 2	49.0	48.4	50.0	47.7	48.8
Bunny Bt (C)	45.0	49.4	47.0	46.5	47.0
MRC 7375 BG II	48.0	48.2	47.0	47.1	47.6
UPLHH 189 (Fusion)	47.0	49.4	50.0	48.4	48.7
VBCH 1516 BG II	47.0	50.1	48.0	49.4	48.6

Table 39: Strength (g/tex)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
Atal BG II	21.7	25.7	22.0	22.4	23.0
PRCH 333 BG II	22.0	26.9	22.4	22.4	23.4
Sarju BG II	21.8	23.5	20.5	21.4	21.8
UPLHH 271 (Fusion)	22.2	24.7	22.5	21.8	22.8
RCH 20 BG II	21.4	25.8	22.2	22.8	23.0
Bunny (C)	22.2	25.3	23.1	22.3	23.2
SWCH 4703 BG II	21.2	25.7	21.6	21.8	22.6
PCH 885 Bt 2	22.1	24.7	21.7	24.5	23.3
SBCH 310 (Fusion)	21.6	23.4	22.2	20.2	21.9
Tulasi 135 BG II	20.2	24.5	23.5	21.2	22.4
Ankur 3066 BG II	21.8	23.7	20.4	21.4	21.8
VCH 603 BGII	19.9	24.8	20.1	20.8	21.4
ABCH 146 BG II	20.6	25.3	18.8	22.7	21.9
JKCH 2004 (Event 1)	21.9	25.1	20.0	20.0	21.8
SP 503 B2	22.8	25.6	21.8	23.8	23.5
NCS 863 Bt 2	22.5	25.4	20.7	21.4	22.5
Bunny Bt (C)	21.9	25.0	20.4	20.5	22.0
MRC 7375 BG II	21.1	24.1	21.0	20.7	21.7
UPLHH 189 (Fusion)	23.1	25.5	21.6	22.0	23.0
VBCH 1516 BG II	22.0	25.4	22.9	20.5	22.7

Table 40: Jassid/ plant

Name of Entry	Dharwad	Lam	Nandyal	Aruppukottai	Mean
Atal BG II	6.3	3.0	0.8	1.6	2.9
PRCH 333 BG II	7.1	2.5	0.5	1.8	3.0
Sarju BG II	8.1	2.3	0.5	1.9	3.2
UPLHH 271 (Fusion)	7.3	2.5	0.5	1.8	3.0
RCH 20 BG II	7.9	6.5	0.6	1.7	4.2
Bunny (C)	7.1	3.8	0.7	5.6	4.3
SWCH 4703 BG II	6.6	2.8	0.6	1.8	3.0
PCH 885 Bt 2	6.1	3.5	0.6	1.4	2.9
SBCH 310 (Fusion)	7.8	2.5	0.5	4.4	3.8
Tulasi 135 BG II	4.5	5.0	0.6	7.2	4.3
Ankur 3066 BG II	6.7	2.5	0.5	1.9	2.9
VCH 603 BGII	7.7	4.3	0.6	4.6	4.3
ABCH 146 BG II	9.1	3.8	0.7	4.2	4.4
JKCH 2004 (Event 1)	7.3	5.0	0.7	1.1	3.5
SP 503 B2	7.3	4.3	0.6	1.7	3.5
NCS 863 Bt 2	8.3	4.0	0.5	1.7	3.6
Bunny Bt (C)	7.5	3.5	0.5	1.7	3.3
MRC 7375 BG II	6.3	5.8	0.5	1.5	3.5
UPLHH 189 (Fusion)	5.4	3.5	0.4	2.0	2.8
VBCH 1516 BG II	6.8	3.3	0.5	2.2	3.2

Table 41: Whitefly/ plant and Thrips/ plant

Name of Entry	Whitefly/ plant			Thrips/ plant		
	Lam	Nandyal	Mean	Dharwad	Nandyal	Mean
Atal BG II	1.4	0.4	0.9	14.3	0.8	7.6
PRCH 333 BG II	0.7	0.4	0.5	17.8	0.6	9.2
Sarju BG II	1.9	0.3	1.1	19.9	0.6	10.3
UPLHH 271 (Fusion)	1.6	0.6	1.1	18.6	0.7	9.7
RCH 20 BG II	1.6	0.7	1.2	21.7	0.6	11.2
Bunny (C)	1.2	0.6	0.9	18.2	0.7	9.4
SWCH 4703 BG II	0.9	0.5	0.7	18.2	0.5	9.3
PCH 885 Bt 2	1.1	0.5	0.8	20.7	0.6	10.6
SBCH 310 (Fusion)	0.3	0.9	0.6	19.3	0.7	10.0
Tulasi 135 BG II	0.7	0.4	0.6	20.7	0.6	10.6
Ankur 3066 BG II	0.7	0.7	0.7	22.1	0.5	11.3
VCH 603 BGII	1.3	0.5	0.9	28.4	0.7	14.5
ABCH 146 BG II	0.3	0.5	0.4	17.7	0.7	9.2
JKCH 2004 (Event 1)	1.2	0.5	0.8	17.3	0.6	9.0
SP 503 B2	0.8	0.6	0.7	27.5	0.5	14.0
NCS 863 Bt 2	0.8	0.6	0.7	26.2	0.4	13.3
Bunny Bt (C)	0.7	0.5	0.6	23.4	0.6	12.0
MRC 7375 BG II	1.4	1.7	1.6	21.3	0.7	11.0
UPLHH 189 (Fusion)	1.0	0.6	0.8	27.4	0.5	13.9
VBCH 1516 BG II	1.3	0.5	0.9	26.6	0.7	13.6

Table 42: Aphid/plant and Predators

Name of Entry	Aphid/plant				Predators		
	Dharwad	Lam	Nandyal	Mean	Dharwad	Nandyal	Mean
Atal BG II	19.2	4.8	1.4	8.4	0.4	0.1	0.2
PRCH 333 BG II	20.2	4.8	0.0	8.3	1.0	0.1	0.5
Sarju BG II	10.3	3.4	0.0	4.6	1.2	0.0	0.6
UPLHH 271 (Fusion)	10.2	4.0	0.0	4.7	0.8	0.1	0.4
RCH 20 BG II	13.2	10.1	0.0	7.8	0.6	0.1	0.3
Bunny (C)	13.7	4.4	1.4	6.5	0.0	0.0	0.0
SWCH 4703 BG II	10.2	3.1	2.8	5.4	0.6	0.1	0.3
PCH 885 Bt 2	14.7	1.9	1.4	6.0	1.2	0.2	0.7
SBCH 310 (Fusion)	19.7	4.0	0.0	7.9	1.4	0.1	0.7
Tulasi 135 BG II	9.3	3.0	0.0	4.1	0.6	0.0	0.3
Ankur 3066 BG II	17.8	1.5	1.4	6.9	0.8	0.1	0.4
VCH 603 BGII	13.9	2.1	0.0	5.3	0.6	0.1	0.3
ABCH 146 BG II	9.8	2.5	0.0	4.1	1.0	0.1	0.5
JKCH 2004 (Event 1)	14.8	2.5	0.0	5.8	0.6	0.0	0.3
SP 503 B2	9.8	2.5	0.0	4.1	0.8	0.1	0.4
NCS 863 Bt 2	16.8	2.4	1.4	6.8	0.8	0.0	0.4
Bunny Bt (C)	12.7	7.3	0.0	6.6	1.2	0.1	0.6
MRC 7375 BG II	17.7	2.8	0.0	6.9	0.4	0.1	0.2
UPLHH 189 (Fusion)	11.2	0.3	0.0	3.9	0.8	0.0	0.4
VBCH 1516 BG II	13.3	4.6	1.4	6.4	0.8	0.0	0.4

Table 43: % Square damage by Bollworms and Locule damage (%)

Name of Entry	% square damage by Bollworms				Locule damage (%)			
	Dharwad	Lam	Nandyal	Mean	Dharwad	Lam	Nandyal	Mean
Atal BG II	3.9	0.0	6.2	3.4	2.3	0.0	14.8	5.7
PRCH 333 BG II	3.4	0.0	9.5	4.3	2.2	0.0	12.8	5.0
Sarju BG II	1.6	0.0	6.7	2.8	3.9	0.0	12.7	5.5
UPLHH 271 (Fusion)	9.3	0.0	7.7	5.7	15.6	0.0	16.5	10.7
RCH 20 BG II	4.0	0.0	8.5	4.2	2.2	0.0	16.1	6.1
Bunny (C)	10.0	0.0	13.8	7.9	14.8	0.0	9.8	8.2
SWCH 4703 BG II	4.7	0.0	6.4	3.7	2.6	0.0	13.0	5.2
PCH 885 Bt 2	4.0	0.0	7.1	3.7	3.2	0.0	20.8	8.0
SBCH 310 (Fusion)	4.6	0.0	7.5	4.0	2.6	0.0	22.2	8.3
Tulasi 135 BG II	5.4	0.0	6.3	3.9	3.8	0.0	22.9	8.9
Ankur 3066 BG II	4.8	0.0	6.9	3.9	2.2	0.0	18.2	6.8
VCH 603 BGII	4.6	0.0	5.1	3.2	2.0	0.0	14.9	5.6
ABCH 146 BG II	4.8	0.0	6.0	3.6	4.8	0.0	29.8	11.5
JKCH 2004 (Event 1)	1.0	0.0	7.5	2.8	1.7	0.0	15.2	5.6
SP 503 B2	6.1	0.0	8.5	4.9	6.2	0.0	11.0	5.7
NCS 863 Bt 2	1.8	0.0	6.7	2.8	1.7	0.0	5.4	2.4
Bunny Bt (C)	6.1	0.0	8.8	5.0	6.2	0.0	18.1	8.1
MRC 7375 BG II	3.8	0.0	7.5	3.8	4.2	0.0	27.6	10.6
UPLHH 189 (Fusion)	10.3	0.0	5.9	5.4	18.9	0.4	17.8	12.4
VBCH 1516 BG II	3.8	0.0	7.3	3.7	3.2	0.0	28.5	10.6

Table 44: Open boll damage (%)

Name of Entry	Dharwad	Lam	Nandyal	Aruppukottai	Mean
Atal BG II	18.0	0.0	2.1	2.6	5.7
PRCH 333 BG II	15.5	0.0	6.3	1.0	5.7
Sarju BG II	9.3	0.0	3.5	1.8	3.7
UPLHH 271 (Fusion)	35.1	0.0	2.7	0.4	9.6
RCH 20 BG II	34.3	0.0	3.0	2.4	9.9
Bunny (C)	34.3	0.0	10.7	6.9	13.0
SWCH 4703 BG II	19.3	0.0	3.4	0.0	5.7
PCH 885 Bt 2	19.2	0.0	2.3	1.3	5.7
SBCH 310 (Fusion)	13.5	0.0	2.3	2.0	4.5
Tulasi 135 BG II	11.4	0.0	2.3	1.1	3.7
Ankur 3066 BG II	10.7	0.0	2.9	1.8	3.8
VCH 603 BGII	14.7	0.0	1.7	0.6	4.2
ABCH 146 BG II	19.5	0.0	4.5	0.9	6.2
JKCH 2004 (Event 1)	9.3	0.0	3.7	1.5	3.6
SP 503 B2	17.2	0.0	3.8	0.6	5.4
NCS 863 Bt 2	10.5	0.0	2.3	0.6	3.3
Bunny Bt (C)	24.0	0.0	5.7	1.3	7.8
MRC 7375 BG II	11.0	0.0	2.0	0.6	3.4
UPLHH 189 (Fusion)	36.8	1.6	3.2	3.0	11.2
VBCH 1516 BG II	23.0	0.0	2.2	1.9	6.8

INTRA HIRSUTUM HYBRID (IHH) TRIAL SET - B (RAINFED)

BIOMETRICAL EVALUATION

Boll Weight: The overall Mean Boll weight of the Bt hybrids varied from 3.7 to 4.5 g. The Bt check hybrid recorded a mean boll weight of 4.1 g. RCH 614 BG II recorded the highest boll weight of 4.5g (Table 45).

Ginning Outturn: The mean ginning outturn of the Bt cotton hybrids varied from 34.6 to 39.8 %. Hybrid KDCHH 9821 Bt recorded the highest ginning outturn of 39.5 per cent. The Bt and non-Bt check hybrids recorded mean ginning out turn of 36.5% and 36.7%, respectively (Table 46).

Lint Index and Seed Index: The Bt hybrids had lint index in the range of 4.0 to 5.5 with Bt hybrid check and non-Bt check hybrid recording 5.0 and 4.7, respectively (Table 47). The seed index ranged from 8.3 to 11.0 with UPLHH 10 (Fusion) having higher seed index of 11.0 (Table 48)

Mean Seed Cotton Yield under ETL based Plant Protection: The mean seed cotton yield recorded by the Bt cotton hybrids under rainfed conditions of South Zone are presented in Table 49. Ten test Bt cotton hybrids recorded higher seed cotton yield than Bunny Bt, while all the 17 test hybrids recorded higher seed cotton yield over non-Bt check hybrid. The Mean seed cotton yield of all the test hybrids varied between 16 and 18 q/ha. Eight hybrids showed better lint yield as compared to Bt check hybrid (Table 50)

Fiber Quality Evaluation: Fiber quality data on fiber length, strength, micronaire, uniformity ratio are presented in Tables 51 - 53. Fiber length varied between 27.3mm and 32.3mm with RCH 614 BG II recording higher fiber length. The test hybrid entries had around 3.5 – 4.5 micronaire value. Fiber strength did not exhibit much variation and most of the hybrids had fiber strength around 22 g/tex. Not much variation was noticed in uniformity ratio among test hybrids and most of the hybrids recorded uniformity ratio around 48%.

ETL BASED ENTOMOLOGICAL EVALUATION

Sucking pests and bollworms: The data on incidences of sap sucking pests and bollworms were recorded and the details are given in Tables 54 – 61. Jassids, whitefly, aphid, thrips and mealy bugs were observed in all test Bt hybrids at different centres under rainfed conditions. However, jassid, thrips and aphids population were on the higher side in Dharwad centre. Entry Ankur 3028 BG II recorded highest jassid infestation (14.3/plant) at Dharwad; RCH 614 BG II recorded highest thrips infestation (38.2/plant) at Dharwad; NSPL 666 BG II recorded highest aphid infestation (16.8/plant) at Dharwad. The square and locule damages was seen high at Nandyal and open boll damage recorded was high at Dharwad.

Pathological Evaluation: At Guntur, tobacco streak virus disease was seen to range from 0.0 to 18.75, with entries SP 1146 B2, VBCH 1521 BG II, Bunny Non Bt Check recording higher PDI of 15-18.75. Incidences of other diseases like bacterial blight, rust, alternaria leaf spot, and grey mildew were seen to be low to moderate in test entries. At Aruppukottai, there was very less incidence of leaf spot disease among test entries.

Summary Table: SET –B Rainfed Trials

Name of Entry	Mean boll weight (g)	Mean Ginning Out Turn (%)	Lint index	Seed index (g)	Seed cotton yield (kg/ha)	Lint yield (kg/ha)	2.5% span length (mm)	Micronaire value	Uniformity ratio	Strength (g/tex)
MRC 7377 BG II	4.3	37.5	5.1	9.8	1791	641	29.0	3.9	47.7	22.1
RCH 614 BG II	4.5	35.6	5.2	10.9	1771	598	32.3	3.7	46.9	23.5
UPLHH 7 (Fusion)	3.7	37.6	4.2	8.3	1670	594	27.3	3.5	48.4	21.7
SWCH 4715 BG II	4.1	35.2	4.1	9.6	1685	572	29.7	4.1	46.6	21.8
SP 1146 B2	4.3	34.6	4.0	10.4	1728	569	29.3	4.1	46.6	22.2
Bunny (C)	3.9	36.7	4.7	9.9	1378	481	29.9	4.1	47.7	21.7
NSPL 666 BG II	4.4	35.7	5.5	10.6	1777	618	30.0	4.1	46.9	22.3
ABCH 147 BG II	4.2	38.1	5.3	10.1	1628	591	28.3	3.6	48.8	23.0
VBCH 1521 BG II	4.0	36.0	5.3	10.6	1641	566	31.3	3.6	47.6	24.0
MLCH 318 BG II	3.8	35.8	4.9	9.7	1887	646	27.5	4.0	49.1	22.3
KDCHH 9821 Bt	4.3	39.8	5.1	9.9	1685	650	27.9	4.5	49.3	22.1
PCH 886 Bt 2	4.2	36.7	5.1	10.0	1772	625	30.5	3.9	47.9	23.3
JKCH 2246 (Event 1)	4.0	39.1	5.1	9.8	1764	657	27.8	3.7	46.2	22.0
Bunny Bt (C)	4.1	36.5	5.0	10.2	1708	598	30.4	3.8	46.8	23.1
Tulasi 144 BG II	4.3	34.7	5.0	10.3	1714	565	30.0	3.8	47.0	23.0
Ankur 3028 BG II	4.4	36.0	5.3	10.7	1935	678	30.0	4.0	48.8	22.9
NCS 864 Bt 2	4.2	37.1	4.3	9.8	1849	662	30.2	4.0	49.0	22.8
UPLHH 10 (Fusion)	4.1	37.4	5.4	11.0	1634	581	28.8	3.5	48.4	21.8

Summary Table: SET –B Rainfed Trials

Name of Entry	Jassid/ plant	Whitefly/ plant	Thrips / 3 leaves	Aphids / 3 leaves	% Square damage by Bollworms	Open boll damage (%)	Locule damage (%)
MRC 7377 BG II	3.4	1.1	13.5	4.7	3.7	4.8	7.6
RCH 614 BG II	3.3	0.5	19.4	5.4	3.6	5.5	5.9
UPLHH 7 (Fusion)	2.9	0.7	14.8	6.3	3.0	4.2	5.4
SWCH 4715 BG II	3.3	0.7	12.8	6.1	3.3	6.7	9.3
SP 1146 B2	2.9	0.8	10.1	3.5	2.6	4.3	11.4
Bunny (C)	2.5	0.8	13.5	3.3	6.7	12.5	12.7
NSPL 666 BG II	2.6	0.7	12.9	5.8	2.2	3.8	8.2
ABCH 147 BG II	3.3	0.9	11.8	4.1	2.5	4.0	9.2
VBCH 1521 BG II	2.3	0.6	14.7	3.7	3.4	4.9	10.0
MLCH 318 BG II	2.8	0.8	13.9	5.4	3.1	3.6	7.4
KDCHH 9821 Bt	2.2	0.5	13.5	3.2	2.6	3.2	6.3
PCH 886 Bt 2	2.7	0.5	15.5	3.9	2.0	3.1	4.5
JKCH 2246 (Event 1)	2.6	0.5	14.3	6.3	3.5	3.9	6.6
Bunny Bt (C)	2.7	0.5	10.2	4.6	3.6	4.0	8.3
Tulasi 144 BG II	3.9	0.7	14.3	4.4	2.4	3.7	5.0
Ankur 3028 BG II	4.8	0.7	11.0	5.0	2.1	2.6	5.5
NCS 864 Bt 2	2.7	0.7	7.1	4.3	2.2	2.1	3.7
UPLHH 10 (Fusion)	2.9	0.7	10.4	2.8	4.1	4.8	5.3

Table 45: Mean boll weight (g)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppukottai	Mean
MRC 7377 BG II	5.5	4.9	3.8	3.2	3.9	4.3
RCH 614 BG II	6.1	5.5	3.5	3.8	3.5	4.5
UPLHH 7 (Fusion)	4.4	4.7	2.9	2.6	3.7	3.7
SWCH 4715 BG II	5.9	4.9	3.5	2.6	3.8	4.1
SP 1146 B2	5.5	5.1	4.0	3.3	3.7	4.3
Bunny (C)	4.6	4.9	3.9	2.6	3.7	3.9
NSPL 666 BG II	5.9	5.8	3.8	3.2	3.4	4.4
ABCH 147 BG II	5.2	5.0	3.6	3.4	3.6	4.2
VBCH 1521 BG II	5.3	5.6	3.4	2.8	3.0	4.0
MLCH 318 BG II	4.3	4.1	4.1	2.8	3.9	3.8
KDCHH 9821 Bt	5.0	5.2	3.9	3.3	4.0	4.3
PCH 886 Bt 2	5.6	5.0	3.4	3.4	3.6	4.2
JKCH 2246 (Event 1)	4.6	5.1	3.4	3.4	3.6	4.0
Bunny Bt (C)	5.2	4.8	4.0	3.0	3.4	4.1
Tulasi 144 BG II	5.9	5.3	4.0	3.2	3.2	4.3
Ankur 3028 BG II	4.9	5.0	4.0	4.1	3.9	4.4
NCS 864 Bt 2	5.4	5.2	4.1	2.6	3.5	4.2
UPLHH 10 (Fusion)	5.9	4.8	3.7	2.9	3.4	4.1

Table 46: Mean Ginning Out Turn (%)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppukottai	Mean
MRC 7377 BG II	37.0	42.5	37.3	31.6	38.9	37.5
RCH 614 BG II	35.0	33.5	41.3	29.6	38.6	35.6
UPLHH 7 (Fusion)	36.0	41.0	41.7	31.5	38.0	37.6
SWCH 4715 BG II	32.0	38.0	34.7	33.2	38.2	35.2
SP 1146 B2	36.0	30.3	37.0	31.5	38.0	34.6
Bunny (C)	36.0	43.1	37.7	33.5	33.2	36.7
NSPL 666 BG II	37.0	38.4	33.3	34.3	35.2	35.7
ABCH 147 BG II	40.0	38.1	42.3	35.3	34.9	38.1
VBCH 1521 BG II	36.0	40.9	37.0	31.5	34.4	36.0
MLCH 318 BG II	37.0	34.2	37.7	31.5	38.5	35.8
KDCHH 9821 Bt	40.0	42.0	40.0	37.5	39.5	39.8
PCH 886 Bt 2	39.0	38.5	37.7	33.5	34.7	36.7
JKCH 2246 (Event 1)	42.0	37.3	41.7	35.4	39.1	39.1
Bunny Bt (C)	38.0	38.5	38.3	33.6	34.0	36.5
Tulasi 144 BG II	35.0	33.5	40.7	31.4	33.0	34.7
Ankur 3028 BG II	33.0	39.4	36.7	31.3	39.4	36.0
NCS 864 Bt 2	38.0	38.5	36.3	33.8	39.1	37.1
UPLHH 10 (Fusion)	41.0	35.4	42.0	33.6	34.9	37.4

Table 47: Lint index

Name of Entry	Lam	Nandyal	Mean
MRC 7377 BG II	4.4	5.9	5.1
RCH 614 BG II	4.2	6.2	5.2
UPLHH 7 (Fusion)	4.0	4.4	4.2
SWCH 4715 BG II	4.2	4.1	4.1
SP 1146 B2	3.7	4.2	4.0
Bunny (C)	4.3	5.1	4.7
NSPL 666 BG II	4.8	6.3	5.5
ABCH 147 BG II	4.4	6.1	5.3
VBCH 1521 BG II	4.6	6.0	5.3
MLCH 318 BG II	3.7	6.2	4.9
KDCHH 9821 Bt	4.5	5.7	5.1
PCH 886 Bt 2	4.1	6.0	5.1
JKCH 2246 (Event 1)	4.3	5.8	5.1
Bunny Bt (C)	4.8	5.1	5.0
Tulasi 144 BG II	4.2	5.8	5.0
Ankur 3028 BG II	4.6	6.0	5.3
NCS 864 Bt 2	4.3	4.3	4.3
UPLHH 10 (Fusion)	4.8	5.9	5.4

Table 48: Seed index (g)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
MRC 7377 BG II	10.9	10.3	8.3	9.9	9.8
RCH 614 BG II	12.2	13.1	6.7	11.8	10.9
UPLHH 7 (Fusion)	9.3	9.9	6.1	8.1	8.3
SWCH 4715 BG II	10.1	11.0	7.2	10.1	9.6
SP 1146 B2	11.8	12.4	7.7	9.9	10.4
Bunny (C)	11.6	10.2	7.5	10.2	9.9
NSPL 666 BG II	11.1	12.4	8.8	10.4	10.6
ABCH 147 BG II	11.3	11.7	7.2	10.1	10.1
VBCH 1521 BG II	11.4	11.5	7.5	12.0	10.6
MLCH 318 BG II	10.2	10.8	7.9	9.7	9.7
KDCHH 9821 Bt	10.0	10.7	8.7	10.3	9.9
PCH 886 Bt 2	10.7	11.4	7.9	10.2	10.0
JKCH 2246 (Event 1)	8.0	11.9	7.4	11.9	9.8
Bunny Bt (C)	11.0	12.7	8.0	9.2	10.2
Tulasi 144 BG II	11.8	12.6	7.0	9.9	10.3
Ankur 3028 BG II	11.4	11.9	7.7	11.7	10.7
NCS 864 Bt 2	9.9	11.2	8.1	10.1	9.8
UPLHH 10 (Fusion)	11.7	13.8	6.9	11.5	11.0

Table 49: Seed cotton yield (kg/ha)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppu kottai	Mean	% Inc. Over Bunny Bt (c)	% Inc. Over Bunny (c)
MRC 7377 BG II	1694	1550	1029	2756	1924	1791	5	30
RCH 614 BG II	1628	2273	938	2296	1721	1771	4	29
UPLHH 7 (Fusion)	1446	1906	583	2709	1704	1670	-2	21
SWCH 4715 BG II	1879	1924	456	2577	1588	1685	-1	22
SP 1146 B2	1780	2016	686	2600	1559	1728	1	25
Bunny (C)	1433	1428	514	2037	1477	1378	-19	0
NSPL 666 BG II	2280	1609	1029	2508	1460	1777	4	29
ABCH 147 BG II	1618	1544	686	2821	1469	1628	-5	18
VBCH 1521 BG II	1905	1658	686	2493	1462	1641	-4	19
MLCH 318 BG II	1938	1991	800	2797	1910	1887	10	37
KDCHH 9821 Bt	1938	1843	457	2282	1906	1685	-1	22
PCH 886 Bt 2	2107	1859	572	2873	1448	1772	4	29
JKCH 2246 (Event 1)	1863	2184	571	2777	1426	1764	3	28
Bunny Bt (C)	1712	1970	686	2748	1425	1708	0	24
Tulasi 144 BG II	1931	1809	800	2624	1404	1714	0	24
Ankur 3028 BG II	2014	2622	686	2516	1836	1935	13	40
NCS 864 Bt 2	2167	2087	799	2863	1329	1849	8	34
UPLHH 10 (Fusion)	1477	1387	1029	2931	1348	1634	-4	19
CD 5 %	12.5	306.1	NS		506.0			
CV %	377.0	10.2	8.7		11.6			

Table 50: Lint yield (kg/ha)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Aruppu kottai	Mean	% Inc. Over Bunny Bt (c)	% Inc. Over Bunny (c)
MRC 7377 BG II	621	658	384	791	749	641	7	33
RCH 614 BG II	571	761	387	606	664	598	0	24
UPLHH 7 (Fusion)	521	781	243	774	649	594	-1	23
SWCH 4715 BG II	592	731	160	772	607	572	-4	19
SP 1146 B2	648	610	255	740	593	569	-5	18
Bunny (C)	509	615	193	599	489	481	-20	0
NSPL 666 BG II	838	618	344	775	514	618	3	28
ABCH 147 BG II	654	589	291	908	512	591	-1	23
VBCH 1521 BG II	687	679	254	707	503	566	-5	18
MLCH 318 BG II	708	682	301	803	735	646	8	34
KDCHH 9821 Bt	778	773	182	762	753	650	9	35
PCH 886 Bt 2	812	716	215	878	503	625	5	30
JKCH 2246 (Event 1)	782	815	238	895	557	657	10	37
Bunny Bt (C)	646	758	263	840	484	598	0	24
Tulasi 144 BG II	683	607	325	746	463	565	-6	17
Ankur 3028 BG II	672	1034	251	709	723	678	13	41
NCS 864 Bt 2	820	803	287	883	519	662	11	38
UPLHH 10 (Fusion)	609	491	433	902	469	581	-3	21
CD 5 %			NS	111.5	206.0			
CV %			11.2	11.2	12.8			

Table 51: 2.5% span length (mm)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
MRC 7377 BG II	30.0	28.9	25.9	31.1	29.0
RCH 614 BG II	33.9	33.4	26.9	34.8	32.3
UPLHH 7 (Fusion)	27.5	27.5	25.3	28.9	27.3
SWCH 4715 BG II	30.1	29.5	27.8	31.4	29.7
SP 1146 B2	29.0	28.8	29.2	30.0	29.3
Bunny (C)	31.4	30.6	26.6	31.1	29.9
NSPL 666 BG II	30.9	29.7	28.7	30.6	30.0
ABCH 147 BG II	28.7	29.3	25.8	29.4	28.3
VBCH 1521 BG II	30.8	29.4	32.4	32.8	31.3
MLCH 318 BG II	27.7	26.6	28.1	27.7	27.5
KDCHH 9821 Bt	28.6	26.6	30.1	26.2	27.9
PCH 886 Bt 2	29.3	29.5	31.1	32.1	30.5
JKCH 2246 (Event 1)	29.2	28.4	26.0	27.6	27.8
Bunny Bt (C)	30.0	30.1	29.6	31.9	30.4
Tulasi 144 BG II	30.6	29.6	29.7	30.2	30.0
Ankur 3028 BG II	30.1	28.6	29.6	31.5	30.0
NCS 864 Bt 2	30.0	30.7	29.3	30.8	30.2
UPLHH 10 (Fusion)	28.5	28.2	29.1	29.4	28.8

Table 52: Micronaire value

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
MRC 7377 BG II	3.8	4.5	3.2	4.1	3.9
RCH 614 BG II	3.9	4.3	2.6	3.8	3.7
UPLHH 7 (Fusion)	3.7	4.1	2.5	3.6	3.5
SWCH 4715 BG II	4.0	4.8	3.2	4.4	4.1
SP 1146 B2	4.1	4.6	3.3	4.3	4.1
Bunny (C)	4.1	4.6	3.4	4.4	4.1
NSPL 666 BG II	4.3	4.7	3.5	3.9	4.1
ABCH 147 BG II	3.5	4.1	3.0	3.8	3.6
VBCH 1521 BG II	3.6	4.2	3.0	3.7	3.6
MLCH 318 BG II	3.7	4.2	3.8	4.4	4.0
KDCHH 9821 Bt	4.2	4.9	3.8	4.9	4.5
PCH 886 Bt 2	3.9	4.2	3.4	4.2	3.9
JKCH 2246 (Event 1)	3.8	4.8	2.6	3.7	3.7
Bunny Bt (C)	3.9	4.5	3.1	3.7	3.8
Tulasi 144 BG II	3.7	4.0	3.3	4.1	3.8
Ankur 3028 BG II	3.7	4.4	3.3	4.5	4.0
NCS 864 Bt 2	4.0	4.2	3.4	4.5	4.0
UPLHH 10 (Fusion)	3.0	4.2	3.4	3.4	3.5

Table 52: Uniformity ratio

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
MRC 7377 BG II	46.0	48.2	50.0	46.6	47.7
RCH 614 BG II	44.0	47.6	49.0	47.2	46.9
UPLHH 7 (Fusion)	48.0	50.9	47.0	47.6	48.4
SWCH 4715 BG II	44.0	48.0	48.0	46.3	46.6
SP 1146 B2	45.0	48.5	47.0	45.9	46.6
Bunny (C)	46.0	52.7	48.0	43.9	47.7
NSPL 666 BG II	47.0	48.1	47.0	45.5	46.9
ABCH 147 BG II	47.0	49.2	50.0	48.9	48.8
VBCH 1521 BG II	47.0	50.6	46.0	46.9	47.6
MLCH 318 BG II	47.0	50.4	49.0	49.9	49.1
KDCHH 9821 Bt	46.0	50.4	48.0	52.7	49.3
PCH 886 Bt 2	47.0	49.1	48.0	47.5	47.9
JKCH 2246 (Event 1)	48.0	48.1	47.0	41.8	46.2
Bunny Bt (C)	46.0	46.7	48.0	46.5	46.8
Tulasi 144 BG II	47.0	45.9	49.0	46.0	47.0
Ankur 3028 BG II	47.0	49.1	50.0	49.2	48.8
NCS 864 Bt 2	48.0	50.2	49.0	48.8	49.0
UPLHH 10 (Fusion)	48.0	49.4	48.0	48.2	48.4

Table 53: Strength (g/tex)

Name of Entry	Dharwad	Lam	Adilabad	Nandyal	Mean
MRC 7377 BG II	22.3	24.6	21.1	20.3	22.1
RCH 614 BG II	23.2	25.6	22.5	22.8	23.5
UPLHH 7 (Fusion)	21.9	24.1	18.0	22.8	21.7
SWCH 4715 BG II	21.1	24.1	21.0	20.9	21.8
SP 1146 B2	21.2	25.1	21.8	20.8	22.2
Bunny (C)	22.9	24.5	18.8	20.6	21.7
NSPL 666 BG II	22.9	24.6	20.1	21.7	22.3
ABCH 147 BG II	22.8	26.2	21.0	22.0	23.0
VBCH 1521 BG II	23.6	25.3	23.7	23.2	24.0
MLCH 318 BG II	21.2	24.3	20.0	23.6	22.3
KDCHH 9821 Bt	21.5	23.9	22.4	20.5	22.1
PCH 886 Bt 2	22.1	24.9	22.8	23.3	23.3
JKCH 2246 (Event 1)	22.0	23.6	19.7	22.5	22.0
Bunny Bt (C)	22.9	25.2	22.0	22.3	23.1
Tulasi 144 BG II	22.0	25.2	23.3	21.5	23.0
Ankur 3028 BG II	22.7	25.4	21.1	22.4	22.9
NCS 864 Bt 2	23.3	25.8	21.6	20.6	22.8
UPLHH 10 (Fusion)	20.2	25.9	20.7	20.4	21.8

Table 54: Jassid/ plant

Name of Entry	Dharwad	Lam	Nandyal	Aruppukottai	Mean
MRC 7377 BG II	6.3	5.8	0.5	1.0	3.4
RCH 614 BG II	7.0	4.0	1.5	0.7	3.3
UPLHH 7 (Fusion)	6.9	3.0	0.5	1.2	2.9
SWCH 4715 BG II	7.3	3.8	0.6	1.4	3.3
SP 1146 B2	7.2	2.8	0.8	0.9	2.9
Bunny (C)	4.5	4.0	0.6	1.0	2.5
NSPL 666 BG II	6.0	2.5	0.7	1.1	2.6
ABCH 147 BG II	7.1	3.0	0.6	2.5	3.3
VBCH 1521 BG II	5.5	1.5	0.8	1.2	2.3
MLCH 318 BG II	6.6	2.8	0.8	1.0	2.8
KDCHH 9821 Bt	5.8	1.5	0.5	1.0	2.2
PCH 886 Bt 2	6.2	2.8	0.7	1.2	2.7
JKCH 2246 (Event 1)	5.5	3.3	0.5	1.3	2.6
Bunny Bt (C)	6.1	2.0	1.1	1.4	2.7
Tulasi 144 BG II	7.1	4.3	0.7	3.6	3.9
Ankur 3028 BG II	14.3	3.5	0.5	1.0	4.8
NCS 864 Bt 2	5.2	3.8	0.6	1.1	2.7
UPLHH 10 (Fusion)	5.2	2.8	0.7	2.8	2.9

Table 55: Whitefly/ plant

Name of Entry	Lam	Nandyal	Mean
MRC 7377 BG II	1.6	0.6	1.1
RCH 614 BG II	0.3	0.6	0.5
UPLHH 7 (Fusion)	0.8	0.5	0.7
SWCH 4715 BG II	0.9	0.5	0.7
SP 1146 B2	1.1	0.5	0.8
Bunny (C)	1.0	0.6	0.8
NSPL 666 BG II	0.9	0.6	0.7
ABCH 147 BG II	1.1	0.6	0.9
VBCH 1521 BG II	0.7	0.5	0.6
MLCH 318 BG II	1.1	0.5	0.8
KDCHH 9821 Bt	0.5	0.5	0.5
PCH 886 Bt 2	0.5	0.5	0.5
JKCH 2246 (Event 1)	0.5	0.5	0.5
Bunny Bt (C)	0.5	0.5	0.5
Tulasi 144 BG II	0.8	0.6	0.7
Ankur 3028 BG II	0.8	0.5	0.7
NCS 864 Bt 2	0.8	0.5	0.7
UPLHH 10 (Fusion)	0.8	0.5	0.7

Table 56: Thrips/ plant

Name of Entry	Dharwad	Nandyal	Mean
MRC 7377 BG II	26.3	0.8	13.5
RCH 614 BG II	38.2	0.7	19.4
UPLHH 7 (Fusion)	28.7	0.8	14.8
SWCH 4715 BG II	24.9	0.8	12.8
SP 1146 B2	19.3	0.8	10.1
Bunny (C)	26.3	0.7	13.5
NSPL 666 BG II	25.2	0.6	12.9
ABCH 147 BG II	23.0	0.6	11.8
VBCH 1521 BG II	28.7	0.7	14.7
MLCH 318 BG II	27.3	0.6	13.9
KDCHH 9821 Bt	26.3	0.7	13.5
PCH 886 Bt 2	30.2	0.8	15.5
JKCH 2246 (Event 1)	27.8	0.8	14.3
Bunny Bt (C)	19.7	0.7	10.2
Tulasi 144 BG II	28.1	0.5	14.3
Ankur 3028 BG II	21.4	0.6	11.0
NCS 864 Bt 2	13.4	0.8	7.1
UPLHH 10 (Fusion)	20.3	0.6	10.4

Table 57: Aphid/plant

Name of Entry	Dharwad	Lam	Nandyal	Mean
MRC 7377 BG II	9.8	4.1	0.0	4.7
RCH 614 BG II	14.7	1.5	0.0	5.4
UPLHH 7 (Fusion)	16.2	2.7	0.0	6.3
SWCH 4715 BG II	15.9	2.2	0.0	6.1
SP 1146 B2	9.1	1.5	0.0	3.5
Bunny (C)	6.6	3.3	0.0	3.3
NSPL 666 BG II	16.8	0.5	0.0	5.8
ABCH 147 BG II	8.4	3.8	0.0	4.1
VBCH 1521 BG II	8.1	3.1	0.0	3.7
MLCH 318 BG II	13.3	2.9	0.0	5.4
KDCHH 9821 Bt	7.0	2.5	0.0	3.2
PCH 886 Bt 2	8.0	3.6	0.0	3.9
JKCH 2246 (Event 1)	15.5	3.3	0.0	6.3
Bunny Bt (C)	7.6	6.2	0.0	4.6
Tulasi 144 BG II	8.7	4.4	0.0	4.4
Ankur 3028 BG II	9.7	5.2	0.0	5.0
NCS 864 Bt 2	8.3	4.4	0.0	4.3
UPLHH 10 (Fusion)	7.7	0.8	0.0	2.8

Table 58: % square damage by Bollworms

Name of Entry	Dharwad	Lam	Nandyal	Mean
MRC 7377 BG II	3.4	0.0	7.8	3.7
RCH 614 BG II	3.3	0.0	7.4	3.6
UPLHH 7 (Fusion)	3.4	0.0	5.6	3.0
SWCH 4715 BG II	2.8	0.0	7.1	3.3
SP 1146 B2	2.7	0.0	5.2	2.6
Bunny (C)	10.8	1.1	8.1	6.7
NSPL 666 BG II	1.3	0.1	5.3	2.2
ABCH 147 BG II	1.6	0.0	5.8	2.5
VBCH 1521 BG II	1.6	0.7	7.8	3.4
MLCH 318 BG II	1.8	0.0	7.5	3.1
KDCHH 9821 Bt	1.8	0.0	5.9	2.6
PCH 886 Bt 2	1.1	0.0	4.8	2.0
JKCH 2246 (Event 1)	1.8	0.0	8.6	3.5
Bunny Bt (C)	2.6	0.0	8.3	3.6
Tulasi 144 BG II	1.0	0.0	6.2	2.4
Ankur 3028 BG II	0.8	0.0	5.6	2.1
NCS 864 Bt 2	0.9	0.0	5.8	2.2
UPLHH 10 (Fusion)	2.7	0.0	9.5	4.1

Table 60: Open boll damage (%)

Name of Entry	Dharwad	Lam	Nandyal	Arupukottai	Mean
MRC 7377 BG II	15.1	0.0	2.3	1.8	4.8
RCH 614 BG II	17.1	0.0	3.5	1.5	5.5
UPLHH 7 (Fusion)	14.1	0.0	1.3	1.6	4.2
SWCH 4715 BG II	22.6	0.0	2.2	2.0	6.7
SP 1146 B2	12.7	0.0	1.7	2.9	4.3
Bunny (C)	41.9	4.1	1.7	2.3	12.5
NSPL 666 BG II	9.7	0.0	2.3	3.3	3.8
ABCH 147 BG II	7.7	2.3	1.7	4.3	4.0
VBCH 1521 BG II	8.2	4.7	4.3	2.4	4.9
MLCH 318 BG II	8.7	0.0	4.7	1.1	3.6
KDCHH 9821 Bt	8.9	0.0	2.7	1.2	3.2
PCH 886 Bt 2	6.5	0.0	2.8	3.2	3.1
JKCH 2246 (Event 1)	10.0	0.0	3.0	2.8	3.9
Bunny Bt (C)	10.1	0.0	4.8	1.2	4.0
Tulasi 144 BG II	10.1	0.0	2.2	2.6	3.7
Ankur 3028 BG II	6.6	0.0	2.4	1.6	2.6
NCS 864 Bt 2	5.8	0.0	1.5	1.3	2.1
UPLHH 10 (Fusion)	13.5	0.0	2.1	3.6	4.8

Table 61: Locule damage (%)

Name of Entry	Dharwad	Lam	Nandyal	Mean
MRC 7377 BG II	7.1	0.0	15.8	7.6
RCH 614 BG II	6.5	0.0	11.2	5.9
UPLHH 7 (Fusion)	6.5	0.0	9.8	5.4
SWCH 4715 BG II	7.2	0.0	20.7	9.3
SP 1146 B2	7.1	0.0	27.1	11.4
Bunny (C)	17.8	1.0	19.3	12.7
NSPL 666 BG II	3.2	0.0	21.5	8.2
ABCH 147 BG II	3.7	1.1	22.8	9.2
VBCH 1521 BG II	3.8	1.5	24.8	10.0
MLCH 318 BG II	3.6	0.0	18.7	7.4
KDCHH 9821 Bt	3.6	0.0	15.4	6.3
PCH 886 Bt 2	2.2	0.0	11.3	4.5
JKCH 2246 (Event 1)	2.7	0.0	17.2	6.6
Bunny Bt (C)	6.7	0.0	18.1	8.3
Tulasi 144 BG II	3.8	0.0	11.2	5.0
Ankur 3028 BG II	2.2	0.0	14.3	5.5
NCS 864 Bt 2	2.3	0.0	8.9	3.7
UPLHH 10 (Fusion)	6.9	0.0	9.0	5.3

INTERSPECIFIC BT COTTON HYBRID TRIALS (2008 - 09)

The first year interspecific (*G.hirsutum* x *G.barbadense*) hybrid trial was undertaken at Dharwad, Siruguppa, Coimbatore and LAM-Guntur in South zone under irrigated conditions with twenty one test hybrids and MRC 6918 Bt as Bt check hybrid and DCH 32 as non-Bt check hybrid.

The germination percentage and final plant stand were optimum and the data are presented in Table 62. As regards mean boll weight, it was seen that most of the interspecific hybrids had more or less the same as seen in check hybrids with the range being 3.6g – 4.6g (Table 63). The mean ginning out turn ranged between 30.5 and 34.5 % (Table 64).

Most of the test hybrids had seed index of 10.7 – 13.5, while the lint index was around 5.1 to 6.2 (Tables 65 and 66). As regards seed cotton yield is concerned, it was seen that all the test hybrids had higher seed cotton yield over non-Bt check DCH 32 and six test hybrids exceeded the seed cotton yield over Bt check hybrid MRC 6918 Bt (Table 67). The entry MLBCH 6 BG II recorded the highest yield of 20 q/ha. The lint yield also followed a near similar trend, with MLBCH 6 BG II having higher lint yield over Bt check MRC 6918 Bt and Non-Bt check DCH 32 by 15% and 26%, respectively (Table 68).

The mean fiber quality attributes of the test entries are presented in Tables 69-72. While most of the test entries had more or less similar fiber quality attributes like that of both non-Bt and Bt interspecific check hybrids, the entry ABCH 137 BG I recorded higher consistent fiber lengths across centers with mean fiber length of 37.8 mm and SWCH 5017 BG II recorded the lowest fiber length of 32.6mm which is lower than both Bt as well as non-Bt check hybrids. The low micronaire values of 3.3 have been noticed in case of interspecific hybrids MCHB 7941 BG II (Table 70). Regarding uniformity ratio, all the test hybrids are on par with check hybrids with around 46 percent (Table 71). As far as fiber strength is concerned, none of the test hybrids were superior to Bt check hybrid MRC 6918 Bt with 27.6 g/tex (Table 72).

Entomological data set revealed moderate levels of sap sucking pests and low levels of bollworm incidence. At Dharwad, maximum infestation level of jassid, thrips, and aphid were recorded. Moderate occurrence of *H.armigera* has been noticed in all test entries at Siruguppa. The higher levels of square damage was recorded at Dharwad and higher per cent of open boll damage at Dharwad and Siruguppa. The entry MCHB 7945 BG II recorded higher level of open boll damage by bollworm. Depending on ETL level, one to five sprays were required to control sucking pest and two to three sprays for bollworm control (Tables 82 and 83).

Pathological Evaluation: At Lam Guntur and Dharwad, incidences of leaf spot diseases and grey mildew were seen to be at low to moderate level among test entries. At Guntur, however, incidence of tobacco streak virus disease was noticed at lower PDI levels in inter specific hybrid entries.

Summary Table: Inter-Specific Hybrids – Irrigated Trials

Name of Entry	Germination %	Stand at harvest (no. of plants)	Mean boll weight (g)	Mean GOT (%)	Lint index	Seed index (g)	Seed cotton yield (kg/ha)	Lint yield (kg/ha)	2.5% span length (mm)	Micronaire value	Uniformity ratio	Strength (g/tex)
VBCHB 1525 BG II	88.9	56.9	3.8	31.6	5.3	11.4	1871	590	34.7	3.5	44.6	25.2
JKCHB 212 (Event 1)	91.4	57.3	3.8	34.3	6.1	11.5	1705	560	36.9	3.6	47.0	25.6
Tulasi 888 BG II	78.3	58.9	3.9	31.7	5.7	11.9	1678	523	35.4	3.6	46.4	25.9
DCH 32 (Non Bt –C)	74.6	56.3	3.9	33.4	6.0	11.9	1585	531	36.0	3.4	45.4	24.1
NCHB 991 Bt 2	76.3	55.1	4.0	32.4	5.5	11.7	1714	551	35.0	3.5	49.0	25.6
SWCH 5017 BG II	77.3	57.5	3.9	33.2	5.7	11.4	1842	612	32.6	3.6	48.0	25.2
Ankur HB 2104 BG II	78.9	57.2	4.1	32.2	5.6	12.1	1771	568	35.4	3.5	44.8	26.1
VICHB 502 BG II	76.6	57.0	4.4	30.5	5.8	13.0	1987	606	35.4	3.9	47.3	25.9
MLBCH 6 BG II	80.4	60.1	4.0	33.2	6.2	12.5	2027	671	34.9	3.6	45.7	25.5
SP 911 B2	72.3	56.0	4.0	32.9	5.4	11.6	1664	543	34.9	3.7	47.3	24.9
MCHB 7945 BG II	63.8	49.2	4.4	31.0	6.1	13.5	1612	497	36.6	3.4	44.9	25.5
NSPL 63 BG II	82.5	62.3	4.3	34.5	6.2	12.2	1763	607	34.6	3.8	47.6	25.3
MCHB 7941 BG II	94.4	68.8	4.6	31.6	5.9	12.9	1635	508	37.4	3.3	45.9	25.2
JKCHB 2250 (Event 1)	75.0	54.4	4.0	33.8	5.7	11.4	1708	575	34.5	3.6	47.4	26.6
ABCH 140 BG I	84.0	63.1	3.8	34.0	6.1	12.1	1861	628	35.4	3.6	46.8	26.1
Ankur HB 2110 BG II	87.6	64.1	4.1	31.3	5.8	12.8	1758	548	35.8	3.4	43.7	25.8
MRC 6918 (Bt-CC)	83.6	62.5	3.7	31.6	5.2	11.4	1843	585	35.3	3.6	47.8	27.6
VBCHB 1526 BG II	85.8	64.1	3.6	32.1	5.1	10.7	1662	540	34.5	3.6	46.3	25.9
NCHB 990 Bt 2	79.1	61.1	3.8	32.7	5.6	11.8	1835	593	35.0	3.6	46.3	25.6
ABCH 137 BG I	81.9	61.0	4.1	31.3	5.7	12.6	1600	498	37.8	3.6	45.5	26.0
ACHB 907-1 BG I	94.4	68.8	3.7	31.8	5.9	12.2	1855	584	35.7	3.4	46.4	25.1
JKCHB 5 Bt	61.5	59.2	4.0	33.0	5.6	11.7	2004	658	34.1	3.8	47.1	27.1
JKCHB 229 Bt	89.1	64.2	4.2	32.1	5.9	12.7	1714	543	36.6	3.7	46.5	26.9

Summary Table: Inter-Specific Hybrids – Irrigated Trials

Name of Entry	Jassid /plant	Whitefly /plant	Thrips /3 leaves	Aphids /3 leaves	Predators	Helicoverpa armigera (No of Larvae / 5 plants)	% square damage by Bollworms	Open boll damage (%)	Locule damage (%)	No. of Sprays for Sucking pests	No. of Sprays for Bollworms
VBCHB 1525 BG II	5.1	0.8	9.9	6.0	0.6	0.1	1.1	6.6	1.9	3.0	0.7
JKCHB 212 (Event 1)	4.3	1.1	9.7	6.1	0.2	0.5	0.3	6.9	2.0	3.0	1.0
Tulasi 888 BG II	3.9	1.1	9.7	6.4	0.7	0.3	1.5	9.4	2.4	3.0	1.0
DCH 32 (Non Bt –C)	4.0	1.4	9.7	7.4	0.3	0.5	2.9	13.1	5.5	3.0	1.0
NCHB 991 Bt 2	3.8	0.8	9.5	5.8	0.4	0.5	0.2	5.3	1.7	3.0	1.0
SWCH 5017 BG II	3.7	1.0	9.8	6.5	0.5	0.5	0.3	4.8	1.5	3.0	1.0
Ankur HB 2104 BG II	5.5	1.0	12.2	5.9	0.2	0.4	0.5	5.3	1.6	3.3	1.0
VICHB 502 BG II	3.7	1.0	11.1	7.1	0.3	0.2	0.4	4.0	1.5	3.0	0.7
MLBCH 6 BG II	3.9	0.9	11.1	6.9	0.2	0.3	0.2	6.5	2.0	3.0	0.7
SP 911 B2	3.4	0.9	6.0	5.1	0.4	0.6	0.6	6.2	2.3	3.0	1.0
MCHB 7945 BG II	4.6	1.2	9.9	6.9	0.4	0.5	2.7	13.4	2.2	3.0	1.0
NSPL 63 BG II	5.5	1.0	9.6	5.8	0.3	0.6	1.0	6.2	2.6	3.3	0.7
MCHB 7941 BG II	3.2	1.0	10.2	6.2	0.2	0.5	1.3	8.2	2.8	3.0	0.7
JKCHB 2250 (Event 1)	4.1	1.2	10.0	6.0	0.2	0.6	1.3	5.5	2.0	3.0	1.0
ABCH 140 BG I	3.5	0.9	9.6	6.9	0.4	0.5	0.3	4.7	1.9	3.0	0.7
Ankur HB 2110 BG II	4.4	0.6	8.7	6.1	0.3	0.2	0.6	3.5	1.4	3.0	0.7
MRC 6918 (Bt-CC)	4.4	1.1	9.5	5.2	0.4	0.6	1.7	6.4	2.5	3.0	1.0
VBCHB 1526 BG II	5.2	1.5	9.8	8.4	0.3	0.6	1.6	6.3	3.1	3.3	1.0
NCHB 990 Bt 2	3.9	0.8	9.7	5.4	0.4	0.5	1.2	6.1	2.5	3.0	1.0
ABCH 137 BG I	3.3	0.9	9.9	5.9	0.4	0.6	1.5	8.3	3.3	3.0	0.7
ACHB 907-1 BG I	3.5	0.9	11.3	6.2	0.2	0.5	1.0	7.0	2.4	3.0	0.7
JKCHB 5 Bt	3.3	0.7	9.0	5.9	0.3	0.5	0.2	5.1	1.6	3.0	0.7
JKCHB 229 Bt	2.9	1.5	2.4	3.2	0.1	0.6	0.0	5.2	1.9	3.0	1.0

Table 62: Germination % and Stand at harvest (number of plants)

Name of Entry	Germination %			Stand at harvest (number of plants)			
	Coimbatore	Lam	Mean	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	84.0	93.8	88.9	59.0	50.0	61.7	56.9
JKCHB 212 (Event 1)	89.0	93.8	91.4	59.0	52.0	60.8	57.3
Tulasi 888 BG II	94.0	62.5	78.3	60.0	55.0	61.7	58.9
DCH 32 (Non Bt –C)	93.0	56.3	74.6	60.0	55.0	54.0	56.3
NCHB 991 Bt 2	90.0	62.5	76.3	60.0	53.0	52.4	55.1
SWCH 5017 BG II	92.0	62.5	77.3	59.0	54.0	59.5	57.5
Ankur HB 2104 BG II	89.0	68.8	78.9	58.0	53.0	60.7	57.2
VICHB 502 BG II	97.0	56.3	76.6	60.0	57.0	54.0	57.0
MLBCH 6 BG II	92.0	68.8	80.4	60.0	54.0	66.3	60.1
SP 911 B2	82.0	62.5	72.3	60.0	48.0	59.9	56.0
MCHB 7945 BG II	90.0	37.5	63.8	59.0	53.0	35.6	49.2
NSPL 63 BG II	90.0	75.0	82.5	60.0	53.0	73.8	62.3
MCHB 7941 BG II	95.0	93.8	94.4	60.0	56.0	90.4	68.8
JKCHB 2250 (Event 1)	95.0	55.0	75.0	59.0	56.0	48.1	54.4
ABCH 140 BG I	93.0	75.0	84.0	60.0	55.0	74.2	63.1
Ankur HB 2110 BG II	94.0	81.3	87.6	59.0	55.0	78.2	64.1
MRC 6918 (Bt-CC)	86.0	81.3	83.6	59.0	50.0	78.5	62.5
VBCHB 1526 BG II	84.0	87.5	85.8	59.0	50.0	83.3	64.1
NCHB 990 Bt 2	82.0	76.3	79.1	60.0	48.0	75.4	61.1
ABCH 137 BG I	95.0	68.8	81.9	60.0	56.0	67.1	61.0
ACHB 907-1 BG I	95.0	93.8	94.4	60.0	56.0	90.3	68.8
JKCHB 5 Bt	58.0	65.0	61.5	59.0	54.0	64.5	59.2
JKCHB 229 Bt	97.0	81.3	89.1	60.0	55.0	77.6	64.2

Table 63: Mean boll weight (g)

Name of Entry	Dharwad	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	3.6	4.2	4.3	3.3	3.8
JKCHB 212 (Event 1)	3.9	4.0	4.3	3.1	3.8
Tulasi 888 BG II	3.9	3.8	4.5	3.3	3.9
DCH 32 (Non Bt –C)	3.7	4.1	4.8	3.2	3.9
NCHB 991 Bt 2	4.0	4.2	4.3	3.4	4.0
SWCH 5017 BG II	3.8	4.2	4.3	3.4	3.9
Ankur HB 2104 BG II	4.5	4.2	4.5	3.1	4.1
VICHB 502 BG II	4.0	4.6	4.9	4.1	4.4
MLBCH 6 BG II	4.0	4.2	4.3	3.5	4.0
SP 911 B2	3.7	4.0	4.7	3.4	4.0
MCHB 7945 BG II	4.4	4.3	4.9	4.0	4.4
NSPL 63 BG II	4.0	4.3	4.7	4.1	4.3
MCHB 7941 BG II	4.5	4.3	5.5	4.0	4.6
JKCHB 2250 (Event 1)	4.0	4.3	4.6	3.3	4.0
ABCH 140 BG I	3.6	3.7	4.4	3.5	3.8
Ankur HB 2110 BG II	4.2	3.9	4.7	3.6	4.1
MRC 6918 (Bt-CC)	3.4	4.0	4.4	3.1	3.7
VBCHB 1526 BG II	3.3	3.8	4.1	3.3	3.6
NCHB 990 Bt 2	3.7	3.8	4.3	3.3	3.8
ABCH 137 BG I	3.8	4.4	4.6	3.5	4.1
ACHB 907-1 BG I	3.6	3.7	4.0	3.5	3.7
JKCHB 5 Bt	3.9	4.4	4.6	3.1	4.0
JKCHB 229 Bt	4.0	4.4	4.4	4.1	4.2

Table 64: Mean Ginning Out Turn (%)

Name of Entry	Dharwad	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	31.0	30.2	32.2	32.9	31.6
JKCHB 212 (Event 1)	33.0	37.9	32.6	33.8	34.3
Tulasi 888 BG II	30.0	30.4	30.0	36.6	31.7
DCH 32 (Non Bt –C)	33.0	32.7	34.0	34.0	33.4
NCHB 991 Bt 2	33.0	30.7	31.8	34.1	32.4
SWCH 5017 BG II	33.0	33.2	32.6	34.2	33.2
Ankur HB 2104 BG II	32.0	31.3	32.0	33.5	32.2
VICHB 502 BG II	29.0	29.1	30.5	33.6	30.5
MLBCH 6 BG II	33.0	31.9	33.8	34.0	33.2
SP 911 B2	33.0	33.7	30.7	34.0	32.9
MCHB 7945 BG II	29.0	28.4	30.0	36.5	31.0
NSPL 63 BG II	36.0	33.4	32.7	36.0	34.5
MCHB 7941 BG II	29.0	29.6	30.1	37.6	31.6
JKCHB 2250 (Event 1)	34.0	33.3	32.7	35.2	33.8
ABCH 140 BG I	34.0	33.1	32.8	36.1	34.0
Ankur HB 2110 BG II	30.0	29.8	31.1	34.4	31.3
MRC 6918 (Bt-CC)	32.0	30.9	30.9	32.8	31.6
VBCHB 1526 BG II	32.0	30.7	33.3	32.6	32.1
NCHB 990 Bt 2	32.0	30.4	31.4	36.9	32.7
ABCH 137 BG I	30.0	29.4	30.1	35.8	31.3
ACHB 907-1 BG I	27.0	31.7	31.2	37.2	31.8
JKCHB 5 Bt	34.0	30.2	31.7	36.1	33.0
JKCHB 229 Bt	34.0	29.1	29.2	36.2	32.1

Table 65: Lint index

Name of Entry	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	5.0	5.8	5.1	5.3
JKCHB 212 (Event 1)	6.5	6.3	5.4	6.1
Tulasi 888 BG II	5.4	5.6	6.0	5.7
DCH 32 (Non Bt –C)	5.8	6.5	5.6	6.0
NCHB 991 Bt 2	5.4	5.8	5.3	5.5
SWCH 5017 BG II	5.7	5.8	5.7	5.7
Ankur HB 2104 BG II	5.4	6.1	5.3	5.6
VICHB 502 BG II	6.0	6.5	5.0	5.8
MLBCH 6 BG II	5.9	6.2	6.6	6.2
SP 911 B2	5.6	5.9	4.8	5.4
MCHB 7945 BG II	5.7	6.2	6.4	6.1
NSPL 63 BG II	6.3	6.3	6.0	6.2
MCHB 7941 BG II	5.6	6.0	6.2	5.9
JKCHB 2250 (Event 1)	5.7	6.0	5.5	5.7
ABCH 140 BG I	5.7	6.5	6.0	6.1
Ankur HB 2110 BG II	5.5	6.1	5.8	5.8
MRC 6918 (Bt-CC)	5.2	5.8	4.6	5.2
VBCHB 1526 BG II	5.1	5.4	4.9	5.1
NCHB 990 Bt 2	5.0	5.7	6.1	5.6
ABCH 137 BG I	5.5	5.8	5.9	5.7
ACHB 907-1 BG I	6.1	5.5	6.2	5.9
JKCHB 5 Bt	4.9	5.8	6.1	5.6
JKCHB 229 Bt	4.9	5.8	6.9	5.9

Table 66: Seed index (g)

Name of Entry	Dharwad	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	11.0	11.8	12.2	10.4	11.4
JKCHB 212 (Event 1)	12.0	10.7	12.9	10.6	11.5
Tulasi 888 BG II	12.1	12.2	13.0	10.4	11.9
DCH 32 (Non Bt –C)	12.5	11.9	12.6	10.8	11.9
NCHB 991 Bt 2	11.9	12.2	12.4	10.2	11.7
SWCH 5017 BG II	10.9	11.5	12.0	11.0	11.4
Ankur HB 2104 BG II	13.3	11.8	13.0	10.4	12.1
VICHB 502 BG II	12.8	14.7	14.7	9.9	13.0
MLBCH 6 BG II	12.4	12.6	12.1	12.9	12.5
SP 911 B2	12.8	11.0	13.3	9.4	11.6
MCHB 7945 BG II	14.1	14.4	14.4	11.2	13.5
NSPL 63 BG II	12.6	12.5	12.9	10.7	12.2
MCHB 7941 BG II	14.1	13.3	13.9	10.2	12.9
JKCHB 2250 (Event 1)	11.6	11.4	12.3	10.2	11.4
ABCH 140 BG I	12.5	11.6	13.4	10.7	12.1
Ankur HB 2110 BG II	13.7	12.8	13.5	11.1	12.8
MRC 6918 (Bt-CC)	11.4	11.6	13.1	9.4	11.4
VBCHB 1526 BG II	10.5	11.4	10.9	10.1	10.7
NCHB 990 Bt 2	12.8	11.4	12.5	10.4	11.8
ABCH 137 BG I	13.3	13.1	13.4	10.6	12.6
ACHB 907-1 BG I	13.0	13.2	12.1	10.5	12.2
JKCHB 5 Bt	12.1	11.5	12.4	10.9	11.7
JKCHB 229 Bt	12.8	11.9	14.0	12.1	12.7

Table 67: Seed cotton yield (kg/ha)

Name of Entry	Dharwad	Siruguppa	Coimbatore	Lam	Mean	% Inc. Over MRC 6918 (Bt-C)	% Inc. Over DCH 32 (NBt-C)
VBCHB 1525 BG II	2092	1805	1976	1611	1871	2	18
JKCHB 212 (Event 1)	2170	1184	2256	1208	1705	-8	8
Tulasi 888 BG II	1823	1625	2068	1196	1678	-9	6
DCH 32 (Non Bt -C)	1390	1474	2412	1063	1585	-14	0
NCHB 991 Bt 2	2118	1413	2188	1138	1714	-7	8
SWCH 5017 BG II	2393	1499	2175	1302	1842	0	16
Ankur HB 2104 BG II	1964	1658	2232	1230	1771	-4	12
VICHB 502 BG II	2216	2009	2027	1695	1987	8	25
MLBCH 6 BG II	2343	1637	2419	1710	2027	10	28
SP 911 B2	1829	1319	2186	1321	1664	-10	5
MCHB 7945 BG II	1643	1423	1977	1403	1612	-13	2
NSPL 63 BG II	1906	1646	1839	1659	1763	-4	11
MCHB 7941 BG II	1446	1676	2338	1080	1635	-11	3
JKCHB 2250 (Event 1)	2187	1184	2386	1073	1708	-7	8
ABCH 140 BG I	2061	1648	2484	1249	1861	1	17
Ankur HB 2110 BG II	2069	2041	1493	1427	1758	-5	11
MRC 6918 (Bt-CC)	2009	1348	2361	1654	1843	0	16
VBCHB 1526 BG II	1705	1148	2508	1285	1662	-10	5
NCHB 990 Bt 2	1728	1759	2628	1225	1835	0	16
ABCH 137 BG I	1498	1776	1740	1384	1600	-13	1
ACHB 907-1 BG I	1894	1763	2359	1403	1855	1	17
JKCHB 5 Bt	2194	1796	2529	1495	2004	9	26
JKCHB 229 Bt	1854	1074	2619	1309	1714	-7	8
CD 5 %	454.0	297.0	336.0				
CV %	14.3	11.0	9.0				

Table 68: Lint yield (kg/ha)

Name of Entry	Dharwad	Siruguppa	Coimbatore	Lam	Mean	% Inc. Over MRC 6918 (Bt-C)	% Inc. Over DCH 32 (NBt-C)
VBCHB 1525 BG II	651	544	636	531	590	1	11
JKCHB 212 (Event 1)	708	391	736	407	560	-4	6
Tulasi 888 BG II	542	494	621	437	523	-11	-1
DCH 32 (Non Bt -C)	462	482	817	362	531	-9	0
NCHB 991 Bt 2	691	433	694	387	551	-6	4
SWCH 5017 BG II	800	495	709	443	612	5	15
Ankur HB 2104 BG II	627	519	716	412	568	-3	7
VICHB 502 BG II	652	585	619	569	606	4	14
MLBCH 6 BG II	766	521	817	578	671	15	26
SP 911 B2	606	444	671	449	543	-7	2
MCHB 7945 BG II	479	404	594	512	497	-15	-6
NSPL 63 BG II	680	549	602	597	607	4	14
MCHB 7941 BG II	424	496	705	406	508	-13	-4
JKCHB 2250 (Event 1)	746	397	780	378	575	-2	8
ABCH 140 BG I	703	545	814	450	628	7	18
Ankur HB 2110 BG II	626	607	465	492	548	-6	3
MRC 6918 (Bt-CC)	649	418	730	542	585	0	10
VBCHB 1526 BG II	553	353	836	419	540	-8	2
NCHB 990 Bt 2	560	535	824	452	593	1	12
ABCH 137 BG I	454	519	525	495	498	-15	-6
ACHB 907-1 BG I	519	558	736	523	584	0	10
JKCHB 5 Bt	738	548	805	540	658	12	24
JKCHB 229 Bt	622	312	765	473	543	-7	2
CD 5 %		104.0	110.0				
CV %		12.4	9.0				

Table 69: 2.5% span length (mm)

Name of Entry	Dharwad	Coimbatore	Lam	Mean
VBCHB 1525 BG II	34.4	34.9	34.8	34.7
JKCHB 212 (Event 1)	36.9	36.4	37.4	36.9
Tulasi 888 BG II	34.5	35.5	36.2	35.4
DCH 32 (Non Bt –C)	35.5	36.2	36.3	36.0
NCHB 991 Bt 2	34.8	35.0	35.2	35.0
SWCH 5017 BG II	32.0	31.6	34.2	32.6
Ankur HB 2104 BG II	34.7	34.7	36.9	35.4
VICHB 502 BG II	34.6	35.2	36.4	35.4
MLBCH 6 BG II	34.4	34.1	36.1	34.9
SP 911 B2	34.6	36.2	33.9	34.9
MCHB 7945 BG II	36.2	36.8	36.9	36.6
NSPL 63 BG II	34.0	34.0	35.8	34.6
MCHB 7941 BG II	37.1	37.1	37.9	37.4
JKCHB 2250 (Event 1)	34.3	33.6	35.6	34.5
ABCH 140 BG I	34.7	35.1	36.4	35.4
Ankur HB 2110 BG II	35.5	35.8	36.0	35.8
MRC 6918 (Bt-CC)	33.8	35.7	36.3	35.3
VBCHB 1526 BG II	33.8	34.3	35.3	34.5
NCHB 990 Bt 2	34.9	34.3	35.8	35.0
ABCH 137 BG I	37.1	37.7	38.5	37.8
ACHB 907-1 BG I	36.0	35.4	35.8	35.7
JKCHB 5 Bt	34.0	33.6	34.6	34.1
JKCHB 229 Bt	36.0	35.9	37.9	36.6

Table 70: Micronaire value

Name of Entry	Dharwad	Coimbatore	Lam	Mean
VBCHB 1525 BG II	3.3	3.7	3.6	3.5
JKCHB 212 (Event 1)	3.4	3.8	3.5	3.6
Tulasi 888 BG II	3.3	3.9	3.7	3.6
DCH 32 (Non Bt –C)	3.1	3.6	3.4	3.4
NCHB 991 Bt 2	3.3	3.8	3.5	3.5
SWCH 5017 BG II	3.2	3.9	3.8	3.6
Ankur HB 2104 BG II	3.4	3.6	3.5	3.5
VICHB 502 BG II	3.6	4.1	3.9	3.9
MLBCH 6 BG II	3.4	3.7	3.8	3.6
SP 911 B2	3.5	3.8	3.7	3.7
MCHB 7945 BG II	3.1	3.6	3.4	3.4
NSPL 63 BG II	3.5	3.7	4.1	3.8
MCHB 7941 BG II	3.1	3.4	3.4	3.3
JKCHB 2250 (Event 1)	3.3	3.8	3.8	3.6
ABCH 140 BG I	3.5	4.0	3.4	3.6
Ankur HB 2110 BG II	3.3	3.6	3.4	3.4
MRC 6918 (Bt-CC)	3.3	3.8	3.6	3.6
VBCHB 1526 BG II	3.2	3.9	3.8	3.6
NCHB 990 Bt 2	3.4	3.6	3.7	3.6
ABCH 137 BG I	3.4	3.6	3.9	3.6
ACHB 907-1 BG I	3.3	3.3	3.5	3.4
JKCHB 5 Bt	3.4	3.9	4.0	3.8
JKCHB 229 Bt	3.5	3.7	3.8	3.7

Table 71: Uniformity ratio

Name of Entry	Dharwad	Coimbatore	Lam	Mean
VBCHB 1525 BG II	44.0	44.0	45.7	44.6
JKCHB 212 (Event 1)	48.0	47.0	46.0	47.0
Tulasi 888 BG II	46.0	48.0	45.1	46.4
DCH 32 (Non Bt –C)	43.0	45.0	48.3	45.4
NCHB 991 Bt 2	48.0	50.0	49.1	49.0
SWCH 5017 BG II	47.0	49.0	47.9	48.0
Ankur HB 2104 BG II	44.0	46.0	44.5	44.8
VICHB 502 BG II	45.0	49.0	47.9	47.3
MLBCH 6 BG II	44.0	47.0	46.2	45.7
SP 911 B2	49.0	47.0	45.8	47.3
MCHB 7945 BG II	43.0	45.0	46.8	44.9
NSPL 63 BG II	47.0	49.0	46.7	47.6
MCHB 7941 BG II	45.0	45.0	47.6	45.9
JKCHB 2250 (Event 1)	47.0	48.0	47.3	47.4
ABCH 140 BG I	46.0	48.0	46.5	46.8
Ankur HB 2110 BG II	43.0	45.0	43.1	43.7
MRC 6918 (Bt-CC)	48.0	48.0	47.3	47.8
VBCHB 1526 BG II	46.0	47.0	45.8	46.3
NCHB 990 Bt 2	46.0	46.0	46.8	46.3
ABCH 137 BG I	45.0	46.0	45.6	45.5
ACHB 907-1 BG I	46.0	47.0	46.2	46.4
JKCHB 5 Bt	45.0	49.0	47.3	47.1
JKCHB 229 Bt	45.0	48.0	46.4	46.5

Table 72: Strength (g/tex)

Name of Entry	Dharwad	Coimbatore	Lam	Mean
VBCHB 1525 BG II	25.5	23.5	26.5	25.2
JKCHB 212 (Event 1)	25.6	23.8	27.4	25.6
Tulasi 888 BG II	26.3	25.5	25.9	25.9
DCH 32 (Non Bt –C)	23.0	23.4	25.9	24.1
NCHB 991 Bt 2	25.9	24.3	26.7	25.6
SWCH 5017 BG II	25.9	23.7	25.9	25.2
Ankur HB 2104 BG II	26.9	23.5	27.9	26.1
VICHB 502 BG II	26.6	24.1	27.0	25.9
MLBCH 6 BG II	26.0	23.4	27.1	25.5
SP 911 B2	25.8	23.1	25.9	24.9
MCHB 7945 BG II	24.6	24.7	27.3	25.5
NSPL 63 BG II	25.9	23.6	26.3	25.3
MCHB 7941 BG II	25.1	22.7	27.8	25.2
JKCHB 2250 (Event 1)	27.2	25.0	27.5	26.6
ABCH 140 BG I	26.4	24.7	27.3	26.1
Ankur HB 2110 BG II	26.2	23.7	27.6	25.8
MRC 6918 (Bt-CC)	28.1	26.0	28.6	27.6
VBCHB 1526 BG II	26.9	22.9	28.1	25.9
NCHB 990 Bt 2	26.1	23.1	27.6	25.6
ABCH 137 BG I	26.7	24.4	26.7	26.0
ACHB 907-1 BG I	24.6	23.3	27.4	25.1
JKCHB 5 Bt	27.5	26.5	27.4	27.1
JKCHB 229 Bt	27.3	25.4	27.9	26.9

Table 73: Mean number of Jassids / 3 leaves

Name of Entry	Mean number of Jassids / 3 leaves					Overall JIG*		
	Dharwad	Siruguppa	Coimbatore	Lam	Mean	Coimbatore	Lam	Mean
VBCHB 1525 BG II	12.0	1.8	3.5	3.3	5.1	2.0	2.0	2.0
JKCHB 212 (Event 1)	6.4	3.2	4.0	3.8	4.3	1.0	2.0	1.5
Tulasi 888 BG II	6.3	2.2	3.1	4.0	3.9	1.0	2.0	1.5
DCH 32 (Non Bt –C)	6.3	2.5	3.8	3.5	4.0	2.0	2.0	2.0
NCHB 991 Bt 2	5.3	3.0	3.0	4.0	3.8	2.0	2.5	2.3
SWCH 5017 BG II	5.4	2.3	2.7	4.3	3.7	1.0	2.0	1.5
Ankur HB 2104 BG II	8.9	2.3	2.6	8.3	5.5	1.0	2.5	1.8
VICHB 502 BG II	5.7	3.2	1.6	4.5	3.7	2.0	2.5	2.3
MLBCH 6 BG II	6.7	2.4	2.4	4.3	3.9	2.0	2.0	2.0
SP 911 B2	5.4	2.1	1.5	4.5	3.4	2.0	3.0	2.5
MCHB 7945 BG II	7.0	2.3	1.4	7.5	4.6	1.0	2.0	1.5
NSPL 63 BG II	9.2	3.3	1.4	8.0	5.5	1.0	2.0	1.5
MCHB 7941 BG II	6.3	2.1	1.3	3.0	3.2	2.0	2.5	2.3
JKCHB 2250 (Event	6.9	3.3	1.4	5.0	4.1	1.0	2.0	1.5
ABCH 140 BG I	6.0	2.7	1.8	3.5	3.5	2.0	2.0	2.0
Ankur HB 2110 BG II	8.1	1.5	3.0	5.0	4.4	1.0	2.0	1.5
MRC 6918 (Bt-CC)	8.3	3.5	3.0	3.0	4.4	2.0	2.5	2.3
VBCHB 1526 BG II	7.9	4.0	2.7	6.3	5.2	1.0	3.0	2.0
NCHB 990 Bt 2	7.7	2.3	1.9	3.8	3.9	2.0	2.0	2.0
ABCH 137 BG I	6.3	2.3	2.2	2.3	3.3	1.0	2.5	1.8
ACHB 907-1 BG I	6.0	2.2	2.2	3.8	3.5	2.0	2.0	2.0
JKCHB 5 Bt	6.2	2.2	2.1	2.5	3.3	1.0	2.0	1.5
JKCHB 229 Bt		4.6	1.9	2.3	2.9	2.0	3.0	2.5

Table 74: Mean number of Whiteflies / 3 leaves

Name of Entry	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	1.2	0.3	0.9	0.8
JKCHB 212 (Event 1)	2.0	0.0	1.3	1.1
Tulasi 888 BG II	1.6	0.2	1.6	1.1
DCH 32 (Non Bt –C)	1.6	0.2	2.4	1.4
NCHB 991 Bt 2	1.2	0.1	1.2	0.8
SWCH 5017 BG II	1.2	0.2	1.6	1.0
Ankur HB 2104 BG II	1.3	0.4	1.3	1.0
VICHB 502 BG II	1.5	0.2	1.2	1.0
MLBCH 6 BG II	1.1	0.3	1.1	0.9
SP 911 B2	1.2	0.3	1.2	0.9
MCHB 7945 BG II	1.8	0.3	1.4	1.2
NSPL 63 BG II	1.5	0.4	1.1	1.0
MCHB 7941 BG II	1.3	0.2	1.5	1.0
JKCHB 2250 (Event 1)	2.0	0.3	1.4	1.2
ABCH 140 BG I	1.4	0.3	1.0	0.9
Ankur HB 2110 BG II	1.0	0.0	0.8	0.6
MRC 6918 (Bt-CC)	2.5	0.0	0.7	1.1
VBCHB 1526 BG II	3.1	0.2	1.2	1.5
NCHB 990 Bt 2	1.7	0.0	0.8	0.8
ABCH 137 BG I	1.8	0.5	0.5	0.9
ACHB 907-1 BG I	1.7	0.2	0.7	0.9
JKCHB 5 Bt	1.5	0.1	0.6	0.7
JKCHB 229 Bt	3.2	0.0	1.2	1.5

Table 75: Mean number of Thrips /3 leaves

Name of Entry	Dharwad	Siruguppa	Coimbatore	Mean
VBCHB 1525 BG II	26.3	3.3	0.3	9.9
JKCHB 212 (Event 1)	25.3	3.5	0.2	9.7
Tulasi 888 BG II	26.0	3.0	0.1	9.7
DCH 32 (Non Bt –C)	24.4	4.2	0.4	9.7
NCHB 991 Bt 2	23.9	4.4	0.2	9.5
SWCH 5017 BG II	24.8	4.5	0.2	9.8
Ankur HB 2104 BG II	32.5	4.0	0.0	12.2
VICHB 502 BG II	30.1	2.7	0.4	11.1
MLBCH 6 BG II	28.8	4.4	0.0	11.1
SP 911 B2	14.4	3.5	0.1	6.0
MCHB 7945 BG II	25.2	4.4	0.0	9.9
NSPL 63 BG II	24.6	4.2	0.0	9.6
MCHB 7941 BG II	26.9	3.8	0.0	10.2
JKCHB 2250 (Event 1)	26.5	3.1	0.4	10.0
ABCH 140 BG I	24.2	4.4	0.3	9.6
Ankur HB 2110 BG II	23.2	2.5	0.3	8.7
MRC 6918 (Bt-CC)	24.3	4.0	0.3	9.5
VBCHB 1526 BG II	24.5	4.5	0.3	9.8
NCHB 990 Bt 2	24.9	3.9	0.4	9.7
ABCH 137 BG I	25.1	4.0	0.6	9.9
ACHB 907-1 BG I	28.8	4.8	0.3	11.3
JKCHB 5 Bt	22.9	3.8	0.2	9.0
JKCHB 229 Bt		4.8	0.1	2.4

Table 76: Mean number of Aphids /3 leaves

Name of Entry	Dharwad	Coimbatore	Lam	Mean
VBCHB 1525 BG II	12.0	4.7	1.2	6.0
JKCHB 212 (Event 1)	12.5	5.0	0.8	6.1
Tulasi 888 BG II	13.9	4.4	1.0	6.4
DCH 32 (Non Bt –C)	15.9	5.4	0.8	7.4
NCHB 991 Bt 2	12.1	4.5	0.8	5.8
SWCH 5017 BG II	12.2	4.1	3.3	6.5
Ankur HB 2104 BG II	10.2	4.3	3.2	5.9
VICHB 502 BG II	11.7	4.3	5.4	7.1
MLBCH 6 BG II	14.4	3.9	2.5	6.9
SP 911 B2	11.7	2.7	0.8	5.1
MCHB 7945 BG II	13.5	3.8	3.5	6.9
NSPL 63 BG II	8.0	6.6	2.7	5.8
MCHB 7941 BG II	7.7	5.7	5.2	6.2
JKCHB 2250 (Event 1)	11.4	4.8	1.7	6.0
ABCH 140 BG I	14.1	4.0	2.7	6.9
Ankur HB 2110 BG II	10.2	4.6	3.7	6.1
MRC 6918 (Bt-CC)	9.9	4.0	1.9	5.2
VBCHB 1526 BG II	14.1	4.8	6.2	8.4
NCHB 990 Bt 2	9.7	2.9	3.7	5.4
ABCH 137 BG I	10.5	5.0	2.3	5.9
ACHB 907-1 BG I	9.9	3.8	4.9	6.2
JKCHB 5 Bt	9.9	4.7	3.1	5.9
JKCHB 229 Bt		5.2	1.2	3.2

Table 77: Predators

Name of Entry	Dharwad	Coimbatore	Mean
VBCHB 1525 BG II	1.0	0.1	0.6
JKCHB 212 (Event 1)	0.2	0.2	0.2
Tulasi 888 BG II	1.2	0.2	0.7
DCH 32 (Non Bt –C)	0.4	0.1	0.3
NCHB 991 Bt 2	0.6	0.1	0.4
SWCH 5017 BG II	1.0	0.0	0.5
Ankur HB 2104 BG II	0.4	0.0	0.2
VICHB 502 BG II	0.4	0.1	0.3
MLBCH 6 BG II	0.4	0.0	0.2
SP 911 B2	0.6	0.2	0.4
MCHB 7945 BG II	0.6	0.1	0.4
NSPL 63 BG II	0.4	0.1	0.3
MCHB 7941 BG II	0.2	0.1	0.2
JKCHB 2250 (Event 1)	0.2	0.1	0.2
ABCH 140 BG I	0.6	0.1	0.4
Ankur HB 2110 BG II	0.4	0.1	0.3
MRC 6918 (Bt-CC)	0.8	0.0	0.4
VBCHB 1526 BG II	0.2	0.3	0.3
NCHB 990 Bt 2	0.6	0.1	0.4
ABCH 137 BG I	0.6	0.1	0.4
ACHB 907-1 BG I	0.2	0.1	0.2
JKCHB 5 Bt	0.6	0.0	0.3
JKCHB 229 Bt		0.1	0.1

Table 78: Helicoverpa armigera (No. of Larvae / 5 plants)

Name of Entry	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	0.3	0.0	0.1	0.1
JKCHB 212 (Event 1)	1.4	0.0	0.0	0.5
Tulasi 888 BG II	0.8	0.0	0.2	0.3
DCH 32 (Non Bt –C)	1.6	0.0	0.0	0.5
NCHB 991 Bt 2	1.4	0.0	0.0	0.5
SWCH 5017 BG II	1.6	0.0	0.0	0.5
Ankur HB 2104 BG II	1.2	0.0	0.0	0.4
VICHB 502 BG II	0.6	0.0	0.0	0.2
MLBCH 6 BG II	0.8	0.0	0.1	0.3
SP 911 B2	1.8	0.0	0.0	0.6
MCHB 7945 BG II	1.6	0.0	0.0	0.5
NSPL 63 BG II	1.8	0.0	0.0	0.6
MCHB 7941 BG II	1.6	0.0	0.0	0.5
JKCHB 2250 (Event 1)	1.8	0.0	0.0	0.6
ABCH 140 BG I	1.4	0.0	0.0	0.5
Ankur HB 2110 BG II	0.6	0.0	0.0	0.2
MRC 6918 (Bt-CC)	1.8	0.0	0.1	0.6
VBCHB 1526 BG II	1.8	0.0	0.0	0.6
NCHB 990 Bt 2	1.5	0.0	0.0	0.5
ABCH 137 BG I	1.8	0.0	0.0	0.6
ACHB 907-1 BG I	1.4	0.0	0.0	0.5
JKCHB 5 Bt	1.6	0.0	0.0	0.5
JKCHB 229 Bt	1.8	0.0	0.0	0.6

Table 79: % square damage by Bollworms

Name of Entry	Dharwad	Coimbatore	Lam	Mean
VBCHB 1525 BG II	0.8	0.0	2.5	1.1
JKCHB 212 (Event 1)	0.9	0.0	0.0	0.3
Tulasi 888 BG II	2.6	0.0	1.8	1.5
DCH 32 (Non Bt –C)	8.8	0.0	0.0	2.9
NCHB 991 Bt 2	0.6	0.0	0.0	0.2
SWCH 5017 BG II	0.6	0.2	0.0	0.3
Ankur HB 2104 BG II	1.4	0.0	0.0	0.5
VICHB 502 BG II	1.2	0.0	0.0	0.4
MLBCH 6 BG II	0.7	0.0	0.0	0.2
SP 911 B2	1.7	0.0	0.0	0.6
MCHB 7945 BG II	8.1	0.0	0.0	2.7
NSPL 63 BG II	2.9	0.0	0.0	1.0
MCHB 7941 BG II	4.0	0.0	0.0	1.3
JKCHB 2250 (Event 1)	2.8	0.0	1.2	1.3
ABCH 140 BG I	0.8	0.0	0.0	0.3
Ankur HB 2110 BG II	1.9	0.0	0.0	0.6
MRC 6918 (Bt-CC)	3.5	0.0	1.5	1.7
VBCHB 1526 BG II	4.3	0.0	0.5	1.6
NCHB 990 Bt 2	3.6	0.0	0.0	1.2
ABCH 137 BG I	4.6	0.0	0.0	1.5
ACHB 907-1 BG I	3.0	0.0	0.0	1.0
JKCHB 5 Bt	0.5	0.0	0.0	0.2
JKCHB 229 Bt	0.2	0.0	0.0	0.0

Table 80: Open boll damage (%)

Name of Entry	Dharwad	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	11.9	10.5	0.0	3.9	6.6
JKCHB 212 (Event 1)	11.1	15.2	0.3	1.0	6.9
Tulasi 888 BG II	15.0	12.1	1.0	4.8	9.4
DCH 32 (Non Bt –C)	37.3	14.5	0.7	0.0	13.1
NCHB 991 Bt 2	9.1	11.9	0.3	0.0	5.3
SWCH 5017 BG II	7.9	10.4	1.0	0.0	4.8
Ankur HB 2104 BG II	9.8	9.8	1.7	0.0	5.3
VICHB 502 BG II	9.8	6.3	0.0	0.0	4.0
MLBCH 6 BG II	8.4	12.7	0.7	4.4	6.5
SP 911 B2	10.1	14.7	0.0	0.0	6.2
MCHB 7945 BG II	38.2	13.9	1.3	0.0	13.4
NSPL 63 BG II	13.1	10.8	1.0	0.0	6.2
MCHB 7941 BG II	17.4	13.7	1.7	0.0	8.2
JKCHB 2250 (Event 1)	7.7	14.5	0.0	0.0	5.5
ABCH 140 BG I	6.5	10.9	0.3	1.1	4.7
Ankur HB 2110 BG II	7.5	5.7	0.7	0.0	3.5
MRC 6918 (Bt-CC)	8.0	14.8	0.0	2.8	6.4
VBCHB 1526 BG II	10.1	13.8	1.3	0.0	6.3
NCHB 990 Bt 2	13.0	11.2	0.0	0.0	6.1
ABCH 137 BG I	15.5	13.2	1.7	2.6	8.3
ACHB 907-1 BG I	12.5	14.3	1.3	0.0	7.0
JKCHB 5 Bt	8.4	12.1	0.0	0.0	5.1
JKCHB 229 Bt		14.6	1.0	0.0	5.2

Table 81: Locule damage (%)

Name of Entry	Dharwad	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	2.6	3.7	0.0	1.2	1.9
JKCHB 212 (Event 1)	2.2	5.2	0.0	0.7	2.0
Tulasi 888 BG II	3.2	4.2	0.0	2.0	2.4
DCH 32 (Non Bt –C)	16.8	5.2	0.0	0.0	5.5
NCHB 991 Bt 2	1.7	5.0	0.0	0.0	1.7
SWCH 5017 BG II	1.5	4.6	0.0	0.0	1.5
Ankur HB 2104 BG II	2.2	4.1	0.0	0.0	1.6
VICHB 502 BG II	3.0	2.8	0.0	0.0	1.5
MLBCH 6 BG II	2.0	4.3	0.0	1.9	2.0
SP 911 B2	3.8	5.3	0.0	0.0	2.3
MCHB 7945 BG II	3.9	4.8	0.0	0.0	2.2
NSPL 63 BG II	5.2	5.1	0.0	0.0	2.6
MCHB 7941 BG II	7.2	4.0	0.3	0.0	2.8
JKCHB 2250 (Event 1)	3.2	5.0	0.0	0.0	2.0
ABCH 140 BG I	3.2	4.2	0.0	0.2	1.9
Ankur HB 2110 BG II	3.0	2.4	0.0	0.0	1.4
MRC 6918 (Bt-CC)	4.2	4.9	0.0	1.0	2.5
VBCHB 1526 BG II	7.5	4.8	0.0	0.0	3.1
NCHB 990 Bt 2	6.1	4.0	0.0	0.0	2.5
ABCH 137 BG I	7.3	4.5	0.0	1.2	3.3
ACHB 907-1 BG I	5.1	4.4	0.0	0.0	2.4
JKCHB 5 Bt	2.1	4.4	0.0	0.0	1.6
JKCHB 229 Bt		5.8	0.0	0.0	1.9

Table 82: No. of sprays for Sucking pests

Name of Entry	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	5.0	3.0	1.0	3.0
JKCHB 212 (Event 1)	5.0	3.0	1.0	3.0
Tulasi 888 BG II	5.0	3.0	1.0	3.0
DCH 32 (Non Bt –C)	5.0	3.0	1.0	3.0
NCHB 991 Bt 2	5.0	3.0	1.0	3.0
SWCH 5017 BG II	5.0	3.0	1.0	3.0
Ankur HB 2104 BG II	5.0	3.0	2.0	3.3
VICHB 502 BG II	5.0	3.0	1.0	3.0
MLBCH 6 BG II	5.0	3.0	1.0	3.0
SP 911 B2	5.0	3.0	1.0	3.0
MCHB 7945 BG II	5.0	3.0	1.0	3.0
NSPL 63 BG II	5.0	3.0	2.0	3.3
MCHB 7941 BG II	5.0	3.0	1.0	3.0
JKCHB 2250 (Event 1)	5.0	3.0	1.0	3.0
ABCH 140 BG I	5.0	3.0	1.0	3.0
Ankur HB 2110 BG II	5.0	3.0	1.0	3.0
MRC 6918 (Bt-CC)	5.0	3.0	1.0	3.0
VBCHB 1526 BG II	5.0	3.0	2.0	3.3
NCHB 990 Bt 2	5.0	3.0	1.0	3.0
ABCH 137 BG I	5.0	3.0	1.0	3.0
ACHB 907-1 BG I	5.0	3.0	1.0	3.0
JKCHB 5 Bt	5.0	3.0	1.0	3.0
JKCHB 229 Bt	5.0	3.0	1.0	3.0

Table 83: No. of sprays for Bollworms

Name of Entry	Siruguppa	Coimbatore	Lam	Mean
VBCHB 1525 BG II	2.0	0.0	0.0	0.7
JKCHB 212 (Event 1)	3.0	0.0	0.0	1.0
Tulasi 888 BG II	3.0	0.0	0.0	1.0
DCH 32 (Non Bt –C)	3.0	0.0	0.0	1.0
NCHB 991 Bt 2	3.0	0.0	0.0	1.0
SWCH 5017 BG II	3.0	0.0	0.0	1.0
Ankur HB 2104 BG II	3.0	0.0	0.0	1.0
VICHB 502 BG II	2.0	0.0	0.0	0.7
MLBCH 6 BG II	2.0	0.0	0.0	0.7
SP 911 B2	3.0	0.0	0.0	1.0
MCHB 7945 BG II	3.0	0.0	0.0	1.0
NSPL 63 BG II	2.0	0.0	0.0	0.7
MCHB 7941 BG II	2.0	0.0	0.0	0.7
JKCHB 2250 (Event 1)	3.0	0.0	0.0	1.0
ABCH 140 BG I	2.0	0.0	0.0	0.7
Ankur HB 2110 BG II	2.0	0.0	0.0	0.7
MRC 6918 (Bt-CC)	3.0	0.0	0.0	1.0
VBCHB 1526 BG II	3.0	0.0	0.0	1.0
NCHB 990 Bt 2	3.0	0.0	0.0	1.0
ABCH 137 BG I	2.0	0.0	0.0	0.7
ACHB 907-1 BG I	2.0	0.0	0.0	0.7
JKCHB 5 Bt	2.0	0.0	0.0	0.7
JKCHB 229 Bt	3.0	0.0	0.0	1.0
