

# Bt Cotton Evaluation Report (2025-26)

North Zone



The Director

All India Coordinated Research Project on Cotton  
ICAR-Central Institute for Cotton Research, Nagpur  
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# **Bt Cotton Evaluation Report**

**North Zone**

**Annual Report: 2025-26**



**The Director  
ICAR-Central Institute for Cotton Research,  
Nagpur, Maharashtra  
2026**

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Omissions and errors, if any, are not deliberate and are regretted.

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# Bt Cotton Evaluation Report: North Zone (2025-26)

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## Initial Evaluation Trial of Intra-Hirsutum Bt Cotton Hybrids

The trial was constituted with 17 Bt cotton hybrids containing MON 15985 event sponsored by various Private organization along with two different check hybrids as furnished below.

S. No.	Code-I	Code-II	Entries	Sponsored by
1	108	50001	NCS 9171 Bt2	Nuziveedu Seeds Limited
2	111	50002	KCH9363 BGII	Kaveri Seed Company Limited
3	104	50003	DACH 37N73 BGII	Dharti Agrochemicals Pvt. Limited, Nagpur
4	114	50004	ARCH 3333 BGII,	Ankur Seeds Pvt. Limited, Nagpur
5	102	50005	BANNO BT II	AlpGiri Seed Sciences Pvt Ltd
6	106	50006	DC5422 BGII	Rallis india limited
7	118	50007	DACH 39N93 BGII	Dharti Agrochemicals Pvt. Limited, Nagpur
8	116	50008	ECH 234 BGII	Eldorado Agritech Pvt. Ltd.
9	107	50009	ARCH 4444 BGII	Ankur Seeds Pvt. Limited, Nagpur
10	103	50010	US 721 BGII	SeedWorks International Limited
11	112	50011	PRCH 7575 Bt2	Pravardhan Seeds (P) Limited
12	109	50012	GBCH 1010 BGII	Green Gold Seeds Pvt Ltd, Aurangabad
13	105	50013	<b>Zonal BGII Check – 1</b>	<b>RCH 926 BG II</b>
14	119	50014	PCH 8552 Bt2	Prabhat Agri Biotech Limited
15	110	50015	SP7711 BGII	Crystal Crop Protection Ltd
16	101	50016	KCH9362 BGII	Kaveri Seed Company Limited
17	117	50017	<b>Zonal BGII Check – 2</b>	<b>MC 5408 BG II</b>
18	113	50018	DC5421 BGII	Rallis India Limited
19	115	50019	SP7712 BGII	Crystal Crop Protection Limited

The trial was conducted in eight different locations viz., PAU, Faridkot; PAU, Bathinda; CCSHAU, Hisar; ICAR-CICR, Sirsa; SKRAU, Sriganaganagar; Kaveri Seeds Pvt. Ltd.at Hanumangarh; Ankur Seeds Pvt. Ltd. at Fazilka; and Nuziveedu Seeds Limited at Abohar. The trial was conducted with four rows of 6 meters per entry with three replications.



**Data recorded:****Biometric evaluation****Table: Plant height (cm) at harvest in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	251.0	155.0	195.6	197.8	162.7	178.2	208.3	184.0	191.6
2	KCH9363 BGII	237.0	147.2	189.3	195.6	157.3	165.8	193.3	191.0	184.6
3	DACH 37N73 BGII	238.0	147.8	190.6	204.4	163.2	168.7	198.7	189.0	187.6
4	ARCH 3333 BGII,	247.0	158.9	188.2	215.6	173.0	181.1	209.0	192.0	195.6
5	BANNO BT II	282.0	157.2	190.7	224.4	168.2	183.2	213.7	195.0	201.8
6	DC5422 BGII	250.0	164.4	184.4	194.4	152.9	168.7	197.5	176.0	186.0
7	DACH 39N93 BGII	257.0	163.3	185.8	198.9	172.8	177.6	198.7	179.0	191.6
8	ECH 234 BGII	264.0	173.3	189.1	198.9	157.9	190.0	202.8	179.0	194.4
9	ARCH 4444 BGII	271.0	161.7	165.7	204.4	187.5	170.8	202.3	179.0	192.8
10	US 721 BGII	257.0	153.9	196.3	193.3	168.1	178.4	213.3	177.0	192.2
11	PRCH 7575 Bt2	233.0	155.6	186.4	208.9	153.7	175.4	205.0	168.0	185.8
12	GBCH 1010 BGII	262.0	163.3	189.4	225.6	156.5	202.8	208.0	175.0	197.8
13	<b>RCH 926 BGII (ZC)</b>	247.0	146.1	194.0	200.0	159.1	164.3	203.0	158.0	183.9
14	PCH 8552 Bt2	229.0	158.3	170.9	191.1	141.3	174.6	199.0	168.0	179.0
15	SP7711 BGII	241.0	145.0	197.4	198.9	160.3	170.8	202.7	184.0	187.5
16	KCH9362 BGII	256.0	140.6	202.3	191.1	152.1	160.8	198.0	180.0	185.1
17	<b>MC 5408 BGII (ZC)</b>	227.0	145.0	176.2	198.9	144.9	171.0	208.7	178.0	181.2
18	DC5421 BGII	235.0	148.9	180.0	207.8	171.4	167.9	204.7	176.0	186.5
19	SP7712 BGII	248.0	154.4	185.8	192.2	158.4	169.7	209.7	186.0	188.0
CD@5%			8.7	14.5		14.3	16.5			
CV %			3.4	4.7		5.3	5.7			

Table: Number of monopodia in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	3.0	1.1	1.2	1.1	1.9	1.8	1.8	0.9	1.6
2	KCH9363 BGII	2.4	1.2	1.7	1.3	1.2	1.3	1.5	1.5	1.5
3	DACH 37N73 BGII	2.8	0.6	1.7	0.7	2.1	1.7	1.7	1.0	1.5
4	ARCH 3333 BGII,	2.6	0.0	0.7	0.1	1.3	1.4	1.9	1.1	1.1
5	BANNO BT II	3.2	0.6	1.4	1.7	1.5	2.8	1.9	1.2	1.8
6	DC5422 BGII	1.4	0.6	1.0	0.9	1.5	1.2	1.4	1.1	1.1
7	DACH 39N93 BGII	2.2	1.1	1.6	0.7	1.7	0.8	1.3	1.1	1.3
8	ECH 234 BGII	2.6	0.7	1.0	1.2	1.1	2.2	2.3	1.3	1.6
9	ARCH 4444 BGII	2.4	0.0	1.1	0.7	1.4	1.7	1.6	1.1	1.3
10	US 721 BGII	2.2	0.1	1.2	0.7	1.5	1.3	1.7	0.8	1.2
11	PRCH 7575 Bt2	2.4	0.4	0.6	1.2	1.5	1.9	1.6	0.9	1.3
12	GBCH 1010 BGII	2.6	1.4	0.6	0.3	0.9	3.1	2.1	1.3	1.5
13	<b>RCH 926 BGII (ZC)</b>	3.2	0.7	1.2	1.8	2.5	2.4	1.9	1.3	1.9
14	PCH 8552 Bt2	2.4	0.0	1.7	0.6	0.9	1.0	2.0	1.0	1.2
15	SP7711 BGII	2.2	0.4	1.1	1.1	1.0	1.0	1.5	1.0	1.2
16	KCH9362 BGII	2.4	0.0	1.1	1.2	1.3	1.1	1.8	1.1	1.3
17	<b>MC 5408 BGII (ZC)</b>	2.2	0.2	1.7	1.6	1.1	0.8	1.5	0.9	1.3
18	DC5421 BGII	1.6	0.6	1.7	1.6	1.3	2.4	1.3	1.0	1.4
19	SP7712 BGII	2.6	0.9	1.1	1.4	2.1	1.8	1.7	0.9	1.6
CD@5%			0.6	0.2		0.2	0.7			
CV %			61.9	9.8		8.6	26.4			

Table: Number of sympodia in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	24.0	20.6	18.7	16.0	18.6	28.4	22.1	26.0	21.8
2	KCH9363 BGII	20.4	22.0	15.0	14.2	20.1	26.3	22.5	26.5	20.9
3	DACH 37N73 BGII	20.8	22.8	24.3	17.1	21.3	26.8	20.8	26.0	22.5
4	ARCH 3333 BGII,	22.2	20.3	24.9	16.3	19.7	28.1	22.6	25.8	22.5
5	BANNO BT II	23.0	20.8	16.6	17.1	16.2	26.9	22.3	25.7	21.1
6	DC5422 BGII	21.4	22.0	16.3	14.6	18.9	29.2	23.8	24.9	21.4
7	DACH 39N93 BGII	25.0	22.3	25.4	16.8	21.3	28.9	21.7	24.5	23.2
8	ECH 234 BGII	20.0	23.3	17.8	16.1	18.1	29.4	23.9	25.3	21.7
9	ARCH 4444 BGII	19.6	18.2	17.2	15.8	19.8	26.7	20.7	24.1	20.3
10	US 721 BGII	25.8	21.9	18.6	16.0	20.1	29.0	20.2	23.5	21.9
11	PRCH 7575 Bt2	21.0	20.7	16.3	15.4	16.0	26.8	23.6	23.4	20.4
12	GBCH 1010 BGII	24.0	20.3	25.5	16.3	17.7	25.9	20.3	23.4	21.7
13	<b>RCH 926 BGII (ZC)</b>	18.8	21.4	18.1	15.3	20.1	26.8	21.5	22.2	20.5
14	PCH 8552 Bt2	19.8	22.3	16.3	15.0	16.1	27.8	21.9	22.9	20.3
15	SP7711 BGII	21.0	20.9	19.1	14.9	18.4	27.9	21.2	24.4	21.0
16	KCH9362 BGII	20.4	20.1	18.9	15.9	20.1	27.4	21.5	24.4	21.1
17	<b>MC 5408 BGII (ZC)</b>	19.0	21.1	16.0	14.7	17.3	28.6	21.1	24.0	20.2
18	DC5421 BGII	18.8	21.1	16.2	15.4	21.3	27.3	22.2	24.1	20.8
19	SP7712 BGII	20.6	23.6	24.4	15.1	19.7	27.7	19.7	24.4	21.9
CD@5%			2.4	2.4		1.3	3.2			
CV %			6.6	7.5		4.1	7.0			

Table: Boll weight (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	3.5	4.4	4.7	4.1	3.8	4.9	3.7	4.5	4.2
2	KCH9363 BGII	3.4	4.4	4.6	4.7	4.3	4.9	3.7	4.4	4.3
3	DACH 37N73 BGII	3.3	4.0	4.3	4.6	3.8	4.4	3.5	4.2	4.0
4	ARCH 3333 BGII,	3.5	4.5	4.5	4.9	4.0	5.0	3.2	4.0	4.2
5	BANNO BT II	3.2	4.5	4.4	4.0	3.8	4.5	3.5	4.1	4.0
6	DC5422 BGII	3.6	4.4	4.2	3.9	3.4	4.7	3.3	4.3	4.0
7	DACH 39N93 BGII	3.9	4.1	4.5	4.3	4.1	4.8	3.3	4.4	4.2
8	ECH 234 BGII	3.6	4.1	3.9	4.2	3.4	4.2	3.3	4.3	3.9
9	ARCH 4444 BGII	3.2	4.5	4.2	4.2	4.0	4.9	3.5	4.5	4.1
10	US 721 BGII	3.2	4.8	4.4	4.7	4.1	5.0	3.8	4.7	4.3
11	PRCH 7575 Bt2	2.4	4.5	4.6	4.3	3.4	4.7	3.9	4.5	4.0
12	GBCH 1010 BGII	3.2	4.2	4.0	4.3	3.8	4.4	3.6	4.4	4.0
13	<b>RCH 926 BGII (ZC)</b>	3.1	4.5	4.1	4.3	4.6	4.9	3.3	4.4	4.2
14	PCH 8552 Bt2	3.4	4.1	4.5	4.4	3.2	5.0	3.7	4.5	4.1
15	SP7711 BGII	3.0	4.6	4.5	4.2	3.6	4.7	3.5	4.3	4.1
16	KCH9362 BGII	3.5	4.5	4.5	4.0	3.7	4.9	3.5	4.4	4.1
17	<b>MC 5408 BGII (ZC)</b>	3.2	4.4	4.7	4.4	3.4	4.9	3.5	4.5	4.1
18	DC5421 BGII	3.3	4.5	4.3	4.1	4.1	4.5	3.7	4.4	4.1
19	SP7712 BGII	3.0	4.2	4.6	4.4	4.1	4.6	3.9	4.5	4.2
CD@5%			0.3	0.5		0.3	0.4			
CV %			3.6	6.4		4.7	4.9			

Table: Number of bolls / plant in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	56.2	40.2	37.9	31.0	33.5	57.7	21.9	45.5	40.5
2	KCH9363 BGII	42.0	44.2	36.7	26.7	38.8	66.1	24.5	47.9	40.9
3	DACH 37N73 BGII	47.2	42.1	45.4	29.8	43.6	64.7	25.5	43.3	42.7
4	ARCH 3333 BGII,	47.2	40.3	52.2	27.1	38.6	63.2	24.9	43.3	42.1
5	BANNO BT II	49.8	35.6	37.6	28.7	32.1	60.9	20.9	43.9	38.7
6	DC5422 BGII	45.4	35.8	36.4	26.6	35.5	60.2	23.9	41.5	38.2
7	DACH 39N93 BGII	52.8	42.3	51.7	31.2	41.1	66.9	25.9	42.8	44.3
8	ECH 234 BGII	45.2	46.3	46.4	26.9	35.1	60.4	25.4	40.6	40.8
9	ARCH 4444 BGII	55.4	49.3	37.9	29.6	38.9	59.3	24.9	37.9	41.7
10	US 721 BGII	44.6	37.0	31.8	30.8	42.5	56.2	27.8	38.3	38.6
11	PRCH 7575 Bt2	52.8	35.8	39.3	27.2	32.9	52.1	25.2	39.5	38.1
12	GBCH 1010 BGII	47.4	35.1	38.1	28.8	34.0	53.7	27.6	40.6	38.2
13	<b>RCH 926 BGII (ZC)</b>	42.2	41.3	38.4	27.3	35.3	51.1	19.4	37.9	36.6
14	PCH 8552 Bt2	52.4	36.3	50.4	27.6	30.8	55.8	27.8	42.9	40.5
15	SP7711 BGII	57.0	36.3	46.3	28.9	36.7	60.7	24.3	43.9	41.8
16	KCH9362 BGII	46.8	42.0	41.6	27.3	40.4	65.8	23.7	43.9	41.4
17	<b>MC 5408 BGII (ZC)</b>	45.4	34.2	40.4	29.2	34.0	61.9	24.7	44.8	39.3
18	DC5421 BGII	42.6	37.4	41.0	29.0	35.0	64.2	20.3	43.6	39.1
19	SP7712 BGII	41.6	37.9	39.2	25.3	38.6	52.8	25.9	44.5	38.2
CD@5%			3.3	5.8		4.0	9.2			
CV %			5.1	8.5		6.6	9.3			

Table: Number of bolls / sq.m. in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Bathinda	Hisar	Sirsa	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	83.0	86.3	73.3	84.8	84.0	82.3
2	KCH9363 BGII	62.7	86.7	63.5	99.1	86.7	79.7
3	DACH 37N73 BGII	71.6	98.0	69.1	109.6	81.7	86.0
4	ARCH 3333 BGII,	72.3	100.3	67.4	96.2	74.7	82.2
5	BANNO BT II	75.5	86.3	67.1	80.7	82.3	78.4
6	DC5422 BGII	68.3	88.3	66.6	89.0	79.7	78.4
7	DACH 39N93 BGII	78.8	101.7	75.2	106.7	78.7	88.2
8	ECH 234 BGII	69.2	88.3	66.6	89.0	77.0	78.0
9	ARCH 4444 BGII	79.1	84.0	71.6	96.0	73.0	80.7
10	US 721 BGII	68.3	69.3	78.4	110.0	70.0	79.2
11	PRCH 7575 Bt2	76.8	91.3	64.3	81.7	69.3	76.7
12	GBCH 1010 BGII	70.8	84.0	66.3	87.1	67.3	75.1
13	<b>RCH 926 BGII (ZC)</b>	65.1	85.3	67	93.0	72.0	76.5
14	PCH 8552 Bt2	80.3	97.0	61.4	79.9	80.3	79.8
15	SP7711 BGII	80.7	104.7	73.6	94.1	84.3	87.5
16	KCH9362 BGII	68.1	89.7	61.9	102.8	80.3	80.6
17	<b>MC 5408 BGII (ZC)</b>	66.0	90.3	61.7	88.0	86.0	78.4
18	DC5421 BGII	62.5	95.7	64.4	88.5	84.0	79.0
19	SP7712 BGII	61.5	83.0	57	97.6	77.3	75.3
CD@5%			15.6				
CV %			10.5				

Table: Lint Index (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	5.7	4.3	5.3	5.7	6.4	5.1	4.8	5.3
2	KCH9363 BGII	5.2	3.8	4.8	5.6	6.5	4.8	4.0	5.0
3	DACH 37N73 BGII	5.4	4.2	4.9	5.5	6.8	5.6	4.3	5.2
4	ARCH 3333 BGII,	5.3	4.6	4.6	5.1	6.6	4.5	4.4	5.0
5	BANNO BT II	5.8	4.9	4.5	6.3	6.4	5.0	5.5	5.5
6	DC5422 BGII	5.5	4.6	4.7	5.4	5.6	4.8	3.7	4.9
7	DACH 39N93 BGII	5.1	4.9	4.9	5.6	6.2	5.2	4.2	5.2
8	ECH 234 BGII	4.6	4.4	4.5	5.2	5.8	5.1	5.2	5.0
9	ARCH 4444 BGII	5.3	4.3	4.8	5.4	6.3	6.3	4.3	5.2
10	US 721 BGII	5.6	4.2	4.9	5.6	6.2	5.1	4.6	5.2
11	PRCH 7575 Bt2	5.8	4.2	4.9	6.1	6.2	5.3	4.9	5.3
12	GBCH 1010 BGII	5.6	4.5	4.9	5.8	6.1	5.5	5.1	5.4
13	<b>RCH 926 BGII (ZC)</b>	5.9	4.0	5.3	6.2	6.0	5.7	4.2	5.3
14	PCH 8552 Bt2	5.6	4.2	4.9	5.1	5.7	5.6	4.2	5.0
15	SP7711 BGII	5.7	4.1	5.3	5.0	6.1	5.5	4.7	5.2
16	KCH9362 BGII	5.6	3.8	4.9	5.0	6.6	5.2	4.6	5.1
17	<b>MC 5408 BGII (ZC)</b>	5.3	4.4	4.8	4.8	5.7	4.6	3.7	4.8
18	DC5421 BGII	5.3	4.2	4.9	5.7	6.2	5.7	4.8	5.3
19	SP7712 BGII	5.2	4.2	5.3	6.1	6.5	5.3	3.7	5.2
CD@5%		0.6	0.3			0.5			
CV %		6.4	3.8			4.7			

Table: Seed Index (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	11.2	10.2	9.8	9.4	10.3	12.8	9.7	10.0	10.4
2	KCH9363 BGII	10.3	9.5	10.1	9.2	9.9	11.9	9.7	9.0	10.0
3	DACH 37N73 BGII	8.9	9.1	8.5	8.4	8.7	11.5	10.0	8.0	9.1
4	ARCH 3333 BGII,	8.6	8.7	8.8	8.2	8.6	10.8	10.3	8.0	9.0
5	BANNO BT II	9.4	9.9	10.4	8.1	10.8	12.0	9.7	10.0	10.0
6	DC5422 BGII	8.3	9.4	9.6	8.8	9.0	11.8	10.0	8.0	9.4
7	DACH 39N93 BGII	8.5	8.7	10.0	8.3	9.3	11.5	10.3	8.0	9.3
8	ECH 234 BGII	9.3	8.5	9.5	7.6	9.3	11.1	9.0	10.0	9.3
9	ARCH 4444 BGII	8.4	8.9	8.9	8.2	8.5	10.4	10.7	8.0	9.0
10	US 721 BGII	10.2	9.9	9.9	8.6	9.6	11.6	10.7	9.0	9.9
11	PRCH 7575 Bt2	9.3	10.4	9.5	8.6	10.5	12.0	11.0	10.0	10.2
12	GBCH 1010 BGII	9.2	9.6	8.8	8.5	9.8	11.2	10.0	9.0	9.5
13	<b>RCH 926 BGII (ZC)</b>	9.9	10.2	8.8	9.5	10.9	12.0	9.7	9.0	10.0
14	PCH 8552 Bt2	9.2	9.3	9.5	8.9	9.8	11.4	10.3	9.0	9.7
15	SP7711 BGII	9.8	10.3	10.2	9.0	9.5	12.7	10.7	10.0	10.3
16	KCH9362 BGII	8.4	9.7	8.9	8.7	9.2	12.2	10.0	10.0	9.6
17	<b>MC 5408 BGII (ZC)</b>	10.5	9.4	10.3	8.9	8.6	11.8	9.3	8.0	9.6
18	DC5421 BGII	10.6	9.2	10.0	8.9	10.4	12.0	10.0	10.0	10.1
19	SP7712 BGII	11.2	9.7	9.7	9.4	10.9	12.6	10.3	8.0	10.2
CD@5%			0.7	0.7		0.1	1.0			
CV %			4.2	4.4		0.8	5.4			

Table: Ginning outturn (%) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	34.1	36.1	32.1	36.0	35.7	33.3	30.6	32.6	33.8
2	KCH9363 BGII	33.5	35.3	29.1	34.2	36.0	35.4	30.1	30.6	33.0
3	DACH 37N73 BGII	36.5	37.3	34.5	36.8	38.6	37.2	34.6	35.0	36.3
4	ARCH 3333 BGII,	38.0	37.7	35.6	36.0	37.3	38.2	34.7	35.3	36.6
5	BANNO BT II	36.2	36.8	33.8	35.6	36.7	34.9	33.2	35.4	35.3
6	DC5422 BGII	35.5	36.9	33.9	34.6	37.3	32.3	29.9	31.6	34.0
7	DACH 39N93 BGII	37.9	36.9	34.4	37.2	37.5	35.1	33.8	34.6	35.9
8	ECH 234 BGII	35.6	35.4	33.4	37.0	36.0	34.3	30.5	34.0	34.5
9	ARCH 4444 BGII	36.1	37.3	34.1	36.7	38.7	37.7	33.8	34.8	36.2
10	US 721 BGII	34.9	36.4	31.1	36.4	36.9	35.0	33.7	34.0	34.8
11	PRCH 7575 Bt2	37.1	35.9	32.3	36.2	36.7	34.1	31.4	32.9	34.6
12	GBCH 1010 BGII	37.1	37.1	35.4	36.6	37.3	35.3	33.9	36.3	36.1
13	<b>RCH 926 BGII (ZC)</b>	34.5	36.8	32.7	35.6	36.0	33.1	30.0	31.8	33.8
14	PCH 8552 Bt2	35.4	37.7	32.0	35.6	34.3	33.2	31.0	32.0	33.9
15	SP7711 BGII	36.1	35.9	30.2	37.1	34.3	32.3	30.1	31.8	33.5
16	KCH9362 BGII	35.7	36.5	31.7	35.8	35.3	35.1	29.7	31.3	33.9
17	<b>MC 5408 BGII (ZC)</b>	34.7	36.0	31.7	35.1	35.7	32.7	30.7	31.7	33.5
18	DC5421 BGII	36.4	36.6	31.3	35.5	35.5	34.1	30.1	32.2	34.0
19	SP7712 BGII	37.2	35.2	31.9	35.8	36.0	34.0	30.9	31.4	34.1
CD@5%			1.4	1.8			1.1			
CV %			2.3	3.4			1.9			

Table: Upper Half Mean Length (mm) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	30.0	26.8	31.0	29.1	27.4	29.9	27.8	27.1	28.6
2	KCH9363 BGII	29.7	26.6	30.5	27.4	28.2	29.4	27.9	27.6	28.4
3	DACH 37N73 BGII	29.9	27.4	29.0	28.5	29.0	30.2	27.4	27.0	28.6
4	ARCH 3333 BGII,	29.1	25.8	27.7	28.1	27.3	29.2	27.2	27.2	27.7
5	BANNO BT II	28.9	28.4	28.6	29.0	28.0	29.7	28.0	26.2	28.4
6	DC5422 BGII	27.4	27.5	28.8	28.0	27.8	29.8	27.4	25.6	27.8
7	DACH 39N93 BGII	28.6	25.5	29.7	27.5	28.6	29.3	27.5	27.2	28.0
8	ECH 234 BGII	29.3	26.0	30.2	28.7	28.0	29.9	27.1	26.8	28.3
9	ARCH 4444 BGII	28.5	28.6	28.5	27.8	27.6	29.1	27.2	26.9	28.0
10	US 721 BGII	29.2	30.0	31.4	28.9	29.8	31.3	28.8	27.8	29.7
11	PRCH 7575 Bt2	27.9	27.4	28.5	28.3	26.9	29.1	27.8	26.1	27.8
12	GBCH 1010 BGII	29.3	28.2	30.2	28.6	27.7	30.8	28.0	26.3	28.6
13	<b>RCH 926 BGII (ZC)</b>	28.5	27.5	29.5	28.2	26.7	29.5	27.4	28.0	28.2
14	PCH 8552 Bt2	28.5	29.1	30.6	28.3	28.3	29.9	27.7	27.7	28.8
15	SP7711 BGII	28.1	26.6	29.2	27.0	26.6	28.2	26.7	26.3	27.3
16	KCH9362 BGII	29.5	28.7	30.6	27.7	28.7	30.8	28.6	26.6	28.9
17	<b>MC 5408 BGII (ZC)</b>	30.3	28.4	30.9	28.0	26.9	30.1	28.0	27.0	28.7
18	DC5421 BGII	27.5	27.1	28.8	27.0	26.5	28.7	26.3	25.0	27.1
19	SP7712 BGII	28.4	25.6	30.0	27.9	27.5	29.6	27.2	26.0	27.8

Table: Uniformity index under HVI Mode in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	85.0	83.0	85.0	84.0	83.0	86.0	84.7	82.0	84.1
2	KCH9363 BGII	86.0	82.0	84.0	82.4	85.0	85.0	84.7	82.0	83.9
3	DACH 37N73 BGII	87.0	84.0	83.0	85.0	85.0	87.0	84.7	83.0	84.8
4	ARCH 3333 BGII,	86.0	82.0	83.0	85.0	84.0	85.0	83.6	83.0	84.0
5	BANNO BT II	85.0	86.0	83.0	84.8	84.0	87.0	84.3	82.0	84.5
6	DC5422 BGII	86.0	84.0	83.0	85.9	84.0	86.0	83.3	82.0	84.3
7	DACH 39N93 BGII	85.0	82.0	85.0	85.0	85.0	85.0	85.4	83.0	84.4
8	ECH 234 BGII	86.0	83.0	85.0	86.0	84.0	86.0	84.5	82.0	84.6
9	ARCH 4444 BGII	85.0	86.0	84.0	84.2	83.0	87.0	84.7	82.0	84.5
10	US 721 BGII	84.0	86.0	85.0	85.0	85.0	87.0	84.7	82.0	84.8
11	PRCH 7575 Bt2	84.0	84.0	83.0	83.1	83.0	87.0	84.4	80.0	83.6
12	GBCH 1010 BGII	86.0	86.0	86.0	85.4	84.0	87.0	85.1	82.0	85.2
13	<b>RCH 926 BGII (ZC)</b>	86.0	85.0	84.0	84.5	84.0	87.0	84.8	84.0	84.9
14	PCH 8552 Bt2	83.0	86.0	83.0	84.1	84.0	86.0	84.0	82.0	84.0
15	SP7711 BGII	85.0	86.0	84.0	83.3	84.0	86.0	83.8	83.0	84.4
16	KCH9362 BGII	85.0	86.0	81.0	80.8	85.0	87.0	84.1	81.0	83.7
17	<b>MC 5408 BGII (ZC)</b>	85.0	85.0	84.0	82.6	82.0	86.0	84.6	80.0	83.7
18	DC5421 BGII	86.0	86.0	84.0	84.5	85.0	86.0	84.5	80.0	84.5
19	SP7712 BGII	86.0	82.0	84.0	81.5	83.0	86.0	84.8	82.0	83.7

Table: Micronaire under HVI Mode in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	4.6	4.8	4.6	4.0	4.5	4.5	4.3	3.7	4.4
2	KCH9363 BGII	4.3	4.6	4.6	4.2	4.2	4.6	4.2	4.1	4.4
3	DACH 37N73 BGII	4.3	5.8	5.0	4.4	4.9	5.1	4.7	4.1	4.8
4	ARCH 3333 BGII,	5.2	5.9	5.0	4.9	5.2	5.5	4.5	4.2	5.1
5	BANNO BT II	4.6	4.9	4.5	4.3	4.3	4.7	4.2	3.7	4.4
6	DC5422 BGII	4.6	5.1	4.8	4.2	5.7	4.7	4.5	4.2	4.7
7	DACH 39N93 BGII	5.2	5.8	5.4	5.1	5.4	5.4	4.6	4.7	5.2
8	ECH 234 BGII	4.7	5.1	4.4	4.2	4.4	4.9	4.2	3.7	4.5
9	ARCH 4444 BGII	5.1	5.8	5.1	4.1	4.9	5.3	4.7	4.1	4.9
10	US 721 BGII	4.4	5.2	4.1	3.9	4.1	4.3	4.0	3.8	4.2
11	PRCH 7575 Bt2	4.7	5.1	4.6	4.0	4.7	4.6	4.4	4.2	4.5
12	GBCH 1010 BGII	4.2	4.8	4.4	3.9	4.2	4.4	4.0	4.0	4.2
13	<b>RCH 926 BGII (ZC)</b>	4.5	5.0	4.3	3.9	4.7	4.9	4.1	3.8	4.4
14	PCH 8552 Bt2	4.2	4.7	4.6	4.2	3.9	4.3	4.0	3.6	4.2
15	SP7711 BGII	4.9	5.2	5.2	4.7	4.4	5.3	4.9	4.8	4.9
16	KCH9362 BGII	4.6	4.5	4.6	4.2	4.1	4.5	4.2	3.8	4.3
17	<b>MC 5408 BGII (ZC)</b>	4.2	4.5	4.4	4.1	3.5	4.6	4.1	3.7	4.1
18	DC5421 BGII	4.8	5.0	4.4	4.5	4.2	5.3	4.7	4.5	4.7
19	SP7712 BGII	4.5	4.4	4.8	3.6	4.3	4.3	4.4	4.0	4.3

Table: Tenacity under HVI Mode in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	32.0	25.9	28.3	30.4	29.3	31.4	29.7	28.6	29.5
2	KCH9363 BGII	30.9	26.8	28.6	29.1	28.5	31.7	28.8	28.7	29.1
3	DACH 37N73 BGII	30.3	28.7	29.0	29.6	29.5	30.9	29.0	29.4	29.6
4	ARCH 3333 BGII,	30.7	27.3	28.6	28.3	27.9	31.7	29.0	29.6	29.1
5	BANNO BT II	29.9	29.6	30.0	30.3	29.6	32.3	30.9	27.2	30.0
6	DC5422 BGII	29.2	28.8	28.3	30.1	28.1	32.9	29.6	28.2	29.4
7	DACH 39N93 BGII	29.7	27.2	31.3	29.4	31.6	32.2	32.0	29.6	30.4
8	ECH 234 BGII	30.4	27.7	31.6	31.3	30.7	31.8	28.9	28.1	30.1
9	ARCH 4444 BGII	29.6	28.4	28.7	28.9	27.6	33.6	29.9	28.7	29.4
10	US 721 BGII	30.7	29.9	31.4	29.9	30.7	34.2	29.6	27.0	30.4
11	PRCH 7575 Bt2	29.2	29.7	29.2	29.5	28.4	30.9	29.0	27.6	29.2
12	GBCH 1010 BGII	30.2	30.8	32.4	29.8	27.7	32.0	30.5	28.8	30.3
13	<b>RCH 926 BGII (ZC)</b>	30.5	29.2	29.3	31.1	28.2	32.6	30.1	30.9	30.2
14	PCH 8552 Bt2	29.9	29.5	29.1	30.1	27.2	30.9	29.2	30.1	29.5
15	SP7711 BGII	30.0	28.5	28.3	29.2	28.7	30.4	30.8	30.4	29.5
16	KCH9362 BGII	30.4	27.4	29.3	30.3	30.0	31.6	29.7	27.8	29.6
17	<b>MC 5408 BGII (ZC)</b>	30.6	27.2	31.2	29.7	26.3	31.2	29.2	26.1	28.9
18	DC5421 BGII	29.6	26.2	31.2	28.9	27.4	30.3	29.5	27.2	28.8
19	SP7712 BGII	30.7	24.8	31.2	29.4	30.3	30.4	29.5	27.9	29.3

Table: Seed Cotton Yield at 140 DAS (q/ha) at 140 DAS in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	12.35	21.95	18.31	15.49	13.02	5.29	16.58	14.71
2	KCH9363 BGII	14.98	23.15	14.20	20.78	22.02	10.41	15.47	17.29
3	DACH 37N73 BGII	16.82	25.66	15.23	19.54	21.77	9.71	11.14	17.12
4	ARCH 3333 BGII,	14.20	24.88	17.90	19.38	21.03	9.06	10.17	16.66
5	BANNO BT II	14.07	24.13	16.87	16.98	13.69	8.85	11.74	15.19
6	DC5422 BGII	16.70	18.97	17.49	18.52	8.65	7.20	9.50	13.86
7	DACH 39N93 BGII	17.27	26.90	18.11	20.45	21.59	9.79	12.43	18.08
8	ECH 234 BGII	15.29	22.77	18.11	18.75	12.04	4.59	11.21	14.68
9	ARCH 4444 BGII	22.26	19.85	17.90	18.97	21.00	9.84	14.67	17.78
10	US 721 BGII	14.07	18.66	16.26	19.88	23.86	9.36	14.44	16.65
11	PRCH 7575 Bt2	13.32	21.83	13.58	14.73	11.70	4.84	15.05	13.58
12	GBCH 1010 BGII	12.05	23.02	17.28	19.68	13.41	7.24	12.56	15.03
13	<b>RCH 926 BGII (ZC)</b>	17.19	21.76	13.37	20.80	15.75	6.05	15.84	15.82
14	PCH 8552 Bt2	18.51	20.67	17.70	14.90	18.68	8.37	16.47	16.47
15	SP7711 BGII	12.58	20.83	19.34	18.53	11.11	7.98	14.22	14.94
16	KCH9362 BGII	17.44	23.54	16.46	20.37	21.41	10.70	14.78	17.81
17	<b>MC 5408 BGII (ZC)</b>	14.63	19.19	13.58	16.48	13.97	8.48	16.20	14.65
18	DC5421 BGII	13.68	21.63	17.28	17.94	19.15	11.11	12.45	16.18
19	SP7712 BGII	14.39	28.11	13.37	18.70	10.96	9.59	10.56	15.10
CD@5%			3.19	3.42	3.58	2.43		2.80	
CV %			8.57	12.6	11.65	8.9		12.43	

Table: Seed Cotton Yield at 165 DAS (q/ha) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean
1	NCS 9171 Bt2	12.80	9.21	2.67	8.13	10.82	6.71	2.19	7.50
2	KCH9363 BGII	13.95	9.65	1.85	11.58	11.89	11.07	2.70	8.96
3	DACH 37N73 BGII	9.37	9.24	0.82	11.54	8.83	10.19	1.90	7.41
4	ARCH 3333 BGII,	10.29	9.50	3.50	8.99	10.31	10.97	2.82	8.05
5	BANNO BT II	10.29	9.81	1.65	7.61	10.93	8.50	2.36	7.31
6	DC5422 BGII	7.32	7.89	2.88	8.95	8.85	6.63	2.90	6.49
7	DACH 39N93 BGII	11.20	9.24	4.53	11.23	12.67	10.64	2.03	8.79
8	ECH 234 BGII	14.40	9.11	2.26	8.74	11.98	7.67	2.19	8.05
9	ARCH 4444 BGII	10.29	5.43	1.85	8.27	8.75	10.02	1.68	6.61
10	US 721 BGII	10.06	7.38	4.53	9.34	7.61	9.67	1.68	7.18
11	PRCH 7575 Bt2	9.60	9.09	2.26	7.92	11.25	7.94	1.66	7.10
12	GBCH 1010 BGII	13.03	9.62	3.09	6.90	9.81	10.41	1.92	7.83
13	<b>RCH 926 BGII (ZC)</b>	9.37	5.96	2.67	8.35	8.33	4.09	1.79	5.79
14	PCH 8552 Bt2	5.72	5.15	1.85	6.90	8.66	9.38	1.45	5.59
15	SP7711 BGII	11.43	8.67	3.09	8.21	11.72	8.99	2.06	7.74
16	KCH9362 BGII	10.29	9.82	5.35	12.96	12.83	10.82	3.10	9.31
17	<b>MC 5408 BGII (ZC)</b>	6.86	7.95	2.26	11.89	9.32	7.41	2.22	6.84
18	DC5421 BGII	12.35	9.01	3.09	6.79	11.20	9.09	1.83	7.62
19	SP7712 BGII	10.52	5.87	2.67	8.13	10.07	7.63	2.33	6.75
CD@5%			1.79	1.95	1.72	2.05		8.00	
CV %			13.06	40.60	11.38	12.00		23.76	

Table: Total Seed Cotton Yield (q/ha) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Abohar (Nuziveedu)	Mean	Rank	% Inc over best check
1	NCS 9171 Bt2	19.34	25.16	31.16	20.99	23.61	23.84	12.00	18.77	21.86	14	2.5
2	KCH9363 BGII	14.45	28.92	32.79	16.05	32.37	33.91	21.48	18.17	24.77	3	16.2
3	DACH 37N73 BGII	22.24	26.20	34.90	16.05	31.08	30.60	19.90	13.04	24.25	6	13.7
4	ARCH 3333 BGII,	22.2	24.49	34.38	21.40	28.37	31.34	20.03	12.99	24.40	4	14.4
5	BANNO BT II	20.64	24.36	33.94	18.52	24.59	24.62	17.35	14.10	22.27	11	4.4
6	DC5422 BGII	23.25	24.02	26.86	20.37	27.47	17.50	13.83	12.40	20.71	18	-2.8
7	DACH 39N93 BGII	26.27	28.47	36.14	22.63	31.68	34.26	20.43	14.45	26.79	1	25.7
8	ECH 234 BGII	25.81	29.69	31.88	20.37	27.50	24.02	12.26	13.40	23.12	8	8.4
9	ARCH 4444 BGII	23.35	32.55	25.28	19.75	27.24	29.75	19.86	16.35	24.27	5	13.8
10	US 721 BGII	18.48	24.13	26.04	20.78	29.22	31.47	19.03	16.12	23.16	7	8.6
11	PRCH 7575 Bt2	14.33	22.92	30.92	15.84	22.65	22.95	12.78	16.71	19.89	19	-6.7
12	GBCH 1010 BGII	20.21	25.08	32.64	20.37	26.58	23.22	17.65	14.47	22.53	10	5.7
13	<b>RCH 926 BGII (ZC)</b>	15.13	26.56	27.72	16.05	29.15	24.08	10.14	17.64	20.81	17	-2.4
14	PCH 8552 Bt2	22.11	24.23	25.82	19.55	21.79	27.34	17.76	17.92	22.07	12	3.5
15	SP7711 BGII	16.34	24.01	29.50	22.43	26.74	22.83	16.98	16.28	21.89	13	2.7
16	KCH9362 BGII	19.47	27.73	33.36	21.81	33.33	34.24	21.52	17.89	26.17	2	22.7
17	<b>MC 5408 BGII (ZC)</b>	20.15	21.49	27.13	15.84	28.37	23.30	15.88	18.42	21.32	15	0.0
18	DC5421 BGII	17.73	26.03	30.64	20.37	24.73	30.35	20.21	14.28	23.04	9	8.1
19	SP7712 BGII	14.89	24.91	33.99	16.05	26.83	21.03	17.22	12.89	20.98	16	-1.6
CD@5%		3.16	3.68	3.72	2.67	4.36	3.35	3.43	2.90			
CV %		9.67	8.5	7.30	8.40	9.52	7.50	12.05	11.32			

## Evaluation under Protected Condition for Insect pests and Diseases

### Reaction to Insect Pest

**Table: Initial H X H trial in North Zone under Protected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	2.17	1.15	1.47	3.84	0.95	<b>1.92</b>	<b>BETL</b>
KCH9363 BGII	4.42	1.32	1.69	4.73	1.18	<b>2.67</b>	<b>BETL</b>
DACH 37N73 BGII	2.50	1.15	1.82	4.87	0.89	<b>2.25</b>	<b>BETL</b>
ARCH 3333 BGII,	4.08	0.35	2.20	4.98	1.33	<b>2.59</b>	<b>BETL</b>
BANNO BT II	3.42	0.72	2.00	5.09	1.24	<b>2.49</b>	<b>BETL</b>
DC5422 BGII	4.17	0.67	1.93	4.47	1.53	<b>2.55</b>	<b>BETL</b>
DACH 39N93 BGII	4.33	0.70	1.87	5.40	1.36	<b>2.73</b>	<b>BETL</b>
ECH 234 BGII	3.92	0.93	1.67	5.04	2.11	<b>2.73</b>	<b>BETL</b>
ARCH 4444 BGII	4.58	0.88	1.84	5.53	1.97	<b>2.96</b>	<b>BETL</b>
US 721 BGII	4.33	0.62	1.67	4.58	1.53	<b>2.55</b>	<b>BETL</b>
PRCH 7575 Bt2	4.17	0.75	1.82	5.22	1.05	<b>2.60</b>	<b>BETL</b>
GBCH 1010 BGII	2.92	0.72	1.89	4.78	1.64	<b>2.39</b>	<b>BETL</b>
Zonal BGII Check – 1	4.08	0.88	1.67	5.11	1.26	<b>2.60</b>	<b>BETL</b>
PCH 8552 Bt2	3.00	0.88	1.67	4.62	1.13	<b>2.26</b>	<b>BETL</b>
SP7711 BGII	3.92	0.70	2.18	4.02	1.62	<b>2.49</b>	<b>BETL</b>
KCH9362 BGII	4.25	0.65	1.91	4.58	1.18	<b>2.51</b>	<b>BETL</b>
Zonal BGII Check – 2	4.75	0.80	1.71	5.49	1.74	<b>2.90</b>	<b>BETL</b>
DC5421 BGII	3.83	0.88	1.93	5.13	1.11	<b>2.58</b>	<b>BETL</b>
SP7712 BGII	3.50	0.88	2.11	4.47	1.44	<b>2.48</b>	<b>BETL</b>

**FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar**

**Table: Initial H X H trial in North Zone under Protected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	III	I	II	II	I	II	
KCH9363 BGII	III	I	II	II	I	II	
DACH 37N73 BGII	III	I	II	II	I	II	
ARCH 3333 BGII,	III	I	II	II	I	II	
BANNO BT II	III	I	II	II	I	II	
DC5422 BGII	III	I	II	II	I	II	
DACH 39N93 BGII	III	I	III	II	I	II	
ECH 234 BGII	III	I	III	II	I	II	
ARCH 4444 BGII	III	I	II	II	I	II	
US 721 BGII	III	I	III	II	I	II	
PRCH 7575 Bt2	III	I	II	II	I	II	
GBCH 1010 BGII	III	I	III	II	I	II	
Zonal BGII Check – 1	III	I	II	II	I	II	
PCH 8552 Bt2	III	I	II	II	I	II	
SP7711 BGII	III	I	II	II	I	II	
KCH9362 BGII	III	I	II	II	I	II	
Zonal BGII Check – 2	III	I	II	II	I	II	
DC5421 BGII	III	I	II	II	I	II	
SP7712 BGII	II	I	II	II	I	II	

**FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar**



**Table: Initial H X H trial in North Zone under Protected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	11.25	20.90	10.56	15.76	9.65	<b>13.62</b>	BETL
KCH9363 BGII	9.58	23.45	11.02	14.18	8.99	<b>13.44</b>	BETL
DACH 37N73 BGII	8.75	23.20	13.44	16.60	8.89	<b>14.18</b>	BETL
ARCH 3333 BGII,	8.92	21.90	10.84	16.27	9.52	<b>13.49</b>	BETL
BANNO BT II	8.83	25.58	10.60	17.64	9.37	<b>14.41</b>	BETL
DC5422 BGII	12.58	37.55	10.47	14.87	10.33	<b>17.16</b>	BETL
DACH 39N93 BGII	11.75	37.60	11.47	14.71	9.72	<b>17.05</b>	BETL
ECH 234 BGII	9.25	37.50	10.87	17.62	9.65	<b>16.98</b>	BETL
ARCH 4444 BGII	8.67	39.10	14.96	16.60	10.18	<b>17.90</b>	BETL
US 721 BGII	7.42	36.23	11.38	14.87	11.09	<b>16.20</b>	BETL
PRCH 7575 Bt2	10.42	34.70	10.33	15.89	9.90	<b>16.25</b>	BETL
GBCH 1010 BGII	8.83	35.43	12.40	18.36	9.26	<b>16.86</b>	BETL
Zonal BGII Check – 1	11.42	37.07	12.22	17.22	9.17	<b>17.42</b>	BETL
PCH 8552 Bt2	9.42	41.67	12.69	16.27	11.19	<b>18.24</b>	BETL
SP7711 BGII	8.92	36.63	12.27	15.42	8.84	<b>16.42</b>	BETL
KCH9362 BGII	11.83	35.73	12.98	17.31	9.81	<b>17.53</b>	BETL
Zonal BGII Check – 2	8.83	37.90	11.93	15.02	11.29	<b>17.00</b>	BETL
DC5421 BGII	9.50	36.20	12.42	15.02	10.44	<b>16.72</b>	BETL
SP7712 BGII	11.33	38.50	13.98	15.56	9.14	<b>17.70</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H trial in North Zone under Protected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	4.50	4.43	2.91	13.80	15.70	<b>8.27</b>	BETL
KCH9363 BGII	5.25	4.17	3.00	13.04	14.54	<b>8.00</b>	BETL
DACH 37N73 BGII	4.92	4.00	2.53	13.47	14.09	<b>7.80</b>	BETL
ARCH 3333 BGII,	4.92	4.05	3.49	13.62	17.52	<b>8.72</b>	BETL
BANNO BT II	5.17	3.20	2.91	13.18	17.87	<b>8.46</b>	BETL
DC5422 BGII	5.58	3.87	3.07	14.18	20.82	<b>9.50</b>	BETL
DACH 39N93 BGII	5.33	3.80	2.96	13.49	20.42	<b>9.20</b>	BETL
ECH 234 BGII	4.17	5.73	2.51	12.98	17.09	<b>8.50</b>	BETL
ARCH 4444 BGII	5.92	5.77	3.80	14.96	19.33	<b>9.95</b>	BETL
US 721 BGII	6.25	4.92	3.22	14.24	20.04	<b>9.73</b>	BETL
PRCH 7575 Bt2	4.50	5.43	2.42	14.36	14.58	<b>8.26</b>	BETL
GBCH 1010 BGII	5.08	5.90	2.76	13.51	20.35	<b>9.52</b>	BETL
Zonal BGII Check – 1	6.33	5.40	3.40	13.98	15.92	<b>9.01</b>	BETL
PCH 8552 Bt2	4.50	5.47	2.84	14.58	15.98	<b>8.67</b>	BETL
SP7711 BGII	5.83	5.47	2.93	13.18	16.26	<b>8.73</b>	BETL
KCH9362 BGII	8.08	4.80	3.16	15.02	22.20	<b>10.65</b>	BETL
Zonal BGII Check – 2	4.92	5.53	2.98	13.73	16.00	<b>8.63</b>	BETL
DC5421 BGII	7.17	5.33	3.36	14.44	18.57	<b>9.77</b>	BETL
SP7712 BGII	6.00	5.20	2.89	14.33	18.74	<b>9.43</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H trial in North Zone under Protected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA*	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	–	1.30	0.33	0.69	3.52	<b>1.46</b>	
KCH9363 BGII	–	1.57	0.29	0.71	1.04	<b>0.90</b>	
DACH 37N73 BGII	–	1.13	0.20	0.73	3.41	<b>1.37</b>	
ARCH 3333 BGII,	–	1.50	0.24	0.69	2.75	<b>1.30</b>	
BANNO BT II	–	1.25	0.22	1.07	3.41	<b>1.49</b>	
DC5422 BGII	–	1.43	0.29	0.96	1.44	<b>1.03</b>	
DACH 39N93 BGII	–	1.33	0.27	0.64	3.49	<b>1.43</b>	
ECH 234 BGII	–	1.45	0.27	0.89	4.15	<b>1.69</b>	
ARCH 4444 BGII	–	1.43	0.27	0.76	1.77	<b>1.06</b>	
US 721 BGII	–	1.47	0.27	1.07	2.38	<b>1.30</b>	
PRCH 7575 Bt2	–	1.47	0.29	1.16	2.85	<b>1.44</b>	
GBCH 1010 BGII	–	1.60	0.27	0.91	1.07	<b>0.96</b>	
Zonal BGII Check – 1	–	1.35	0.22	0.84	2.75	<b>1.29</b>	
PCH 8552 Bt2	–	1.42	0.29	1.33	4.52	<b>1.89</b>	
SP7711 BGII	–	1.42	0.20	1.04	2.60	<b>1.31</b>	
KCH9362 BGII	–	1.50	0.24	0.84	2.08	<b>1.17</b>	
Zonal BGII Check – 2	–	1.47	0.29	0.96	2.75	<b>1.37</b>	
DC5421 BGII	–	1.42	0.20	1.02	1.63	<b>1.07</b>	
SP7712 BGII	–	1.43	0.24	0.82	1.64	<b>1.03</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* Data not given

**Table: Initial H X H trial in North Zone under Protected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5plants )						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH9363 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 37N73 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 3333 BGII,	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
BANNO BT II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DC5422 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 39N93 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ECH 234 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 4444 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
US 721 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PRCH 7575 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
GBCH 1010 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PCH 8552 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
SP7711 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH9362 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DC5421 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
SP7712 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H trial in North Zone under Protected Conditions – Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms(No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH9363 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 37N73 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 3333 BGII,	0.00	0.00	0.00	0.00	0.00	0.00	BETL
BANNO BT II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC5422 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 39N93 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ECH 234 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 4444 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 721 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PRCH 7575 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 1010 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PCH 8552 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7711 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH9362 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC5421 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7712 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Initial H X H trial in North Zone under Protected Conditions – *Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH9363 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 37N73 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 3333 BGII,	0.00	0.00	0.00	0.00	0.00	0.00	BETL
BANNO BT II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC5422 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 39N93 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ECH 234 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 4444 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 721 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PRCH 7575 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 1010 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PCH 8552 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7711 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH9362 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC5421 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7712 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Initial H X H trial in North Zone under Protected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	1.88	0.50	0.67	0.25	1.98	<b>1.05</b>	<b>AETL</b>
KCH9363 BGII	0.88	0.33	1.56	0.25	1.76	<b>0.95</b>	<b>BETL</b>
DACH 37N73 BGII	0.88	0.33	1.33	0.08	1.31	<b>0.79</b>	<b>BETL</b>
ARCH 3333 BGII,	2.25	0.33	0.89	0.17	2.20	<b>1.17</b>	<b>AETL</b>
BANNO BT II	2.38	0.33	1.11	0.25	1.98	<b>1.21</b>	<b>AETL</b>
DC5422 BGII	1.63	0.33	0.56	0.25	2.42	<b>1.04</b>	<b>AETL</b>
DACH 39N93 BGII	1.88	0.33	0.89	0.25	3.42	<b>1.35</b>	<b>AETL</b>
ECH 234 BGII	2.88	0.17	0.89	0.08	3.76	<b>1.55</b>	<b>AETL</b>
ARCH 4444 BGII	1.50	0.50	0.89	0.25	2.20	<b>1.07</b>	<b>AETL</b>
US 721 BGII	1.13	0.17	1.11	0.33	2.42	<b>1.03</b>	<b>AETL</b>
PRCH 7575 Bt2	2.13	0.67	0.67	0.25	2.42	<b>1.23</b>	<b>AETL</b>
GBCH 1010 BGII	1.88	0.33	1.00	0.33	3.31	<b>1.37</b>	<b>AETL</b>
Zonal BGII Check – 1	0.88	0.33	1.00	0.17	3.53	<b>1.18</b>	<b>AETL</b>
PCH 8552 Bt2	1.38	0.17	1.44	0.08	1.31	<b>0.88</b>	<b>BETL</b>
SP7711 BGII	0.63	0.17	0.56	0.33	3.53	<b>1.04</b>	<b>AETL</b>
KCH9362 BGII	1.00	0.17	0.56	0.17	1.98	<b>0.77</b>	<b>BETL</b>
Zonal BGII Check – 2	0.38	0.33	0.67	0.33	3.09	<b>0.96</b>	<b>BETL</b>
DC5421 BGII	1.88	0.17	1.11	0.17	3.09	<b>1.28</b>	<b>AETL</b>
SP7712 BGII	1.25	0.33	0.56	0.25	2.87	<b>1.05</b>	<b>AETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Initial H X H trial in North Zone under Protected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
KCH9363 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
DACH 37N73 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
ARCH 3333 BGII,	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
BANNO BT II	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
DC5422 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
DACH 39N93 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
ECH 234 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
ARCH 4444 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
US 721 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
PRCH 7575 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
GBCH 1010 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
PCH 8552 Bt2	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
SP7711 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
KCH9362 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
DC5421 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>
SP7712 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>BETL</b>

FA - Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Initial H X H trial in North Zone under Protected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	15.83	5.00	7.78	6.67	8.67	<b>8.79</b>	BETL
KCH9363 BGII	7.50	8.33	15.56	10.00	3.67	<b>9.01</b>	BETL
DACH 37N73 BGII	9.17	10.00	14.44	7.50	6.00	<b>9.42</b>	BETL
ARCH 3333 BGII,	13.33	6.67	15.56	8.33	9.08	<b>10.59</b>	AETL
BANNO BT II	14.17	6.67	12.22	7.50	9.84	<b>10.08</b>	AETL
DC5422 BGII	15.00	10.00	11.11	8.33	13.50	<b>11.59</b>	AETL
DACH 39N93 BGII	12.50	6.67	8.89	10.00	15.58	<b>10.73</b>	AETL
ECH 234 BGII	13.33	1.67	13.33	10.83	7.00	<b>9.23</b>	BETL
ARCH 4444 BGII	7.50	5.00	10.00	9.17	14.08	<b>9.15</b>	BETL
US 721 BGII	9.17	6.67	11.11	10.83	16.33	<b>10.82</b>	AETL
PRCH 7575 Bt2	17.50	3.33	8.89	10.00	4.75	<b>8.89</b>	BETL
GBCH 1010 BGII	11.67	8.33	11.11	8.33	13.67	<b>10.62</b>	AETL
Zonal BGII Check – 1	7.50	1.67	11.11	7.50	10.92	<b>7.74</b>	BETL
PCH 8552 Bt2	8.33	3.33	11.11	8.33	12.00	<b>8.62</b>	BETL
SP7711 BGII	12.50	5.00	7.78	9.17	9.17	<b>8.72</b>	BETL
KCH9362 BGII	10.83	0.00	14.44	13.33	7.00	<b>9.12</b>	BETL
Zonal BGII Check – 2	6.67	3.33	13.33	11.67	7.83	<b>8.57</b>	BETL
DC5421 BGII	9.17	5.00	15.56	12.50	15.33	<b>11.51</b>	AETL
SP7712 BGII	14.17	1.67	13.33	10.00	7.00	<b>9.23</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar

**Table: Initial H X H trial in North Zone under Protected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	5.13	2.80	8.52	17.62	4.78	<b>7.77</b>	
KCH9363 BGII	2.93	3.40	8.64	17.04	5.00	<b>7.40</b>	
DACH 37N73 BGII	10.14	2.75	6.00	17.81	9.78	<b>9.30</b>	
ARCH 3333 BGII,	10.33	3.10	6.12	15.72	3.89	<b>7.83</b>	
BANNO BT II	12.92	1.10	6.42	18.53	19.44	<b>11.68</b>	
DC5422 BGII	8.09	1.65	11.68	16.56	5.00	<b>8.60</b>	
DACH 39N93 BGII	11.21	3.10	8.43	16.87	5.00	<b>8.92</b>	
ECH 234 BGII	6.99	1.80	10.62	16.82	3.89	<b>8.02</b>	
ARCH 4444 BGII	11.04	2.15	8.21	16.23	5.00	<b>8.52</b>	
US 721 BGII	3.29	1.60	11.62	16.03	18.11	<b>10.13</b>	
PRCH 7575 Bt2	18.36	2.85	10.74	16.58	5.00	<b>10.71</b>	
GBCH 1010 BGII	3.10	1.90	6.19	14.35	13.11	<b>7.73</b>	
Zonal BGII Check – 1	3.37	1.95	10.04	15.26	11.44	<b>8.41</b>	
PCH 8552 Bt2	9.40	2.65	10.40	16.85	5.00	<b>8.86</b>	
SP7711 BGII	5.87	2.40	4.85	17.05	9.78	<b>7.99</b>	
KCH9362 BGII	10.21	0.85	11.05	14.60	6.44	<b>8.63</b>	
Zonal BGII Check – 2	2.32	1.30	9.13	14.38	11.44	<b>7.72</b>	
DC5421 BGII	2.67	3.65	10.06	16.84	18.11	<b>10.26</b>	
SP7712 BGII	10.75	2.25	8.25	16.83	6.44	<b>8.91</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar



**Table: Initial H X H trial in North Zone under Protected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	3.70	0.80	3.71	8.11	3.52	<b>3.97</b>	
KCH9363 BGII	0.79	1.00	3.00	7.77	3.75	<b>3.26</b>	
DACH 37N73 BGII	4.52	0.70	3.49	8.49	6.29	<b>4.70</b>	
ARCH 3333 BGII,	4.54	0.85	2.71	7.52	2.45	<b>3.62</b>	
BANNO BT II	6.55	0.40	2.52	8.79	13.28	<b>6.31</b>	
DC5422 BGII	4.82	0.50	4.20	8.63	4.25	<b>4.48</b>	
DACH 39N93 BGII	5.00	1.10	2.62	8.09	4.40	<b>4.24</b>	
ECH 234 BGII	3.50	0.50	5.12	8.53	3.03	<b>4.14</b>	
ARCH 4444 BGII	5.65	0.60	2.76	8.27	3.76	<b>4.21</b>	
US 721 BGII	1.17	0.45	4.52	8.90	11.19	<b>5.25</b>	
PRCH 7575 Bt2	8.38	0.90	2.97	8.61	4.26	<b>5.02</b>	
GBCH 1010 BGII	3.17	0.70	2.60	7.28	9.36	<b>4.62</b>	
Zonal BGII Check – 1	2.88	0.60	2.58	7.51	6.93	<b>4.10</b>	
PCH 8552 Bt2	4.08	0.75	4.20	8.93	3.89	<b>4.37</b>	
SP7711 BGII	3.00	0.70	1.76	8.51	8.34	<b>4.46</b>	
KCH9362 BGII	6.33	0.30	3.45	7.60	5.31	<b>4.60</b>	
Zonal BGII Check – 2	1.18	0.50	3.81	6.49	7.46	<b>3.89</b>	
DC5421 BGII	1.38	1.20	4.20	8.64	9.36	<b>4.96</b>	
SP7712 BGII	5.04	0.70	2.62	8.58	5.47	<b>4.48</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H trial in North Zone under Protected Conditions – Number of sprays for Insect-pests**

Name of Entry	No. of spray for Insect-pests						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
KCH9363 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DACH 37N73 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ARCH 3333 BGII,	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
BANNO BT II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DC5422 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DACH 39N93 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ECH 234 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ARCH 4444 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
US 721 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PRCH 7575 Bt2	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
GBCH 1010 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
Zonal BGII Check – 1	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PCH 8552 Bt2	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
SP7711 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
KCH9362 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
Zonal BGII Check – 2	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DC5421 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
SP7712 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



## Reaction to Diseases

### A. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



Table. Initial Evaluation Trial of Intra-Hirsutum Hybrids (IET-Hybrids) - under protected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		Sri Ganganagar		Overall mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
108	50001	NCS 9171 Bt2	4.2	HR	3.8	HR	4.0	HR	18.3	R	11.9	R	15.1	R	12.0	R	10.4	R
111	50002	KCH9363 BGII	5.0	HR	0.0	DF	2.5	HR	6.7	HR	7.0	HR	6.9	HR	8.0	HR	5.8	HR
104	50003	DACH 37N73 BGII	5.0	HR	0.6	HR	2.8	HR	5.8	HR	2.6	HR	4.2	HR	0.8	HR	2.6	HR
114	50004	ARCH 3333 BGII,	5.0	HR	0.0	DF	2.5	HR	6.7	HR	0.5	HR	3.6	HR	14.7	R	6.9	HR
102	50005	BANNO BT II	6.7	HR	2.2	HR	4.5	HR	10.8	R	23.8	MR	17.3	R	12.5	R	11.4	R
106	50006	DC5422 BGII	7.5	HR	2.1	HR	4.8	HR	8.3	HR	12.8	R	10.6	R	12.0	R	9.1	HR
118	50007	DACH 39N93 BGII	5.0	HR	0.0	DF	2.5	HR	9.2	HR	2.1	HR	5.7	HR	0.6	HR	2.9	HR
116	50008	ECH 234 BGII	5.8	HR	7.4	HR	6.6	HR	8.3	HR	31.5	MS	19.9	R	27.5	MR	18.0	R
107	50009	ARCH 4444 BGII	5.8	HR	2.1	HR	4.0	HR	10.8	R	6.2	HR	8.5	HR	3.3	HR	5.3	HR
103	50010	US 721 BGII	5.0	HR	0.5	HR	2.8	HR	16.7	R	7.4	HR	12.1	R	9.8	HR	8.2	HR
112	50011	PRCH 7575 Bt2	5.8	HR	5.3	HR	5.6	HR	22.5	MR	13.7	R	18.1	R	14.6	R	12.8	R
109	50012	GBCH 1010 BGII	6.7	HR	2.1	HR	4.4	HR	24.2	MR	16.2	R	20.2	MR	21.1	MR	15.2	R
105	50013	<b>Zonal BGII Check – 1</b>	7.5	HR	0.5	HR	4.0	HR	18.3	R	6.6	HR	12.5	R	5.1	HR	7.2	HR
119	50014	PCH 8552 Bt2	9.2	HR	0.5	HR	4.9	HR	21.7	MR	8.7	HR	15.2	R	6.6	HR	8.9	HR
110	50015	SP7711 BGII	5.8	HR	0.5	HR	3.2	HR	17.5	R	10.5	R	14.0	R	11.1	R	9.4	HR
101	50016	KCH9362 BGII	12.5	R	2.6	HR	7.6	HR	15.8	R	14.5	R	15.2	R	9.6	HR	10.8	R
117	50017	<b>Zonal BGII Check – 2</b>	5.0	HR	2.0	HR	3.5	HR	13.3	R	11.4	R	12.4	R	12.2	R	9.4	HR
113	50018	DC5421 BGII	5.0	HR	0.0	DF	2.5	HR	17.5	R	12.7	R	15.1	R	6.7	HR	8.1	HR
115	50019	SP7712 BGII	5.8	HR	4.7	HR	5.3	HR	12.5	R	3.2	HR	7.9	HR	12.3	R	8.5	HR



Table. Initial Evaluation Trial of Intra-Hirsutum Hybrids (IET-Hybrids)-under protected conditions and under unprotected conditions

Code-I	Code-II	Entries	Average FFLS, BLB PDI & Disease Reaction (DR) Under protected conditions: Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
108	NCS 9171 Bt2	NCS 9171 Bt2	7.5	2.5	R
111	KCH9363 BGII	KCH9363 BGII	8.8	3.3	R
104	DACH 37N73 BGII	DACH 37N73 BGII	10.3	4.3	R
114	ARCH 3333 BGII,	ARCH 3333 BGII,	9.3	5.8	R
102	BANNO BT II	BANNO BT II	10.3	5.5	R
106	DC5422 BGII	DC5422 BGII	9.8	5.8	R
118	DACH 39N93 BGII	DACH 39N93 BGII	9.5	5.3	R
116	ECH 234 BGII	ECH 234 BGII	9.8	5.5	R
107	ARCH 4444 BGII	ARCH 4444 BGII	9.8	5.8	R
103	US 721 BGII	US 721 BGII	9.3	4.8	R
112	PRCH 7575 Bt2	PRCH 7575 Bt2	10.0	6.0	R
109	GBCH 1010 BGII	GBCH 1010 BGII	9.5	5.0	R
105	Zonal BGII Check – 1	<b>Zonal BGII Check – 1</b>	9.0	4.0	R
119	PCH 8552 Bt2	PCH 8552 Bt2	10.3	5.5	R
110	SP7711 BGII	SP7711 BGII	9.0	4.5	R
101	KCH9362 BGII	KCH9362 BGII	11.3	5.8	R
117	Zonal BGII Check – 2	<b>Zonal BGII Check – 2</b>	10.5	6.0	R
113	DC5421 BGII	DC5421 BGII	11.0	5.3	R
115	SP7712 BGII	SP7712 BGII	11.8	5.5	R



Table. Initial Evaluation Trial of Intra-Hirsutum Hybrids (IET-Hybrids) - under protected conditions and under unprotected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under Protected conditions			
			Ankur, Fazilka		Kaveri, Hanumangarh	
			PDI	DR	PDI	DR
108	NCS 9171 Bt2	NCS 9171 Bt2	0.3	HR	7.2	HR
111	KCH9363 BGII	KCH9363 BGII	0.0	DF	3.1	HR
104	DACH 37N73 BGII	DACH 37N73 BGII	0.0	DF	2.3	HR
114	ARCH 3333 BGII,	ARCH 3333 BGII,	0.0	DF	9.8	HR
102	BANNO BT II	BANNO BT II	0.8	HR	7.4	HR
106	DC5422 BGII	DC5422 BGII	0.0	DF	7.1	HR
118	DACH 39N93 BGII	DACH 39N93 BGII	0.0	DF	1.6	HR
116	ECH 234 BGII	ECH 234 BGII	1.1	HR	15.2	R
107	ARCH 4444 BGII	ARCH 4444 BGII	0.0	DF	2.9	HR
103	US 721 BGII	US 721 BGII	0.3	HR	6.1	HR
112	PRCH 7575 Bt2	PRCH 7575 Bt2	0.8	HR	9.1	HR
109	GBCH 1010 BGII	GBCH 1010 BGII	1.3	HR	13.3	R
105	Zonal BGII Check – 1	<b>Zonal BGII Check – 1</b>	0.2	HR	3.6	HR
119	PCH 8552 Bt2	PCH 8552 Bt2	0.3	HR	3.4	HR
110	SP7711 BGII	SP7711 BGII	0.0	DF	6.5	HR
101	KCH9362 BGII	KCH9362 BGII	0.6	HR	4.1	HR
117	Zonal BGII Check – 2	<b>Zonal BGII Check – 2</b>	0.0	DF	9.1	HR
113	DC5421 BGII	DC5421 BGII	0.6	HR	4.3	HR
115	SP7712 BGII	SP7712 BGII	0.6	HR	7.1	HR



## Evaluation under Unprotected Condition for Insect pests & Disease Incidence Reaction to Insect Pest

**Table: Initial H X H trial in North Zone under Unprotected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	6.42	1.63	3.73	6.90	1.14	<b>3.97</b>	<b>BETL</b>
KCH9363 BGII	5.83	1.40	3.60	6.75	1.66	<b>3.85</b>	<b>BETL</b>
DACH 37N73 BGII	6.17	1.73	3.02	6.30	1.74	<b>3.79</b>	<b>BETL</b>
ARCH 3333 BGII,	8.00	1.60	3.51	6.75	2.54	<b>4.48</b>	<b>BETL</b>
BANNO BT II	5.83	2.23	2.82	6.90	1.80	<b>3.92</b>	<b>BETL</b>
DC5422 BGII	6.67	1.60	3.71	7.10	2.43	<b>4.30</b>	<b>BETL</b>
DACH 39N93 BGII	8.92	1.70	3.44	5.95	1.86	<b>4.37</b>	<b>BETL</b>
ECH 234 BGII	4.83	1.53	3.27	7.05	2.86	<b>3.91</b>	<b>BETL</b>
ARCH 4444 BGII	8.83	1.33	4.53	7.20	2.49	<b>4.88</b>	<b>BETL</b>
US 721 BGII	6.58	1.70	3.69	7.45	1.89	<b>4.26</b>	<b>BETL</b>
PRCH 7575 Bt2	7.33	1.90	4.07	6.25	2.05	<b>4.32</b>	<b>BETL</b>
GBCH 1010 BGII	6.75	1.50	3.20	6.75	2.36	<b>4.11</b>	<b>BETL</b>
Zonal BGII Check – 1	8.33	1.80	3.67	6.60	1.49	<b>4.38</b>	<b>BETL</b>
PCH 8552 Bt2	5.92	1.57	3.60	7.10	2.43	<b>4.12</b>	<b>BETL</b>
SP7711 BGII	7.67	1.27	3.22	7.05	2.37	<b>4.31</b>	<b>BETL</b>
KCH9362 BGII	7.08	1.07	4.04	7.70	1.98	<b>4.38</b>	<b>BETL</b>
Zonal BGII Check – 2	7.08	1.13	3.89	6.15	1.80	<b>4.01</b>	<b>BETL</b>
DC5421 BGII	8.17	1.20	3.40	7.05	2.61	<b>4.48</b>	<b>BETL</b>
SP7712 BGII	7.92	1.23	3.16	7.00	2.21	<b>4.30</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H trial in North Zone under Unprotected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	III	I	III	II	I	II	
KCH9363 BGII	III	I	II	II	I	II	
DACH 37N73 BGII	III	I	II	II	I	II	
ARCH 3333 BGII,	III	I	III	II	I	II	
BANNO BT II	III	I	III	II	I	II	
DC5422 BGII	III	I	III	II	I	II	
DACH 39N93 BGII	III	I	III	II	I	II	
ECH 234 BGII	III	I	III	II	I	II	
ARCH 4444 BGII	IV	I	III	II	I	II	
US 721 BGII	III	I	III	II	I	II	
PRCH 7575 Bt2	IV	I	II	II	I	II	
GBCH 1010 BGII	III	I	III	II	I	II	
Zonal BGII Check – 1	III	I	II	II	I	II	
PCH 8552 Bt2	III	I	II	II	I	II	
SP7711 BGII	III	I	III	II	I	II	
KCH9362 BGII	III	I	II	II	I	II	
Zonal BGII Check – 2	III	I	II	II	I	II	
DC5421 BGII	III	I	II	II	I	II	
SP7712 BGII	III	I	II	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H trial in North Zone under Unprotected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	16.67	32.90	18.47	21.60	13.47	<b>20.62</b>	BETL
KCH9363 BGII	14.50	36.73	17.18	21.10	12.43	<b>20.39</b>	BETL
DACH 37N73 BGII	14.83	36.57	18.69	20.65	13.14	<b>20.78</b>	BETL
ARCH 3333 BGII,	12.42	34.07	15.40	20.60	12.39	<b>18.97</b>	BETL
BANNO BT II	13.42	39.80	17.91	20.45	12.39	<b>20.79</b>	BETL
DC5422 BGII	16.50	60.00	19.24	20.75	12.70	<b>25.84</b>	BETL
DACH 39N93 BGII	16.33	60.23	15.87	20.15	13.28	<b>25.17</b>	BETL
ECH 234 BGII	14.83	61.13	18.62	19.60	13.36	<b>25.51</b>	BETL
ARCH 4444 BGII	16.17	62.67	17.67	20.70	13.31	<b>26.10</b>	BETL
US 721 BGII	15.25	58.83	19.16	19.90	14.49	<b>25.53</b>	BETL
PRCH 7575 Bt2	16.00	59.53	23.16	19.15	12.51	<b>26.07</b>	BETL
GBCH 1010 BGII	16.67	63.43	17.98	20.25	13.44	<b>26.35</b>	BETL
Zonal BGII Check – 1	17.00	59.43	18.11	19.90	12.74	<b>25.44</b>	BETL
PCH 8552 Bt2	16.92	66.83	17.73	20.05	15.33	<b>27.37</b>	BETL
SP7711 BGII	13.42	58.60	20.13	20.80	12.88	<b>25.17</b>	BETL
KCH9362 BGII	16.50	60.53	21.16	21.05	13.55	<b>26.56</b>	BETL
Zonal BGII Check – 2	18.92	60.82	18.42	21.15	14.38	<b>26.74</b>	BETL
DC5421 BGII	17.75	63.60	18.96	19.55	14.35	<b>26.84</b>	BETL
SP7712 BGII	18.67	65.20	17.93	20.60	12.78	<b>27.04</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H trial in North Zone under Unprotected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	22.58	8.95	5.58	19.85	18.91	<b>15.17</b>	BETL
KCH9363 BGII	27.08	9.20	7.13	20.00	17.41	<b>16.16</b>	BETL
DACH 37N73 BGII	25.75	8.57	7.16	19.35	18.01	<b>15.77</b>	BETL
ARCH 3333 BGII,	26.92	9.57	7.36	19.40	21.55	<b>16.96</b>	BETL
BANNO BT II	27.25	8.70	9.11	16.95	21.24	<b>16.65</b>	BETL
DC5422 BGII	26.25	8.83	7.53	18.45	22.92	<b>16.80</b>	BETL
DACH 39N93 BGII	19.83	8.67	9.29	18.15	23.91	<b>15.97</b>	BETL
ECH 234 BGII	17.92	9.07	9.53	19.85	21.15	<b>15.50</b>	BETL
ARCH 4444 BGII	21.92	10.13	7.51	18.70	21.08	<b>15.87</b>	BETL
US 721 BGII	19.67	9.47	9.53	22.90	19.57	<b>16.23</b>	BETL
PRCH 7575 Bt2	20.42	7.60	8.73	21.20	18.12	<b>15.21</b>	BETL
GBCH 1010 BGII	22.17	9.10	8.18	21.50	23.89	<b>16.97</b>	BETL
Zonal BGII Check – 1	21.83	8.57	7.78	19.75	18.95	<b>15.37</b>	BETL
PCH 8552 Bt2	21.83	8.77	8.04	25.15	19.67	<b>16.69</b>	BETL
SP7711 BGII	22.25	8.70	7.20	19.75	21.30	<b>15.84</b>	BETL
KCH9362 BGII	21.75	9.07	10.04	21.35	24.79	<b>17.40</b>	BETL
Zonal BGII Check – 2	23.00	9.63	7.42	19.10	17.23	<b>15.28</b>	BETL
DC5421 BGII	22.00	8.87	6.67	21.45	19.92	<b>15.78</b>	BETL
SP7712 BGII	27.58	8.87	8.62	21.90	21.32	<b>17.66</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H trial in North Zone under Unprotected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	1.94	1.43	0.31	2.05	3.97	<b>1.94</b>	
KCH9363 BGII	2.17	1.50	0.27	2.55	1.48	<b>1.59</b>	
DACH 37N73 BGII	2.15	1.23	0.29	1.85	3.84	<b>1.87</b>	
ARCH 3333 BGII,	2.49	1.47	0.33	2.15	3.18	<b>1.92</b>	
BANNO BT II	1.50	1.37	0.27	1.75	3.81	<b>1.74</b>	
DC5422 BGII	3.13	1.38	0.33	1.80	1.85	<b>1.70</b>	
DACH 39N93 BGII	2.34	1.50	0.27	1.90	3.95	<b>1.99</b>	
ECH 234 BGII	2.26	1.48	0.33	1.80	4.58	<b>2.09</b>	
ARCH 4444 BGII	2.75	1.47	0.38	2.00	2.21	<b>1.76</b>	
US 721 BGII	1.94	1.43	0.27	1.90	2.82	<b>1.67</b>	
PRCH 7575 Bt2	2.39	1.55	0.36	2.00	3.30	<b>1.92</b>	
GBCH 1010 BGII	2.39	1.42	0.29	1.65	1.51	<b>1.45</b>	
Zonal BGII Check – 1	2.57	1.50	0.27	1.55	3.19	<b>1.82</b>	
PCH 8552 Bt2	2.06	1.40	0.31	1.25	4.97	<b>2.00</b>	
SP7711 BGII	2.07	1.37	0.27	1.40	3.04	<b>1.63</b>	
KCH9362 BGII	2.12	1.48	0.31	1.30	2.52	<b>1.55</b>	
Zonal BGII Check – 2	1.94	1.20	0.24	1.30	3.18	<b>1.57</b>	
DC5421 BGII	2.73	1.33	0.31	1.20	2.07	<b>1.53</b>	
SP7712 BGII	2.47	1.40	0.29	1.45	2.09	<b>1.54</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Initial H X H trial in North Zone under Unprotected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5plants )						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH9363 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 37N73 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 3333 BGII,	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
BANNO BT II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DC5422 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 39N93 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ECH 234 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 4444 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
US 721 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PRCH 7575 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
GBCH 1010 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PCH 8552 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
SP7711 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH9362 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DC5421 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
SP7712 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



Table: Initial H X H trial in North Zone under Unprotected Conditions – Spotted/Spiny Bollworms

Name of Entry	Spotted Bollworms(No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
KCH9363 BGII	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
DACH 37N73 BGII	0.00	1.00	0.00	0.00	0.00	<b>0.20</b>	BETL
ARCH 3333 BGII,	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
BANNO BT II	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
DC5422 BGII	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
DACH 39N93 BGII	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
ECH 234 BGII	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
ARCH 4444 BGII	0.00	2.00	0.00	0.00	0.00	<b>0.40</b>	BETL
US 721 BGII	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
PRCH 7575 Bt2	0.00	1.00	0.00	0.00	0.00	<b>0.20</b>	BETL
GBCH 1010 BGII	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
Zonal BGII Check – 1	0.00	2.00	0.00	0.00	0.00	<b>0.40</b>	BETL
PCH 8552 Bt2	0.00	3.00	0.00	0.00	0.00	<b>0.60</b>	BETL
SP7711 BGII	0.00	1.00	0.00	0.00	0.00	<b>0.20</b>	BETL
KCH9362 BGII	0.00	1.00	0.00	0.00	0.00	<b>0.20</b>	BETL
Zonal BGII Check – 2	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
DC5421 BGII	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
SP7712 BGII	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

Table: Initial H X H trial in North Zone under Unprotected Conditions – *Spodoptera litura*

Name of Entry	<i>Spodoptera litura</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH9363 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 37N73 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 3333 BGII,	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
BANNO BT II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DC5422 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 39N93 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ECH 234 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 4444 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
US 721 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PRCH 7575 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 1010 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PCH 8552 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
SP7711 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH9362 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DC5421 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
SP7712 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Initial H X H trial in North Zone under Unprotected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva ( No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.88	1.50	1.44	0.38	2.07	<b>1.25</b>	<b>AETL</b>
KCH9363 BGII	1.00	3.50	1.22	0.75	1.73	<b>1.64</b>	<b>AETL</b>
DACH 37N73 BGII	1.88	1.50	1.00	0.63	1.32	<b>1.26</b>	<b>AETL</b>
ARCH 3333 BGII,	1.13	1.50	1.33	0.25	1.99	<b>1.24</b>	<b>AETL</b>
BANNO BT II	2.25	2.00	1.56	0.75	1.99	<b>1.71</b>	<b>AETL</b>
DC5422 BGII	0.75	1.50	0.78	0.13	2.20	<b>1.07</b>	<b>AETL</b>
DACH 39N93 BGII	1.00	2.50	1.00	0.63	2.88	<b>1.60</b>	<b>AETL</b>
ECH 234 BGII	1.38	2.50	1.44	0.38	3.32	<b>1.80</b>	<b>AETL</b>
ARCH 4444 BGII	1.75	1.50	1.78	0.13	2.02	<b>1.43</b>	<b>AETL</b>
US 721 BGII	0.75	2.50	1.56	0.38	2.15	<b>1.47</b>	<b>AETL</b>
PRCH 7575 Bt2	1.13	1.00	1.33	0.25	2.15	<b>1.17</b>	<b>AETL</b>
GBCH 1010 BGII	1.13	2.50	1.89	0.63	2.82	<b>1.79</b>	<b>AETL</b>
Zonal BGII Check – 1	1.13	2.50	1.56	1.00	2.99	<b>1.83</b>	<b>AETL</b>
PCH 8552 Bt2	1.25	1.50	1.44	0.13	1.32	<b>1.13</b>	<b>AETL</b>
SP7711 BGII	1.88	2.00	1.33	0.25	3.07	<b>1.71</b>	<b>AETL</b>
KCH9362 BGII	0.75	2.00	0.89	0.63	1.82	<b>1.22</b>	<b>AETL</b>
Zonal BGII Check – 2	1.50	2.50	1.00	0.38	2.65	<b>1.61</b>	<b>AETL</b>
DC5421 BGII	1.13	1.50	1.56	0.25	2.82	<b>1.45</b>	<b>AETL</b>
SP7712 BGII	0.75	2.50	2.33	0.13	2.49	<b>1.64</b>	<b>AETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H trial in North Zone under Unprotected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH9363 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 37N73 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 3333 BGII,	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
BANNO BT II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DC5422 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 39N93 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ECH 234 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 4444 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
US 721 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PRCH 7575 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
GBCH 1010 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PCH 8552 Bt2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
SP7711 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH9362 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DC5421 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
SP7712 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H trial in North Zone under Unprotected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	5.83	15.00	17.78	10.00	12.17	<b>12.16</b>	AETL
KCH9363 BGII	7.50	25.00	20.00	11.25	7.17	<b>14.18</b>	AETL
DACH 37N73 BGII	13.33	20.00	17.78	8.75	7.58	<b>13.49</b>	AETL
ARCH 3333 BGII,	7.50	15.00	21.11	7.50	12.58	<b>12.74</b>	AETL
BANNO BT II	11.67	20.00	17.78	16.25	13.34	<b>15.81</b>	AETL
DC5422 BGII	7.50	15.00	10.00	6.25	18.42	<b>11.43</b>	AETL
DACH 39N93 BGII	9.58	25.00	18.89	12.50	22.17	<b>17.63</b>	AETL
ECH 234 BGII	14.17	20.00	14.44	7.50	10.50	<b>13.32</b>	AETL
ARCH 4444 BGII	18.33	25.00	18.89	10.00	17.58	<b>17.96</b>	AETL
US 721 BGII	9.17	25.00	15.56	8.75	22.17	<b>16.13</b>	AETL
PRCH 7575 Bt2	9.17	10.00	17.78	6.25	10.17	<b>10.67</b>	AETL
GBCH 1010 BGII	15.00	25.00	21.11	8.75	17.17	<b>17.41</b>	AETL
Zonal BGII Check – 1	12.50	16.00	25.56	21.25	15.08	<b>18.08</b>	AETL
PCH 8552 Bt2	7.50	20.00	20.00	7.50	15.50	<b>14.10</b>	AETL
SP7711 BGII	11.67	25.00	20.00	10.00	12.67	<b>15.87</b>	AETL
KCH9362 BGII	18.33	10.00	15.56	11.25	10.50	<b>13.13</b>	AETL
Zonal BGII Check – 2	24.17	30.00	15.56	10.00	11.33	<b>18.21</b>	AETL
DC5421 BGII	12.08	20.00	23.33	6.25	18.83	<b>16.10</b>	AETL
SP7712 BGII	9.17	25.00	27.78	8.75	10.50	<b>16.24</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H trial in North Zone under Unprotected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	8.07	22.50	7.09	16.49	40.00	<b>18.83</b>	
KCH9363 BGII	16.91	17.50	12.31	18.53	38.33	<b>20.72</b>	
DACH 37N73 BGII	17.46	27.50	8.57	19.68	45.00	<b>23.64</b>	
ARCH 3333 BGII,	7.22	20.00	8.58	19.43	36.67	<b>18.38</b>	
BANNO BT II	9.09	20.00	10.84	12.88	61.67	<b>22.89</b>	
DC5422 BGII	12.45	17.50	11.04	16.92	30.00	<b>17.58</b>	
DACH 39N93 BGII	7.43	22.50	10.26	16.02	38.33	<b>18.91</b>	
ECH 234 BGII	9.33	15.00	12.21	16.50	36.67	<b>17.94</b>	
ARCH 4444 BGII	6.75	22.50	9.98	18.66	38.33	<b>19.24</b>	
US 721 BGII	8.02	22.50	7.74	24.70	53.33	<b>23.26</b>	
PRCH 7575 Bt2	8.34	17.50	9.21	22.58	31.67	<b>17.86</b>	
GBCH 1010 BGII	14.81	17.50	10.32	25.68	48.33	<b>23.33</b>	
Zonal BGII Check – 1	18.33	25.00	9.64	18.82	46.67	<b>23.69</b>	
PCH 8552 Bt2	5.14	27.50	10.93	26.44	26.67	<b>19.33</b>	
SP7711 BGII	11.84	22.50	12.00	19.58	45.00	<b>22.18</b>	
KCH9362 BGII	14.12	20.00	11.32	18.23	41.67	<b>21.07</b>	
Zonal BGII Check – 2	6.95	20.00	10.47	18.48	46.67	<b>20.51</b>	
DC5421 BGII	15.41	17.50	10.77	20.55	53.33	<b>23.51</b>	
SP7712 BGII	11.18	12.50	9.05	17.29	41.67	<b>18.34</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H trial in North Zone under Unprotected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
NCS 9171 Bt2	4.05	3.02	2.80	8.24	14.61	<b>6.54</b>	
KCH9363 BGII	9.04	1.90	4.84	7.31	16.04	<b>7.83</b>	
DACH 37N73 BGII	8.66	2.75	2.88	8.78	12.24	<b>7.06</b>	
ARCH 3333 BGII,	3.37	1.93	4.61	7.60	17.08	<b>6.92</b>	
BANNO BT II	4.63	2.80	5.49	7.98	22.32	<b>8.65</b>	
DC5422 BGII	5.73	2.50	6.08	6.21	14.20	<b>6.94</b>	
DACH 39N93 BGII	4.17	2.55	5.81	7.93	13.06	<b>6.70</b>	
ECH 234 BGII	4.72	3.65	6.24	8.16	14.66	<b>7.49</b>	
ARCH 4444 BGII	2.96	3.10	5.22	8.57	14.31	<b>6.83</b>	
US 721 BGII	4.33	1.70	3.96	10.20	18.25	<b>7.69</b>	
PRCH 7575 Bt2	4.06	4.60	4.06	9.52	33.85	<b>11.22</b>	
GBCH 1010 BGII	6.96	3.30	5.07	12.55	21.32	<b>9.84</b>	
Zonal BGII Check – 1	8.48	3.05	4.34	9.18	14.89	<b>7.99</b>	
PCH 8552 Bt2	2.10	1.65	3.95	13.62	11.51	<b>6.57</b>	
SP7711 BGII	6.01	1.85	4.51	7.65	19.63	<b>7.93</b>	
KCH9362 BGII	6.24	3.15	4.40	7.03	17.60	<b>7.68</b>	
Zonal BGII Check – 2	3.52	3.85	4.20	8.70	15.42	<b>7.14</b>	
DC5421 BGII	8.43	4.60	4.41	8.94	16.32	<b>8.54</b>	
SP7712 BGII	4.65	3.00	4.60	7.93	16.43	<b>7.32</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



## Reaction to Diseases

**Table. Initial Evaluation Trial of Intra-Hirsutum Hybrids (IET-Hybrids) under unprotected conditions**

Code-I	Code-II	Entries	Average FFLS, BLB PDI & Disease Reaction (DR) Under unprotected conditions: Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
108	50001	NCS 9171 Bt2	10.5	5.3	R
111	50002	KCH9363 BGII	14.8	6.8	R
104	50003	DACH 37N73 BGII	13.3	6.3	R
114	50004	ARCH 3333 BGII,	14.0	6.0	R
102	50005	BANNO BT II	12.0	6.3	R
106	50006	DC5422 BGII	12.0	6.3	R
118	50007	DACH 39N93 BGII	13.3	6.0	R
116	50008	ECH 234 BGII	12.8	6.0	R
107	50009	ARCH 4444 BGII	14.3	6.0	R
103	50010	US 721 BGII	13.0	5.3	R
112	50011	PRCH 7575 Bt2	12.5	6.3	R
109	50012	GBCH 1010 BGII	13.5	5.5	R
105	50013	<b>Zonal BGII Check – 1</b>	14.0	5.0	R
119	50014	PCH 8552 Bt2	14.5	6.0	R
110	50015	SP7711 BGII	13.5	4.8	R
101	50016	KCH9362 BGII	14.0	7.0	R
117	50017	<b>Zonal BGII Check – 2</b>	14.5	6.3	R
113	50018	DC5421 BGII	14.3	5.5	R
115	50019	SP7712 BGII	15.8	6.0	R



**Table. Initial Evaluation Trial of Intra-Hirsutum Hybrids (IET-Hybrids) under unprotected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under unprotected conditions	
			Kaveri, Hanumangarh	
			PDI	DR
108	50001	NCS 9171 Bt2	7.5	HR
111	50002	KCH9363 BGII	3.5	HR
104	50003	DACH 37N73 BGII	2.6	HR
114	50004	ARCH 3333 BGII,	7.5	HR
102	50005	BANNO BT II	9.2	HR
106	50006	DC5422 BGII	5.8	HR
118	50007	DACH 39N93 BGII	3.5	HR
116	50008	ECH 234 BGII	16.7	R
107	50009	ARCH 4444 BGII	4.2	HR
103	50010	US 721 BGII	7.5	HR
112	50011	PRCH 7575 Bt2	10.0	HR
109	50012	GBCH 1010 BGII	9.3	HR
105	50013	<b>Zonal BGII Check – 1</b>	3.3	HR
119	50014	PCH 8552 Bt2	3.3	HR
110	50015	SP7711 BGII	5.3	HR
101	50016	KCH9362 BGII	4.2	HR
117	50017	<b>Zonal BGII Check – 2</b>	8.3	HR
113	50018	DC5421 BGII	5.3	HR
115	50019	SP7712 BGII	7.5	HR



Table. Initial Evaluation Trial of Intra-Hirsutum Hybrids (IET-Hybrids) - under unprotected conditions

Code-I	Code-II	Entries	Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		Sri Ganganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
108	50001	NCS 9171 Bt2	6.7	HR	8.3	HR	7.5	HR	20.8	MR	17.2	R	19.0	R	21.3	MR	15.9	R
111	50002	KCH9363 BGII	7.5	HR	13.2	R	10.4	R	8.3	HR	12.6	R	10.5	R	12.0	R	11.0	R
104	50003	DACH 37N73 BGII	6.7	HR	0.0	HR	3.4	HR	7.5	HR	1.7	HR	4.6	HR	2.3	HR	3.4	HR
114	50004	ARCH 3333 BGII,	7.5	HR	1.8	HR	4.7	HR	9.2	HR	4.6	HR	6.9	HR	10.5	R	7.4	HR
102	50005	BANNO BT II	8.3	HR	19.6	R	14.0	R	11.7	R	30.2	MS	21.0	MR	14.2	R	16.4	R
106	50006	DC5422 BGII	9.2	HR	12.5	R	10.9	R	10.8	R	13.5	R	12.2	R	5.3	HR	9.5	HR
118	50007	DACH 39N93 BGII	7.5	HR	3.6	HR	5.6	HR	11.7	R	0.0	DF	5.9	HR	1.0	HR	4.2	HR
116	50008	ECH 234 BGII	8.3	HR	13.1	R	10.7	R	10.0	HR	23.6	MR	16.8	R	22.5	MR	16.7	R
107	50009	ARCH 4444 BGII	8.3	HR	4.2	HR	6.3	HR	12.5	R	7.0	HR	9.8	HR	2.2	HR	6.1	HR
103	50010	US 721 BGII	10.0	HR	4.2	HR	7.1	HR	19.2	R	15.6	R	17.4	R	2.5	HR	9.0	HR
112	50011	PRCH 7575 Bt2	9.2	HR	12.4	R	10.8	R	25.8	MR	34.0	MS	29.9	MR	23.0	MR	21.2	MR
109	50012	GBCH 1010 BGII	8.3	HR	20.3	MR	14.3	R	26.7	MR	21.7	MR	24.2	MR	10.7	R	16.4	R
105	50013	<b>Zonal BGII Check – 1</b>	10.0	HR	4.8	HR	7.4	HR	22.5	MR	1.7	HR	12.1	R	0.0	DF	6.5	HR
119	50014	PCH 8552 Bt2	11.7	R	11.3	R	11.5	R	24.2	MR	17.5	R	20.9	MR	9.2	HR	13.9	R
110	50015	SP7711 BGII	8.3	HR	9.8	HR	9.1	HR	18.3	R	20.5	MR	19.4	R	4.5	HR	11.0	R
101	50016	KCH9362 BGII	14.2	R	16.7	R	15.5	R	19.2	R	19.4	R	19.3	R	17.8	R	17.5	R
117	50017	<b>Zonal BGII Check – 2</b>	7.5	HR	16.7	R	12.1	R	14.2	R	17.7	R	16.0	R	14.8	R	14.3	R
113	50018	DC5421 BGII	7.5	HR	16.7	R	12.1	R	20.0	R	20.3	MR	20.2	MR	10.7	R	14.3	R
115	50019	SP7712 BGII	8.3	HR	7.7	HR	8.0	HR	16.7	R	5.2	HR	11.0	R	8.7	HR	9.2	HR



## Advanced Evaluation Trial - I of Intra-Hirsutum Bt Cotton Hybrids

### *Constitution of Trial*

The trial was constituted with 16 Bt cotton hybrids containing MON 15985 event sponsored by various Private organization along with two different check hybrids as furnished below.

S. No.	Code-I	Code-II	Entries	Sponsored by
1	235	50031	ACH 751-2 BG II	Ajeet Seeds
2	239	50032	ARCH 2222 BG II	Ankur Seeds
3	247	50033	ARCH 2227 BG II	Ankur Seeds
4	243	50034	KCH 9393 BG II	Kaveri Seeds Co. Ltd.
5	233	50035	DACH 57N57 BG II	Dharti
6	241	50036	<b>Zonal BGII Check – 1</b>	<b>ACH 177-2 BGII</b>
7	231	50037	<b>Zonal BGII Check – 2</b>	<b>ACH 945-2 BGII</b>
8	237	50038	DC 5420 BG II	Rallis India Ltd.
9	246	50039	SP7706 BGII	Crystal
10	238	50040	GBCH 3388 BG II	Green Gold Seeds
11	234	50041	RCH 1109 BG II	Rasi Seeds
12	248	50042	ACH 721-2 BG II	Ajeet Seeds
13	240	50043	C 9319 BG II	Mahyco
14	232	50044	KCH 9391 BG II	Kaveri Seeds Co. Ltd.
15	245	50045	DACH 67N67 BGII	Dharti
16	242	50046	RCH 1106 BG II	Rasi Seeds
17	236	50047	US 718 BG II	Seedworks
18	244	50048	GBCH 3001 BGII	Green Gold Seeds

The trial was conducted in eight different locations *viz.*, PAU, Faridkot; PAU, Bathinda; CCSHAU, Hisar; ICAR-CICR, Sirsa; SKRAU, Sriganaganagar; Kaveri Seeds Pvt. Ltd., Hanumangarh; Green Gold Seeds at Abohar and by Ankur Seeds at Fazilka. The trial was conducted with four rows of 6 meters per entry with three replications. As per the recommendation of the Monitoring Committee, the trial conducted at CCSHAU, Hisar was treated as “**Vitiated**” and hence the data was not included.



**Data recorded:****Biometric evaluation****Table: Plant height (cm) at harvest in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	248.0	159.4	169.3	195.4	176.3	197.0	199.1	<b>192.1</b>
2	ARCH 2222 BG II	238.4	156.1	192.3	156.3	173.4	181.0	195.0	<b>184.6</b>
3	ARCH 2227 BG II	247.8	150.6	172.6	190.9	178.2	175.8	195.0	<b>187.3</b>
4	KCH 9393 BG II	234.2	156.1	173.0	156.3	171.4	171.2	209.7	<b>181.7</b>
5	DACH 57N57 BG II	215.4	143.9	138.7	150.5	175.9	166.2	161.3	<b>164.6</b>
6	<b>ACH 177-2 BGII</b>	267.8	167.8	186.4	192.9	189.9	187.3	196.0	<b>198.3</b>
7	<b>ACH 945-2 BGII</b>	256.8	167.8	181.4	188.5	192.7	202.6	206.3	<b>199.4</b>
8	DC 5420 BG II	228.8	151.7	176.4	176.6	181.2	181.9	209.3	<b>186.6</b>
9	SP7706 BGII	235.4	155.6	185.8	155.0	180.1	184.2	208.7	<b>186.4</b>
10	GBCH 3388 BG II	232.2	158.3	185.9	180.3	183.9	199.0	196.7	<b>190.9</b>
11	RCH 1109 BG II	218.6	153.9	158.6	166.1	175.7	160.4	159.7	<b>170.4</b>
12	ACH 721-2 BG II	266.6	167.2	181.2	184.4	186.3	186.6	202.3	<b>196.4</b>
13	C 9319 BG II	264.6	172.8	186.2	190.4	194.6	191.4	196.3	<b>199.5</b>
14	KCH 9391 BG II	236.4	152.0	170.7	167.4	178.2	177.6	190.7	<b>181.9</b>
15	DACH 67N67 BGII	240.0	141.7	184.2	165.9	169.1	181.4	204.3	<b>183.8</b>
16	RCH 1106 BG II	216.0	146.1	158.9	166.8	160.4	175.3	179.3	<b>171.8</b>
17	US 718 BG II	256.4	168.9	177.1	170.9	204.1	184.0	218.0	<b>197.1</b>
18	GBCH 3001 BGII	230.6	143.3	142.8	154.7	196.0	175.0	210.7	<b>179.0</b>
CD@5%			11.9	13.4	16.4		10.6		
CV %			4.6	4.7	5.7		3.5		



**Table: Number of monopodia in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	2.4	1.3	1.4	1.8	1.3	2.8	1.7	<b>1.8</b>
2	ARCH 2222 BG II	1.8	0.0	0.9	0.9	1.4	1.2	1.2	<b>1.1</b>
3	ARCH 2227 BG II	2.2	0.2	1.2	1.7	1.6	1.7	1.1	<b>1.4</b>
4	KCH 9393 BG II	1.8	0.8	1.9	1.2	1.7	1.6	1.5	<b>1.5</b>
5	DACH 57N57 BG II	2.6	0.0	1.6	1.1	1.6	1.1	1.5	<b>1.4</b>
6	<b>ACH 177-2 BGII</b>	2.2	0.7	1.2	1.8	1.8	2.4	1.6	<b>1.7</b>
7	<b>ACH 945-2 BGII</b>	2.6	1.1	1.0	1.3	1.4	2.3	1.3	<b>1.6</b>
8	DC 5420 BG II	2.0	0.1	0.9	1.4	1.3	2.0	1.5	<b>1.3</b>
9	SP7706 BGII	3.4	0.3	1.1	1.1	1.7	1.6	1.9	<b>1.6</b>
10	GBCH 3388 BG II	3.6	1.0	2.0	0.8	1.9	2.0	1.4	<b>1.8</b>
11	RCH 1109 BG II	2.2	0.4	1.4	1.5	1.6	2.0	1.5	<b>1.5</b>
12	ACH 721-2 BG II	2.6	0.8	1.3	1.0	2.1	1.7	1.3	<b>1.5</b>
13	C 9319 BG II	2.8	0.0	0.6	0.9	1.8	2.3	1.1	<b>1.4</b>
14	KCH 9391 BG II	2.2	0.2	0.6	1.1	1.6	1.9	1.1	<b>1.2</b>
15	DACH 67N67 BGII	2.8	0.2	1.0	1.8	1.4	1.6	1.0	<b>1.4</b>
16	RCH 1106 BG II	2.6	0.0	1.3	1.1	1.7	1.6	1.3	<b>1.4</b>
17	US 718 BG II	2.6	0.2	0.9	0.8	1.8	1.2	1.3	<b>1.3</b>
18	GBCH 3001 BGII	1.6	0.0	1.0	0.8	1.6	1.7	1.4	<b>1.2</b>
CD@5%			0.4	0.2	0.2		0.8		
CV %			64.0	8.1	9.6		27.6		



Table: Number of sympodia in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	20.6	22.1	16.6	20.5	17.6	29.1	17.7	<b>20.6</b>
2	ARCH 2222 BG II	23.4	18.3	17.9	17.3	16.4	27.3	22.3	<b>20.4</b>
3	ARCH 2227 BG II	20.8	20.8	23.6	21.5	17.8	27.6	21.5	<b>21.9</b>
4	KCH 9393 BG II	19.4	23.2	20.7	20.0	18.0	27.0	20.4	<b>21.2</b>
5	DACH 57N57 BG II	17.6	19.7	15.1	16.5	18.3	26.7	19.9	<b>19.1</b>
6	<b>ACH 177-2 BGII</b>	20.4	20.4	16.0	21.0	18.2	27.9	19.5	<b>20.5</b>
7	<b>ACH 945-2 BGII</b>	19.4	20.8	17.6	22.1	18.4	29.3	21.7	<b>21.3</b>
8	DC 5420 BG II	19.4	20.4	17.8	20.1	17.2	28.7	21.5	<b>20.7</b>
9	SP7706 BGII	19.4	19.4	18.1	17.0	18.2	30.7	21.8	<b>20.7</b>
10	GBCH 3388 BG II	15.6	21.1	21.3	19.2	18.8	28.1	19.7	<b>20.5</b>
11	RCH 1109 BG II	20.0	19.1	16.2	15.3	16.9	27.8	22.1	<b>19.6</b>
12	ACH 721-2 BG II	22.0	20.4	18.6	18.5	19.0	28.4	20.5	<b>21.1</b>
13	C 9319 BG II	20.6	21.1	21.3	20.5	19.0	27.8	18.5	<b>21.3</b>
14	KCH 9391 BG II	20.0	21.3	18.1	21.5	16.7	25.2	19.4	<b>20.3</b>
15	DACH 67N67 BGII	17.4	21.1	22.4	21.0	16.3	27.8	20.6	<b>20.9</b>
16	RCH 1106 BG II	20.6	21.7	15.0	18.5	17.9	27.4	19.1	<b>20.0</b>
17	US 718 BG II	18.0	21.9	15.4	19.0	17.7	29.1	19.5	<b>20.1</b>
18	GBCH 3001 BGII	18.4	20.4	17.1	16.8	18.0	28.2	17.2	<b>19.4</b>
CD@5%			2.1	2.6	2.0		3.3		
CV %			6.1	8.5	6.2		7.2		



Table: Boll weight (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	3.1	4.3	4.3	3.2	3.9	3.6	<b>3.7</b>
2	ARCH 2222 BG II	3.6	4.5	4.4	3.9	4.4	3.6	<b>4.1</b>
3	ARCH 2227 BG II	3.8	4.6	4.7	4.0	4.7	3.7	<b>4.3</b>
4	KCH 9393 BG II	3.8	4.7	4.8	4.1	4.9	3.9	<b>4.4</b>
5	DACH 57N57 BG II	3.3	3.9	4.8	3.5	4.4	3.6	<b>3.9</b>
6	<b>ACH 177-2 BGII</b>	3.9	4.3	4.2	3.8	4.1	3.5	<b>4.0</b>
7	<b>ACH 945-2 BGII</b>	3.7	4.0	4.8	3.9	4.3	3.5	<b>4.0</b>
8	DC 5420 BG II	3.4	4.3	4.4	3.7	4.6	3.5	<b>4.0</b>
9	SP7706 BGII	3.6	4.6	4.4	3.7	4.0	3.4	<b>4.0</b>
10	GBCH 3388 BG II	3.4	4.2	4.6	3.5	4.5	3.5	<b>4.0</b>
11	RCH 1109 BG II	3.7	4.9	4.9	3.8	5.1	4.0	<b>4.4</b>
12	ACH 721-2 BG II	3.5	4.3	4.3	4.2	4.5	3.6	<b>4.1</b>
13	C 9319 BG II	3.8	3.8	4.1	4.0	4.3	3.5	<b>3.9</b>
14	KCH 9391 BG II	3.2	4.5	4.7	4.3	4.6	3.5	<b>4.1</b>
15	DACH 67N67 BGII	3.8	3.9	4.9	4.0	4.6	3.8	<b>4.2</b>
16	RCH 1106 BG II	3.6	4.5	4.7	3.9	4.9	3.8	<b>4.2</b>
17	US 718 BG II	3.4	4.1	4.7	4.0	4.1	3.5	<b>4.0</b>
18	GBCH 3001 BGII	3.5	4.2	3.9	3.2	4.1	3.6	<b>3.8</b>
CD@5%			0.4	0.4	0.3	0.3		
CV %			5.5	5.6	5.2	4.6		



Table: Number of bolls / plant in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	52.4	36.4	42.6	36.4	52.4	53.7	19.7	<b>41.9</b>
2	ARCH 2222 BG II	59.0	31.9	40.7	31.7	53.9	48.2	25.8	<b>41.6</b>
3	ARCH 2227 BG II	54.6	45.7	55.4	42.2	50.1	73.0	26.2	<b>49.6</b>
4	KCH 9393 BG II	43.2	42.8	41.4	37.1	53.1	67.2	26.4	<b>44.5</b>
5	DACH 57N57 BG II	49.6	36.4	34.7	30.9	46.2	51.2	26.7	<b>39.4</b>
6	<b>ACH 177-2 BGII</b>	51.4	43.1	34.7	34.2	46.8	56.6	25.9	<b>41.8</b>
7	<b>ACH 945-2 BGII</b>	45.6	36.3	39.7	41.8	49.1	55.3	26.3	<b>42.0</b>
8	DC 5420 BG II	47.4	35.3	45.2	37.0	51.3	68.9	18.0	<b>43.3</b>
9	SP7706 BGII	47.2	28.8	41.3	32.9	44.9	60.1	22.2	<b>39.6</b>
10	GBCH 3388 BG II	45.8	36.8	45.0	35.4	52.3	59.3	22.0	<b>42.4</b>
11	RCH 1109 BG II	44.2	30.3	36.1	28.7	52.1	54.9	21.4	<b>38.2</b>
12	ACH 721-2 BG II	53.4	37.4	44.0	37.3	46.7	58.0	29.4	<b>43.7</b>
13	C 9319 BG II	51.6	40.3	52.7	38.0	46.1	58.0	23.3	<b>44.3</b>
14	KCH 9391 BG II	41.6	39.8	41.8	41.3	53.9	65.3	29.0	<b>44.7</b>
15	DACH 67N67 BGII	43.0	38.6	53.3	39.4	46.6	62.1	26.1	<b>44.2</b>
16	RCH 1106 BG II	37.4	24.8	36.7	33.1	45.0	49.2	21.4	<b>35.4</b>
17	US 718 BG II	49.6	42.9	41.6	34.7	54.7	62.2	25.1	<b>44.4</b>
18	GBCH 3001 BGII	37.2	39.4	40.6	32.1	51.1	58.1	20.5	<b>39.9</b>
CD@5%			3.7	5.5	4.2		11.3		
CV %			6.0	7.8	7.1		11.6		



Table: Number of bolls / sq.m. in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Bathinda	Sirsa	Abohar (Green Gold)	Mean
1	ACH 751-2 BG II	78.2	96.7	95.3	158.7	<b>107.2</b>
2	ARCH 2222 BG II	87.3	88.7	78.1	161.0	<b>103.8</b>
3	ARCH 2227 BG II	83.6	102.7	108.5	157.7	<b>113.1</b>
4	KCH 9393 BG II	66.7	95.7	92.4	161.7	<b>104.1</b>
5	DACH 57N57 BG II	75.3	75.0	78.9	153.7	<b>95.7</b>
6	<b>ACH 177-2 BGII</b>	79.3	87.7	90.1	156.0	<b>103.3</b>
7	<b>ACH 945-2 BGII</b>	69.2	88.7	106.6	159.7	<b>106.1</b>
8	DC 5420 BG II	73.2	101.7	91.3	161.3	<b>106.9</b>
9	SP7706 BGII	72.2	89.7	84.2	153.7	<b>100.0</b>
10	GBCH 3388 BG II	70.7	93.0	86.8	157.7	<b>102.1</b>
11	RCH 1109 BG II	67.7	73.0	72.0	156.7	<b>92.4</b>
12	ACH 721-2 BG II	81.0	102.0	93.8	157.7	<b>108.6</b>
13	C 9319 BG II	79.0	96.7	96.2	157.3	<b>107.3</b>
14	KCH 9391 BG II	62.1	92.0	110.6	161.0	<b>106.4</b>
15	DACH 67N67 BGII	65.8	92.3	101.3	153.7	<b>103.3</b>
16	RCH 1106 BG II	57.2	85.3	81.9	152.7	<b>94.3</b>
17	US 718 BG II	76.5	92.7	90.8	163.3	<b>105.8</b>
18	GBCH 3001 BGII	56.9	86.7	80.6	159.7	<b>96.0</b>
CD@5%			12.8			
CV %			8.5			



Table: Lint Index (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	5.6	3.6	4.9	5.5	5.3	5.0	<b>5.0</b>
2	ARCH 2222 BG II	5.4	4.6	5.1	4.8	6.0	5.8	<b>5.3</b>
3	ARCH 2227 BG II	5.8	3.7	5.5	5.1	5.9	5.5	<b>5.3</b>
4	KCH 9393 BG II	6.1	3.6	4.9	5.5	6.4	4.4	<b>5.2</b>
5	DACH 57N57 BG II	6.0	4.3	5.5	4.8	6.3	5.1	<b>5.3</b>
6	<b>ACH 177-2 BGII</b>	6.0	4.0	5.3	4.8	6.1	5.2	<b>5.2</b>
7	<b>ACH 945-2 BGII</b>	5.9	4.2	5.8	4.7	6.2	4.9	<b>5.3</b>
8	DC 5420 BG II	5.4	3.7	5.6	5.2	5.5	4.5	<b>5.0</b>
9	SP7706 BGII	6.0	3.9	5.5	4.9	6.2	4.7	<b>5.2</b>
10	GBCH 3388 BG II	5.9	3.9	5.4	5.6	6.6	4.7	<b>5.4</b>
11	RCH 1109 BG II	6.3	3.9	5.5	5.5	6.6	5.0	<b>5.5</b>
12	ACH 721-2 BG II	5.9	4.1	5.0	4.4	5.5	4.9	<b>5.0</b>
13	C 9319 BG II	5.2	3.8	4.4	4.9	5.6	5.8	<b>5.0</b>
14	KCH 9391 BG II	5.9	4.4	5.4	5.7	5.9	3.9	<b>5.2</b>
15	DACH 67N67 BGII	6.0	3.9	5.0	5.0	6.0	5.5	<b>5.2</b>
16	RCH 1106 BG II	6.1	3.5	5.5	5.5	6.0	4.2	<b>5.1</b>
17	US 718 BG II	6.0	4.3	5.1	5.5	5.9	4.2	<b>5.2</b>
18	GBCH 3001 BGII	5.3	2.8	5.2	5.7	5.0	4.7	<b>4.8</b>
CD@5%		0.5	0.5			0.5		
CV %		5.1	8.2			4.9		



Table: Seed Index (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	9.3	9.4	8.7	8.4	9.6	10.8	10.0	9.5
2	ARCH 2222 BG II	9.2	8.9	8.6	8.2	9.0	9.8	10.7	9.2
3	ARCH 2227 BG II	9.6	9.8	8.9	9.0	10.2	10.2	11.0	9.8
4	KCH 9393 BG II	10.1	10.7	10.2	9.4	10.0	11.8	10.0	10.3
5	DACH 57N57 BG II	9.9	10.0	10.5	9.1	9.7	12.9	10.7	10.4
6	<b>ACH 177-2 BGII</b>	9.8	10.4	9.0	8.7	9.0	10.5	10.3	9.7
7	<b>ACH 945-2 BGII</b>	9.4	9.9	9.6	10.1	9.2	11.2	9.7	9.9
8	DC 5420 BG II	8.3	9.0	9.0	9.8	9.9	10.0	10.0	9.4
9	SP7706 BGII	10.1	10.8	10.7	10.9	10.4	12.6	11.0	10.9
10	GBCH 3388 BG II	8.6	9.9	8.8	9.1	10.0	11.3	9.0	9.5
11	RCH 1109 BG II	10.8	10.8	9.8	10.6	10.6	13.5	10.7	11.0
12	ACH 721-2 BG II	9.6	9.7	9.1	8.8	9.3	10.5	10.7	9.7
13	C 9319 BG II	8.1	8.9	8.4	7.0	9.0	9.6	11.0	8.9
14	KCH 9391 BG II	9.6	10.3	10.3	9.8	10.3	10.6	10.0	10.1
15	DACH 67N67 BGII	9.8	10.3	9.2	8.6	9.9	10.9	11.0	10.0
16	RCH 1106 BG II	9.4	10.5	8.6	11.1	9.5	11.5	10.0	10.1
17	US 718 BG II	9.3	10.0	10.4	9.1	10.0	11.1	10.7	10.1
18	GBCH 3001 BGII	9.6	9.8	9.1	9.0	10.1	10.5	11.0	9.9
CD@5%			0.8	0.7	0.3		0.8		
CV %			4.6	4.7	1.7		4.3		



Table: Ginning outturn (%) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	35.9	37.3	32.7	37.0	37.6	33.1	33.6	<b>35.3</b>
2	ARCH 2222 BG II	38.6	37.6	34.9	38.3	33.6	38.2	35.4	<b>36.7</b>
3	ARCH 2227 BG II	37.4	37.3	35.0	38.0	36.2	36.5	33.5	<b>36.3</b>
4	KCH 9393 BG II	33.7	36.2	30.0	34.3	38.9	35.3	30.6	<b>34.1</b>
5	DACH 57N57 BG II	35.1	37.4	31.9	37.7	36.7	33.0	32.4	<b>34.9</b>
6	<b>ACH 177-2 BGII</b>	37.9	36.7	34.4	38.0	34.0	36.8	33.4	<b>35.9</b>
7	<b>ACH 945-2 BGII</b>	38.3	37.2	33.9	36.3	34.5	35.5	33.6	<b>35.6</b>
8	DC 5420 BG II	36.7	37.6	33.0	36.6	38.0	35.4	31.2	<b>35.5</b>
9	SP7706 BGII	34.8	35.6	30.5	33.7	36.0	32.9	30.2	<b>33.4</b>
10	GBCH 3388 BG II	38.6	37.3	34.0	37.0	38.6	36.9	34.3	<b>36.7</b>
11	RCH 1109 BG II	33.6	36.8	32.1	34.0	37.4	32.7	31.7	<b>34.0</b>
12	ACH 721-2 BG II	35.9	37.8	35.1	36.3	34.0	34.5	31.7	<b>35.0</b>
13	C 9319 BG II	39.0	36.7	34.8	38.5	34.4	37.0	34.5	<b>36.4</b>
14	KCH 9391 BG II	34.4	36.2	32.1	35.7	38.6	35.7	28.0	<b>34.4</b>
15	DACH 67N67 BGII	36.6	36.7	35.2	36.8	35.9	35.6	33.2	<b>35.7</b>
16	RCH 1106 BG II	35.3	36.9	32.4	33.3	36.2	34.2	29.8	<b>34.0</b>
17	US 718 BG II	35.9	37.6	33.3	35.8	37.6	34.7	27.5	<b>34.6</b>
18	GBCH 3001 BGII	33.8	35.0	29.6	36.3	38.6	32.1	29.5	<b>33.6</b>
CD@5%			1.0	1.6			1.3		
CV %			1.7	2.9			2.3		



Table: Upper Half Mean Length (mm) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	27.8	26.5	27.7	26.4	28.8	26.4	<b>27.3</b>
2	ARCH 2222 BG II	27.8	25.1	27.7	26.3	27.2	27.0	<b>26.9</b>
3	ARCH 2227 BG II	27.7	27.2	27.6	26.1	27.8	26.7	<b>27.2</b>
4	KCH 9393 BG II	28.6	28.9	29.7	27.8	29.7	28.3	<b>28.8</b>
5	DACH 57N57 BG II	30.5	28.3	31.8	28.8	32.4	29.0	<b>30.1</b>
6	<b>ACH 177-2 BGII</b>	29.1	26.4	30.0	27.6	28.9	28.3	<b>28.4</b>
7	<b>ACH 945-2 BGII</b>	28.8	26.8	29.5	27.3	30.5	28.3	<b>28.5</b>
8	DC 5420 BG II	28.8	27.7	29.9	27.8	29.0	27.7	<b>28.5</b>
9	SP7706 BGII	29.1	28.2	30.1	27.9	29.9	28.1	<b>28.9</b>
10	GBCH 3388 BG II	29.1	28.5	29.3	27.3	30.2	28.3	<b>28.8</b>
11	RCH 1109 BG II	27.3	27.1	28.5	27.1	28.8	26.5	<b>27.6</b>
12	ACH 721-2 BG II	28.7	28.5	30.4	27.3	28.9	28.0	<b>28.6</b>
13	C 9319 BG II	29.1	29.2	29.2	26.9	30.2	28.4	<b>28.8</b>
14	KCH 9391 BG II	29.1	30.0	30.9	29.1	30.9	28.1	<b>29.7</b>
15	DACH 67N67 BGII	29.3	27.0	30.0	29.1	30.3	28.9	<b>29.1</b>
16	RCH 1106 BG II	26.7	25.9	28.2	26.7	26.7	25.8	<b>26.7</b>
17	US 718 BG II	32.0	30.6	32.1	31.0	33.8	31.4	<b>31.8</b>
18	GBCH 3001 BGII	28.1	26.0	28.1	27.3	29.4	26.6	<b>27.6</b>



Table: Uniformity index under HVI Mode in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	85.0	84.0	83.0	84.0	86.0	84.2	<b>84.4</b>
2	ARCH 2222 BG II	85.0	81.0	83.0	82.0	83.0	84.1	<b>83.0</b>
3	ARCH 2227 BG II	84.0	84.0	83.0	84.0	85.0	84.9	<b>84.2</b>
4	KCH 9393 BG II	84.0	84.0	84.0	83.0	86.0	84.8	<b>84.3</b>
5	DACH 57N57 BG II	84.0	80.0	84.0	84.0	86.0	84.2	<b>83.7</b>
6	<b>ACH 177-2 BGII</b>	85.0	82.0	83.0	84.0	86.0	85.3	<b>84.2</b>
7	<b>ACH 945-2 BGII</b>	85.0	83.0	84.0	85.0	88.0	85.4	<b>85.1</b>
8	DC 5420 BG II	85.0	84.0	84.0	84.0	86.0	84.4	<b>84.6</b>
9	SP7706 BGII	85.0	86.0	84.0	85.0	85.0	85.6	<b>85.1</b>
10	GBCH 3388 BG II	85.0	86.0	84.0	84.0	86.0	85.8	<b>85.1</b>
11	RCH 1109 BG II	84.0	86.0	83.0	85.0	86.0	84.3	<b>84.7</b>
12	ACH 721-2 BG II	84.0	86.0	85.0	84.0	86.0	85.3	<b>85.1</b>
13	C 9319 BG II	84.0	86.0	82.0	83.0	87.0	84.8	<b>84.5</b>
14	KCH 9391 BG II	84.0	86.0	85.0	85.0	84.0	84.4	<b>84.7</b>
15	DACH 67N67 BGII	84.0	81.0	83.0	84.0	85.0	84.3	<b>83.6</b>
16	RCH 1106 BG II	84.0	83.0	83.0	86.0	85.0	84.1	<b>84.2</b>
17	US 718 BG II	84.0	82.0	84.0	85.0	85.0	85.4	<b>84.2</b>
18	GBCH 3001 BGII	84.0	81.0	85.0	85.0	84.0	83.5	<b>83.8</b>



**Table: Micronaire under HVI Mode in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	4.9	5.2	4.9	4.6	5.0	4.5	<b>4.9</b>
2	ARCH 2222 BG II	5.1	5.0	5.2	4.1	5.3	4.9	<b>4.9</b>
3	ARCH 2227 BG II	5.0	5.4	5.0	5.1	5.3	4.5	<b>5.1</b>
4	KCH 9393 BG II	4.3	4.7	4.7	3.8	4.6	4.1	<b>4.4</b>
5	DACH 57N57 BG II	4.2	4.9	4.6	4.2	4.4	4.1	<b>4.4</b>
6	<b>ACH 177-2 BGII</b>	4.2	4.8	4.6	4.9	4.6	4.3	<b>4.6</b>
7	<b>ACH 945-2 BGII</b>	4.3	4.6	4.6	4.2	4.4	4.0	<b>4.4</b>
8	DC 5420 BG II	4.8	4.9	4.4	4.5	4.9	4.4	<b>4.7</b>
9	SP7706 BGII	4.2	4.2	4.4	4.2	4.0	4.1	<b>4.2</b>
10	GBCH 3388 BG II	4.2	4.0	4.4	4.1	4.4	3.9	<b>4.2</b>
11	RCH 1109 BG II	5.1	4.6	5.0	4.9	5.4	4.9	<b>5.0</b>
12	ACH 721-2 BG II	4.8	5.0	4.9	4.6	5.1	4.6	<b>4.8</b>
13	C 9319 BG II	4.9	4.9	5.1	4.3	5.1	4.8	<b>4.9</b>
14	KCH 9391 BG II	4.2	4.1	4.7	3.9	4.3	4.0	<b>4.2</b>
15	DACH 67N67 BGII	4.6	4.5	5.0	4.1	4.8	4.4	<b>4.6</b>
16	RCH 1106 BG II	5.2	4.9	5.1	5.3	5.2	4.6	<b>5.1</b>
17	US 718 BG II	4.3	4.4	4.6	4.0	4.0	3.9	<b>4.2</b>
18	GBCH 3001 BGII	4.3	4.5	5.0	4.9	4.2	4.3	<b>4.5</b>



**Table: Tenacity under HVI Mode in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	29.5	27.6	27.4	28.7	30.2	30.3	<b>29.0</b>
2	ARCH 2222 BG II	29.8	26.7	28.1	25.5	26.9	29.6	<b>27.8</b>
3	ARCH 2227 BG II	29.5	29.0	27.1	27.7	29.2	30.5	<b>28.8</b>
4	KCH 9393 BG II	29.4	29.9	29.1	30.0	31.6	29.8	<b>30.0</b>
5	DACH 57N57 BG II	30.9	29.9	30.2	28.2	31.2	28.9	<b>29.9</b>
6	<b>ACH 177-2 BGII</b>	31.9	27.5	30.1	30.1	31.1	31.8	<b>30.4</b>
7	<b>ACH 945-2 BGII</b>	30.7	28.5	29.9	29.1	30.4	32.0	<b>30.1</b>
8	DC 5420 BG II	29.3	30.2	29.5	29.7	29.6	29.9	<b>29.7</b>
9	SP7706 BGII	31.7	31.0	30.6	30.4	32.0	33.1	<b>31.5</b>
10	GBCH 3388 BG II	30.9	31.0	30.0	28.5	31.4	32.0	<b>30.6</b>
11	RCH 1109 BG II	29.9	29.0	30.2	28.4	29.5	31.9	<b>29.8</b>
12	ACH 721-2 BG II	31.5	31.1	31.0	29.0	31.8	31.2	<b>30.9</b>
13	C 9319 BG II	31.0	31.7	28.2	28.0	32.0	31.5	<b>30.4</b>
14	KCH 9391 BG II	30.0	31.1	30.2	30.6	32.9	29.8	<b>30.8</b>
15	DACH 67N67 BGII	30.5	28.3	29.0	31.0	31.3	30.4	<b>30.1</b>
16	RCH 1106 BG II	28.6	27.9	29.8	27.9	28.7	30.5	<b>28.9</b>
17	US 718 BG II	31.1	31.6	29.3	31.6	36.5	31.9	<b>32.0</b>
18	GBCH 3001 BGII	29.6	27.9	29.1	28.3	29.2	29.8	<b>29.0</b>



Table: Seed Cotton Yield at 140 DAS (q/ha) at 140 DAS in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	15.93	21.43	18.87	16.72	16.58	9.18	<b>16.45</b>
2	ARCH 2222 BG II	14.83	16.04	13.96	16.65	20.78	9.86	<b>15.35</b>
3	ARCH 2227 BG II	20.67	26.52	19.46	14.88	23.66	10.60	<b>19.30</b>
4	KCH 9393 BG II	18.68	25.33	17.33	16.42	23.39	9.49	<b>18.44</b>
5	DACH 57N57 BG II	17.91	13.89	11.51	14.52	19.78	9.16	<b>14.46</b>
6	<b>ACH 177-2 BGII</b>	17.11	26.56	17.53	13.42	16.97	8.21	<b>16.63</b>
7	<b>ACH 945-2 BGII</b>	10.66	26.25	19.51	14.62	17.30	3.46	<b>15.30</b>
8	DC 5420 BG II	16.17	23.82	15.69	17.11	22.94	10.37	<b>17.68</b>
9	SP7706 BGII	15.72	22.20	12.48	13.83	18.09	6.67	<b>14.83</b>
10	GBCH 3388 BG II	12.28	20.42	14.37	16.42	20.11	10.25	<b>15.64</b>
11	RCH 1109 BG II	17.30	15.76	14.43	16.77	20.52	9.88	<b>15.78</b>
12	ACH 721-2 BG II	17.35	22.37	17.24	14.63	20.65	7.88	<b>16.69</b>
13	C 9319 BG II	15.65	27.00	16.83	14.54	17.68	6.75	<b>16.41</b>
14	KCH 9391 BG II	17.94	22.00	18.63	17.55	23.34	7.49	<b>17.83</b>
15	DACH 67N67 BGII	19.39	25.30	17.49	16.80	21.54	10.45	<b>18.50</b>
16	RCH 1106 BG II	12.28	22.04	16.32	15.73	19.35	10.29	<b>16.00</b>
17	US 718 BG II	17.30	25.81	16.85	17.42	21.20	10.47	<b>18.18</b>
18	GBCH 3001 BGII	17.35	18.30	13.01	16.14	20.09	8.44	<b>15.56</b>
CD@5%			2.94	2.75	1.60	2.71		
CV %			7.98	10.20	6.13	8.10		



Table: Seed Cotton Yield at 165 DAS (q/ha) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 751-2 BG II	7.54	7.11	6.19	3.94	4.91	11.25	<b>6.82</b>
2	ARCH 2222 BG II	3.89	5.19	9.79	3.98	3.85	11.07	<b>6.30</b>
3	ARCH 2227 BG II	10.06	8.56	11.23	4.21	7.27	10.35	<b>8.61</b>
4	KCH 9393 BG II	9.83	7.38	9.22	3.93	7.23	10.97	<b>8.09</b>
5	DACH 57N57 BG II	5.26	4.87	7.82	4.00	5.92	10.37	<b>6.37</b>
6	<b>ACH 177-2 BGII</b>	11.89	8.44	7.16	2.93	6.78	8.48	<b>7.61</b>
7	<b>ACH 945-2 BGII</b>	12.12	8.31	11.83	2.66	5.18	10.64	<b>8.46</b>
8	DC 5420 BG II	9.83	7.91	9.30	4.24	8.51	10.16	<b>8.33</b>
9	SP7706 BGII	3.20	7.36	8.78	4.04	5.93	10.02	<b>6.56</b>
10	GBCH 3388 BG II	9.60	6.75	9.65	4.33	6.18	9.67	<b>7.70</b>
11	RCH 1109 BG II	2.97	5.15	6.79	4.12	2.98	7.94	<b>4.99</b>
12	ACH 721-2 BG II	7.54	7.42	9.26	3.32	4.74	10.41	<b>7.12</b>
13	C 9319 BG II	8.69	8.59	7.30	2.82	6.01	10.53	<b>7.32</b>
14	KCH 9391 BG II	11.43	6.67	13.54	4.29	7.09	11.23	<b>9.04</b>
15	DACH 67N67 BGII	9.14	8.05	11.83	3.99	6.13	10.02	<b>8.19</b>
16	RCH 1106 BG II	4.34	6.98	8.54	3.92	2.03	10.82	<b>6.11</b>
17	US 718 BG II	11.89	7.33	8.54	4.29	8.60	9.71	<b>8.39</b>
18	GBCH 3001 BGII	8.00	6.04	8.35	3.86	6.25	11.81	<b>7.39</b>
CD@5%			1.61	1.70	0.50	1.25		
CV %			13.70	11.11	7.21	12.80		



Table: Total Seed Cotton Yield (q/ha) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Abohar (Green Gold)	H'Garh (Kaveri)	Fazilka (Ankur)	Mean	Rank	% Inc over best check
1	ACH 751-2 BG II	25.14	23.47	28.54	25.07	20.67	21.48	20.42	<b>23.54</b>	8	0.8
2	ARCH 2222 BG II	21.60	18.72	21.23	23.75	20.63	24.62	20.93	<b>21.64</b>	15	-7.4
3	ARCH 2227 BG II	21.39	30.73	35.08	30.69	19.09	30.93	20.95	<b>26.98</b>	1	15.5
4	KCH 9393 BG II	20.19	28.51	32.71	26.55	20.35	30.62	20.45	<b>25.63</b>	3	9.7
5	DACH 57N57 BG II	17.93	23.17	18.76	19.33	18.52	25.69	19.53	<b>20.42</b>	17	-12.6
6	<b>ACH 177-2 BGII</b>	16.94	29.00	35.00	24.70	16.35	23.75	16.69	<b>23.20</b>	11	-0.7
7	<b>ACH 945-2 BGII</b>	21.02	22.77	34.57	31.34	17.28	22.48	14.09	<b>23.36</b>	9	0.0
8	DC 5420 BG II	22.47	26.00	31.74	24.99	21.34	31.45	20.53	<b>25.50</b>	4	9.2
9	SP7706 BGII	15.91	18.92	29.57	21.27	17.87	24.03	16.69	<b>20.61</b>	16	-11.8
10	GBCH 3388 BG II	19.80	21.88	27.17	24.02	20.75	26.29	19.92	<b>22.83</b>	13	-2.3
11	RCH 1109 BG II	17.46	20.27	20.91	21.22	20.89	23.51	17.82	<b>20.30</b>	18	-13.1
12	ACH 721-2 BG II	21.98	24.89	29.80	26.50	17.95	25.39	18.29	<b>23.54</b>	7	0.8
13	C 9319 BG II	20.08	24.34	35.59	24.13	17.36	23.69	17.28	<b>23.21</b>	10	-0.6
14	KCH 9391 BG II	18.21	29.37	28.67	32.17	21.83	30.43	18.72	<b>25.63</b>	2	9.7
15	DACH 67N67 BGII	18.17	28.54	33.35	29.32	20.79	27.67	20.47	<b>25.47</b>	6	9.0
16	RCH 1106 BG II	19.98	23.91	29.03	24.86	19.65	21.38	21.11	<b>22.85</b>	12	-2.2
17	US 718 BG II	18.71	29.42	33.14	25.39	21.71	29.80	20.19	<b>25.48</b>	5	9.1
18	GBCH 3001 BGII	21.90	20.93	24.34	21.36	19.99	26.34	20.25	<b>22.16</b>	14	-5.1
CD@5%		2.79	3.88	3.67	3.45	1.80	3.26	3.10			
CV %		8.43	9.40	7.52	8.16	5.49	7.50	9.76			



## Evaluation under Protected Conditions for Insect pests & Diseases incidences

### Reaction to Insect Pests

(Entry Number 50031-50048)

Table: Advanced H X H trial in North Zone under Protected Conditions - Leafhopper

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	3.25	1.18	0.82	4.78	1.47	<b>2.30</b>	BETL
ARCH 2222 BG II	3.00	0.97	1.44	4.87	1.39	<b>2.33</b>	BETL
ARCH 2227 BG II	2.92	1.33	2.20	5.04	1.35	<b>2.57</b>	BETL
KCH 9393 BG II	2.83	0.78	1.56	5.04	1.31	<b>2.30</b>	BETL
DACH 57N57 BG II	2.08	0.88	2.13	5.31	1.60	<b>2.40</b>	BETL
Zonal BGII Check – 1	2.58	1.20	1.58	4.62	1.40	<b>2.28</b>	BETL
Zonal BGII Check – 2	2.17	0.98	1.07	5.13	1.40	<b>2.15</b>	BETL
DC 5420 BG II	2.67	0.75	1.38	5.24	1.52	<b>2.31</b>	BETL
SP7706 BGII	1.75	0.60	1.27	4.80	1.33	<b>1.95</b>	BETL
GBCH 3388 BG II	2.08	0.65	1.51	5.40	1.71	<b>2.27</b>	BETL
RCH 1109 BG II	2.83	0.55	1.58	5.73	1.53	<b>2.44</b>	BETL
ACH 721-2 BG II	2.08	0.43	1.87	4.73	1.53	<b>2.13</b>	BETL
C 9319 BG II	2.50	0.62	1.09	4.49	1.56	<b>2.05</b>	BETL
KCH 9391 BG II	1.83	1.10	1.20	5.07	1.67	<b>2.17</b>	BETL
DACH 67N67 BGII	2.00	0.83	1.18	4.73	1.42	<b>2.03</b>	BETL
RCH 1106 BG II	2.17	0.77	1.82	5.93	1.33	<b>2.40</b>	BETL
US 718 BG II	1.83	0.82	1.33	5.11	1.62	<b>2.14</b>	BETL
GBCH 3001 BGII	1.58	1.27	1.56	4.78	1.78	<b>2.19</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	III	I	II	II	I	II	
ARCH 2222 BG II	III	I	II	II	I	II	
ARCH 2227 BG II	III	I	II	II	I	II	
KCH 9393 BG II	III	I	II	II	I	II	
DACH 57N57 BG II	III	I	II	II	I	II	
Zonal BGII Check – 1	III	I	II	II	I	II	
Zonal BGII Check – 2	III	I	II	II	I	II	
DC 5420 BG II	III	I	II	II	I	II	
SP7706 BGII	III	I	II	II	I	II	
GBCH 3388 BG II	III	I	II	II	I	II	
RCH 1109 BG II	III	I	II	II	I	II	
ACH 721-2 BG II	III	I	II	II	I	II	
C 9319 BG II	III	I	II	II	I	II	
KCH 9391 BG II	III	I	II	II	I	II	
DACH 67N67 BGII	III	I	III	II	I	II	
RCH 1106 BG II	III	I	II	II	I	II	
US 718 BG II	III	I	II	II	I	II	
GBCH 3001 BGII	III	I	II	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	9.17	23.97	8.60	15.20	7.77	<b>12.94</b>	<b>BETL</b>
ARCH 2222 BG II	7.42	22.87	9.36	15.38	9.91	<b>12.99</b>	<b>BETL</b>
ARCH 2227 BG II	9.50	26.00	8.29	16.16	9.78	<b>13.94</b>	<b>BETL</b>
KCH 9393 BG II	9.50	22.75	9.47	17.02	7.54	<b>13.26</b>	<b>BETL</b>
DACH 57N57 BG II	10.08	26.11	9.67	15.31	8.93	<b>14.02</b>	<b>BETL</b>
Zonal BGII Check – 1	9.17	37.04	8.56	17.82	7.88	<b>16.09</b>	<b>BETL</b>
Zonal BGII Check – 2	8.33	37.88	9.82	16.38	7.39	<b>15.96</b>	<b>BETL</b>
DC 5420 BG II	7.00	32.37	9.27	15.67	9.68	<b>14.80</b>	<b>BETL</b>
SP7706 BGII	12.08	27.87	8.93	16.42	8.30	<b>14.72</b>	<b>BETL</b>
GBCH 3388 BG II	7.50	25.67	9.42	16.13	10.65	<b>13.87</b>	<b>BETL</b>
RCH 1109 BG II	7.58	30.82	8.93	16.31	10.22	<b>14.77</b>	<b>BETL</b>
ACH 721-2 BG II	8.67	31.07	10.11	14.33	9.09	<b>14.65</b>	<b>BETL</b>
C 9319 BG II	11.75	32.99	10.13	15.71	10.98	<b>16.31</b>	<b>BETL</b>
KCH 9391 BG II	8.75	31.50	10.80	17.04	9.62	<b>15.54</b>	<b>BETL</b>
DACH 67N67 BGII	7.83	32.64	10.11	15.78	11.99	<b>15.67</b>	<b>BETL</b>
RCH 1106 BG II	7.50	38.32	9.51	18.20	12.05	<b>17.12</b>	<b>BETL</b>
US 718 BG II	8.25	27.57	12.42	16.38	10.09	<b>14.94</b>	<b>BETL</b>
GBCH 3001 BGII	8.42	34.16	10.09	18.20	10.40	<b>16.25</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	5.42	2.77	2.00	15.09	11.52	<b>7.36</b>	BETL
ARCH 2222 BG II	4.83	3.23	2.29	15.18	13.11	<b>7.73</b>	BETL
ARCH 2227 BG II	7.33	2.83	2.44	14.24	14.84	<b>8.34</b>	BETL
KCH 9393 BG II	6.50	2.93	2.33	14.64	12.03	<b>7.69</b>	BETL
DACH 57N57 BG II	5.58	3.47	2.31	14.24	14.68	<b>8.06</b>	BETL
Zonal BGII Check – 1	6.00	3.73	2.24	14.47	12.81	<b>7.85</b>	BETL
Zonal BGII Check – 2	5.33	4.22	2.60	14.98	12.56	<b>7.94</b>	BETL
DC 5420 BG II	5.33	4.47	2.22	13.71	10.82	<b>7.31</b>	BETL
SP7706 BGII	6.67	5.47	2.60	14.29	11.11	<b>8.03</b>	BETL
GBCH 3388 BG II	5.75	5.68	2.53	14.56	9.57	<b>7.62</b>	BETL
RCH 1109 BG II	6.67	5.43	3.11	14.02	10.86	<b>8.02</b>	BETL
ACH 721-2 BG II	6.17	5.47	2.91	14.47	12.26	<b>8.25</b>	BETL
C 9319 BG II	6.50	5.50	3.11	14.67	11.31	<b>8.22</b>	BETL
KCH 9391 BG II	5.67	4.73	3.09	14.02	14.48	<b>8.40</b>	BETL
DACH 67N67 BGII	5.50	5.62	3.11	14.38	11.85	<b>8.09</b>	BETL
RCH 1106 BG II	6.33	4.40	4.13	15.07	15.06	<b>9.00</b>	BETL
US 718 BG II	5.75	5.67	3.22	15.36	13.63	<b>8.73</b>	BETL
GBCH 3001 BGII	9.25	4.68	3.58	15.13	12.15	<b>8.96</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	–	1.42	0.24	0.93	0.82	<b>0.85</b>	
ARCH 2222 BG II	–	1.68	0.27	0.87	0.26	<b>0.77</b>	
ARCH 2227 BG II	–	1.33	0.29	0.80	1.01	<b>0.86</b>	
KCH 9393 BG II	–	1.63	0.22	0.67	1.66	<b>1.05</b>	
DACH 57N57 BG II	–	1.57	0.24	0.64	0.99	<b>0.86</b>	
Zonal BGII Check – 1	–	1.75	0.20	0.87	1.06	<b>0.97</b>	
Zonal BGII Check – 2	–	1.62	0.31	0.80	1.15	<b>0.97</b>	
DC 5420 BG II	–	1.70	0.24	1.18	0.99	<b>1.03</b>	
SP7706 BGII	–	1.57	0.24	0.73	1.02	<b>0.89</b>	
GBCH 3388 BG II	–	1.75	0.22	1.09	1.22	<b>1.07</b>	
RCH 1109 BG II	–	1.63	0.27	1.24	1.60	<b>1.19</b>	
ACH 721-2 BG II	–	1.48	0.27	0.93	1.27	<b>0.99</b>	
C 9319 BG II	–	1.38	0.22	1.02	1.11	<b>0.94</b>	
KCH 9391 BG II	–	1.83	0.27	1.18	1.07	<b>1.09</b>	
DACH 67N67 BGII	–	1.62	0.22	1.24	1.15	<b>1.06</b>	
RCH 1106 BG II	–	1.63	0.24	1.07	1.06	<b>1.00</b>	
US 718 BG II	–	1.52	0.27	0.67	1.16	<b>0.90</b>	
GBCH 3001 BGII	–	1.43	0.31	0.76	1.47	<b>0.99</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2222 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2227 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9393 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 57N57 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC 5420 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7706 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3388 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1109 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ACH 721-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
C 9319 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9391 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 67N67 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1106 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 718 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3001 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions - Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2222 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2227 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9393 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 57N57 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC 5420 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7706 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3388 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1109 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ACH 721-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
C 9319 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9391 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 67N67 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1106 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 718 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3001 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – *Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 2222 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 2227 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9393 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 57N57 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DC 5420 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
SP7706 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 3388 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 1109 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 721-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
C 9319 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9391 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 67N67 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 1106 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
US 718 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 3001 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.50	0.50	0.78	0.33	1.83	<b>0.79</b>	BETL
ARCH 2222 BG II	0.63	0.17	1.44	0.33	3.17	<b>1.15</b>	AETL
ARCH 2227 BG II	0.81	0.17	0.89	0.25	3.50	<b>1.12</b>	AETL
KCH 9393 BG II	0.38	0.50	0.78	0.42	3.50	<b>1.11</b>	AETL
DACH 57N57 BG II	0.56	0.00	0.89	0.08	3.25	<b>0.96</b>	BETL
Zonal BGII Check – 1	1.06	0.33	1.11	0.25	4.75	<b>1.50</b>	AETL
Zonal BGII Check – 2	0.63	0.33	0.78	0.50	2.75	<b>1.00</b>	AETL
DC 5420 BG II	0.56	0.33	0.67	0.33	3.00	<b>0.98</b>	BETL
SP7706 BGII	0.69	0.33	0.89	0.17	2.00	<b>0.82</b>	BETL
GBCH 3388 BG II	0.63	0.33	1.44	0.25	2.50	<b>1.03</b>	AETL
RCH 1109 BG II	0.38	0.17	1.11	0.33	1.50	<b>0.70</b>	BETL
ACH 721-2 BG II	0.56	0.17	1.11	0.17	3.00	<b>1.00</b>	AETL
C 9319 BG II	0.50	0.17	0.56	0.25	4.25	<b>1.14</b>	AETL
KCH 9391 BG II	0.56	0.00	1.22	0.33	3.00	<b>1.02</b>	AETL
DACH 67N67 BGII	0.19	0.17	1.00	0.25	2.75	<b>0.87</b>	BETL
RCH 1106 BG II	0.31	0.17	1.89	0.25	2.00	<b>0.92</b>	BETL
US 718 BG II	0.56	0.33	1.22	0.33	1.83	<b>0.86</b>	BETL
GBCH 3001 BGII	0.25	0.17	1.11	0.33	3.50	<b>1.07</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2222 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2227 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9393 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 57N57 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC 5420 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7706 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3388 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1109 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ACH 721-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
C 9319 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9391 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 67N67 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1106 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 718 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3001 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	5.83	6.67	8.89	10.00	18.33	9.94	BETL
ARCH 2222 BG II	4.58	8.33	17.78	11.67	7.78	10.03	AETL
ARCH 2227 BG II	4.17	13.33	13.33	10.83	6.67	9.67	BETL
KCH 9393 BG II	4.58	6.67	12.22	12.50	7.78	8.75	BETL
DACH 57N57 BG II	5.00	5.00	13.33	8.33	5.00	7.33	BETL
Zonal BGII Check – 1	7.92	8.33	16.67	10.00	10.56	10.69	AETL
Zonal BGII Check – 2	5.21	8.33	13.33	12.50	11.67	10.21	AETL
DC 5420 BG II	4.79	5.00	12.22	8.33	17.78	9.63	BETL
SP7706 BGII	5.42	5.00	11.11	7.50	16.67	9.14	BETL
GBCH 3388 BG II	4.58	8.33	18.89	10.83	5.00	9.53	BETL
RCH 1109 BG II	3.33	1.67	13.33	10.00	10.56	7.78	BETL
ACH 721-2 BG II	4.17	6.67	13.33	8.33	22.22	10.94	AETL
C 9319 BG II	4.58	5.00	8.89	10.00	7.78	7.25	BETL
KCH 9391 BG II	4.17	3.33	17.78	9.17	12.22	9.33	BETL
DACH 67N67 BGII	3.33	3.33	16.67	8.33	10.56	8.44	BETL
RCH 1106 BG II	2.08	5.00	22.22	11.67	10.00	10.19	AETL
US 718 BG II	2.92	6.67	15.56	12.50	13.89	10.31	AETL
GBCH 3001 BGII	4.17	5.00	17.78	10.83	7.22	9.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	8.23	5.00	9.48	10.46	12.67	<b>9.17</b>	
ARCH 2222 BG II	0.93	5.00	8.47	12.54	7.67	<b>6.92</b>	
ARCH 2227 BG II	2.21	5.00	15.11	11.47	14.33	<b>9.62</b>	
KCH 9393 BG II	3.07	5.00	4.04	13.30	16.67	<b>8.41</b>	
DACH 57N57 BG II	9.96	2.50	11.66	12.49	6.67	<b>8.66</b>	
Zonal BGII Check – 1	3.71	5.00	13.14	13.46	8.33	<b>8.73</b>	
Zonal BGII Check – 2	9.19	5.00	11.97	13.58	12.67	<b>10.48</b>	
DC 5420 BG II	5.83	1.72	11.27	15.07	14.00	<b>9.58</b>	
SP7706 BGII	5.36	5.00	9.36	13.33	20.67	<b>10.74</b>	
GBCH 3388 BG II	2.12	5.00	6.32	12.25	10.00	<b>7.14</b>	
RCH 1109 BG II	1.27	5.00	10.20	11.39	3.33	<b>6.24</b>	
ACH 721-2 BG II	1.12	5.00	6.32	11.15	10.67	<b>6.85</b>	
C 9319 BG II	10.02	5.00	8.00	12.49	4.33	<b>7.97</b>	
KCH 9391 BG II	2.88	5.00	14.76	13.48	6.67	<b>8.56</b>	
DACH 67N67 BGII	13.06	5.00	7.08	10.27	5.00	<b>8.08</b>	
RCH 1106 BG II	1.19	7.50	15.06	12.09	6.67	<b>8.50</b>	
US 718 BG II	5.02	2.50	16.85	10.90	16.67	<b>10.39</b>	
GBCH 3001 BGII	4.83	7.50	10.12	11.68	8.33	<b>8.49</b>	

\*FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	3.48	1.16	3.97	6.11	7.33	<b>4.41</b>	
ARCH 2222 BG II	0.36	1.12	4.22	6.33	6.67	<b>3.74</b>	
ARCH 2227 BG II	0.89	2.05	3.89	6.17	9.33	<b>4.47</b>	
KCH 9393 BG II	1.35	2.10	5.45	6.70	13.59	<b>5.84</b>	
DACH 57N57 BG II	3.77	1.74	1.78	7.39	5.18	<b>3.97</b>	
Zonal BGII Check – 1	1.74	2.03	3.73	6.56	7.99	<b>4.41</b>	
Zonal BGII Check – 2	4.89	2.15	4.48	6.66	10.03	<b>5.64</b>	
DC 5420 BG II	3.25	0.56	3.75	7.36	11.60	<b>5.30</b>	
SP7706 BGII	2.15	1.60	4.69	6.86	17.91	<b>6.64</b>	
GBCH 3388 BG II	0.93	1.95	4.49	6.75	8.78	<b>4.58</b>	
RCH 1109 BG II	0.53	0.86	3.79	6.74	3.83	<b>3.15</b>	
ACH 721-2 BG II	0.49	1.78	5.05	6.41	9.16	<b>4.58</b>	
C 9319 BG II	4.87	1.71	4.78	5.72	4.74	<b>4.36</b>	
KCH 9391 BG II	1.20	1.76	4.02	6.96	4.24	<b>3.64</b>	
DACH 67N67 BGII	5.42	1.84	4.71	5.58	3.85	<b>4.28</b>	
RCH 1106 BG II	0.00	1.90	4.84	6.59	3.25	<b>3.31</b>	
US 718 BG II	2.14	0.86	3.59	5.75	13.82	<b>5.23</b>	
GBCH 3001 BGII	2.12	1.90	4.45	6.08	6.95	<b>4.30</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Number of sprays for Insect-pest**

Name of Entry	Number of spray for Insect-pest						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ARCH 2222 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ARCH 2227 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
KCH 9393 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DACH 57N57 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
Zonal BGII Check – 1	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
Zonal BGII Check – 2	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DC 5420 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
SP7706 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
GBCH 3388 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
RCH 1109 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ACH 721-2 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
C 9319 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
KCH 9391 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DACH 67N67 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
RCH 1106 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
US 718 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
GBCH 3001 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	

**FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar**



## Reaction to Diseases

### B. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-I (AET-I Hybrids-I) under protected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions															
			Bhatinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		SriGanganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
235	50031	ACH 751-2 BG II	5.8	HR	1.6	HR	3.7	HR	15.8	R	3.2	HR	9.5	HR	9.2	HR	7.5	HR
239	50032	ARCH 2222 BG II	6.7	HR	0.0	DF	3.4	HR	21.7	MR	0.5	HR	11.1	R	0.8	HR	5.1	HR
247	50033	ARCH 2227 BG II	3.3	HR	1.0	HR	2.2	HR	18.3	R	1.9	HR	10.1	R	1.7	HR	4.7	HR
243	50034	KCH 9393 BG II	5.0	HR	2.3	HR	3.7	HR	24.2	MR	10.5	HR	17.4	R	4.4	HR	8.5	HR
233	50035	DACH 57N57 BG II	13.3	R	0.0	DF	6.7	HR	21.7	MR	1.4	HR	11.6	R	0.0	DF	6.1	HR
241	50036	Zonal BGII Check – 1	7.5	HR	4.0	HR	5.8	HR	26.7	MR	10.4	R	18.6	R	7.2	HR	10.5	R
231	50037	Zonal BGII Check – 2	4.2	HR	2.6	HR	3.4	HR	20.8	MR	4.2	HR	12.5	R	18.3	R	11.4	R
237	50038	DC 5420 BG II	6.7	HR	0.5	HR	3.6	HR	24.2	MR	7.4	HR	15.8	R	6.9	HR	8.8	HR
246	50039	SP7706 BGII	5.8	HR	0.0	DF	2.9	HR	19.2	R	4.6	HR	11.9	R	1.4	HR	5.4	HR
238	50040	GBCH 3388 BG II	7.5	HR	4.1	HR	5.8	HR	25.0	MR	11.0	R	18.0	R	8.4	HR	10.7	R
234	50041	RCH 1109 BG II	5.8	HR	2.3	HR	4.1	HR	21.7	MR	0.3	HR	11.0	R	0.3	HR	5.1	HR
248	50042	ACH 721-2 BG II	5.8	HR	1.6	HR	3.7	HR	20.8	MR	2.7	HR	11.8	R	3.7	HR	6.4	HR
240	50043	C 9319 BG II	3.3	HR	2.6	HR	3.0	HR	22.5	MR	1.6	HR	12.1	R	0.0	DF	5.0	HR
232	50044	KCH 9391 BG II	9.2	HR	2.7	HR	6.0	HR	23.3	MR	3.6	HR	13.5	R	6.2	HR	8.6	HR
245	50045	DACH 67N67 BGII	3.3	HR	0.0	DF	1.7	HR	18.3	R	1.5	HR	9.9	HR	0.0	DF	3.9	HR
242	50046	RCH 1106 BG II	4.2	HR	0.0	DF	2.1	HR	16.7	R	0.0	DF	8.4	HR	0.0	DF	3.5	HR
236	50047	US 718 BG II	5.0	HR	0.0	DF	2.5	HR	15.8	R	0.9	HR	8.4	HR	0.0	DF	3.6	HR
244	50048	GBCH 3001 BGII	5.0	HR	8.6	HR	6.8	HR	16.7	R	15.2	R	16.0	R	10.1	R	11.0	R



**Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-I (AET-I Hybrids-I) under protected conditions**

Code-I	Code-II	Entries	Average FFLS , BLB PDI & Disease Reaction (DR) under protected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
235	50031	ACH 751-2 BG II	5.5	3.0	R
239	50032	ARCH 2222 BG II	6.0	3.3	R
247	50033	ARCH 2227 BG II	6.3	3.8	R
243	50034	KCH 9393 BG II	7.3	4.8	R
233	50035	DACH 57N57 BG II	5.8	3.3	R
241	50036	<b>Zonal BGII Check – 1</b>	5.5	3.0	R
231	50037	<b>Zonal BGII Check – 2</b>	4.8	3.3	R
237	50038	DC 5420 BG II	5.5	3.0	R
246	50039	SP7706 BGII	5.0	2.5	R
238	50040	GBCH 3388 BG II	5.5	3.0	R
234	50041	RCH 1109 BG II	7.0	4.3	R
248	50042	ACH 721-2 BG II	6.5	3.8	R
240	50043	C 9319 BG II	5.3	2.8	R
232	50044	KCH 9391 BG II	4.8	2.3	R
245	50045	DACH 67N67 BGII	6.0	3.5	R
242	50046	RCH 1106 BG II	7.5	4.8	R
236	50047	US 718 BG II	6.8	4.0	R
244	50048	GBCH 3001 BGII	6.0	3.3	R

**Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-I (AET-I Hybrids) under protected and unprotected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions			
			Ankur, Fazilka		Kaveri, Hanumangarh	
			CLCuD		CLCuD	
			PDI	DR	PDI	DR
235	50031	ACH 751-2 BG II	1.5	HR	6.0	HR
239	50032	ARCH 2222 BG II	0.0	DF	1.4	HR
247	50033	ARCH 2227 BG II	0.0	DF	1.6	HR
243	50034	KCH 9393 BG II	3.5	HR	2.1	HR
233	50035	DACH 57N57 BG II	0.6	HR	0.0	DF
241	50036	<b>Zonal BGII Check – 1</b>	4.2	HR	6.4	HR
231	50037	<b>Zonal BGII Check – 2</b>	2.3	HR	13.0	R
237	50038	DC 5420 BG II	0.5	HR	4.2	HR
246	50039	SP7706 BGII	0.6	HR	1.4	HR
238	50040	GBCH 3388 BG II	0.6	HR	5.4	HR
234	50041	RCH 1109 BG II	0.0	DF	0.8	HR
248	50042	ACH 721-2 BG II	1.7	HR	3.2	HR
240	50043	C 9319 BG II	0.0	DF	0.0	DF
232	50044	KCH 9391 BG II	3.2	HR	2.6	HR
245	50045	DACH 67N67 BGII	0.5	HR	0.0	DF
242	50046	RCH 1106 BG II	0.0	DF	0.0	DF
236	50047	US 718 BG II	0.0	DF	0.0	DF
244	50048	GBCH 3001 BGII	7.9	HR	5.6	HR



## Evaluation under Unprotected Condition for Insect pests & Disease Incidence

### Reaction to Insect Pest

Table: Advanced H X H trial in North Zone under Unprotected Conditions - Leafhopper

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	5.25	1.87	2.91	8.40	1.87	<b>4.06</b>	BETL
ARCH 2222 BG II	4.92	2.20	3.29	8.30	1.79	<b>4.10</b>	BETL
ARCH 2227 BG II	6.17	1.53	4.24	9.90	1.75	<b>4.72</b>	BETL
KCH 9393 BG II	5.67	1.87	3.27	7.90	1.71	<b>4.08</b>	BETL
DACH 57N57 BG II	4.75	1.63	4.29	7.35	2.00	<b>4.00</b>	BETL
Zonal BGII Check – 1	4.33	1.93	3.09	8.65	1.80	<b>3.96</b>	BETL
Zonal BGII Check – 2	5.50	1.53	3.80	7.05	1.80	<b>3.94</b>	BETL
DC 5420 BG II	6.08	2.23	3.18	7.55	1.92	<b>4.19</b>	BETL
SP7706 BGII	5.08	1.80	4.29	8.30	1.73	<b>4.24</b>	BETL
GBCH 3388 BG II	5.33	1.80	3.13	9.15	2.11	<b>4.31</b>	BETL
RCH 1109 BG II	4.33	1.90	4.59	9.55	1.93	<b>4.46</b>	BETL
ACH 721-2 BG II	3.00	1.97	3.71	8.45	1.93	<b>3.81</b>	BETL
C 9319 BG II	5.75	2.03	2.69	9.70	1.96	<b>4.43</b>	BETL
KCH 9391 BG II	4.08	2.40	3.76	9.10	2.07	<b>4.28</b>	BETL
DACH 67N67 BGII	4.83	2.07	3.40	8.80	1.82	<b>4.18</b>	BETL
RCH 1106 BG II	4.33	1.93	4.87	7.50	1.73	<b>4.07</b>	BETL
US 718 BG II	6.00	1.80	3.44	8.40	2.02	<b>4.33</b>	BETL
GBCH 3001 BGII	4.08	2.03	3.51	8.35	2.18	<b>4.03</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	III	I	III	II	II	II	
ARCH 2222 BG II	III	II	III	II	II	II	
ARCH 2227 BG II	III	I	III	II	II	II	
KCH 9393 BG II	IV	I	III	II	II	II	
DACH 57N57 BG II	III	I	II	II	II	II	
Zonal BGII Check – 1	III	I	II	II	II	II	
Zonal BGII Check – 2	III	I	II	II	II	II	
DC 5420 BG II	IV	I	III	II	II	II	
SP7706 BGII	III	I	III	II	II	II	
GBCH 3388 BG II	IV	I	III	II	II	II	
RCH 1109 BG II	IV	I	III	II	II	II	
ACH 721-2 BG II	IV	I	III	II	II	II	
C 9319 BG II	III	II	II	II	II	II	
KCH 9391 BG II	IV	II	III	II	II	III	
DACH 67N67 BGII	IV	II	III	II	II	III	
RCH 1106 BG II	III	I	III	II	II	II	
US 718 BG II	III	I	II	II	II	II	
GBCH 3001 BGII	III	I	III	II	II	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	22.17	73.05	15.82	17.8	14.61	<b>28.69</b>	BETL
ARCH 2222 BG II	13.67	72.75	16.96	17.5	17.27	<b>27.63</b>	BETL
ARCH 2227 BG II	15.42	92.18	18.60	19.4	17.15	<b>32.55</b>	AETL
KCH 9393 BG II	19.17	69.27	14.08	20.45	15.02	<b>27.60</b>	BETL
DACH 57N57 BG II	19.17	66.30	19.07	21.7	16.15	<b>28.48</b>	BETL
Zonal BGII Check – 1	19.17	64.27	16.38	24.1	14.04	<b>27.59</b>	BETL
Zonal BGII Check – 2	15.58	67.37	17.62	18.95	14.42	<b>26.79</b>	BETL
DC 5420 BG II	17.08	67.00	14.18	19.65	17.60	<b>27.10</b>	BETL
SP7706 BGII	17.83	65.17	17.98	19.75	15.05	<b>27.16</b>	BETL
GBCH 3388 BG II	15.17	60.47	15.16	19.15	18.56	<b>25.70</b>	BETL
RCH 1109 BG II	19.75	63.73	18.49	21.15	17.89	<b>28.20</b>	BETL
ACH 721-2 BG II	16.33	63.87	19.00	21.25	16.23	<b>27.34</b>	BETL
C 9319 BG II	18.17	62.90	16.80	20.40	18.82	<b>27.42</b>	BETL
KCH 9391 BG II	22.33	64.37	17.56	21.35	16.97	<b>28.52</b>	BETL
DACH 67N67 BGII	18.00	59.80	19.04	20.05	19.80	<b>27.34</b>	BETL
RCH 1106 BG II	19.83	62.00	20.31	24.05	20.38	<b>29.31</b>	BETL
US 718 BG II	18.33	63.43	17.82	24.00	18.57	<b>28.43</b>	BETL
GBCH 3001 BGII	14.67	69.00	19.40	24.00	17.48	<b>28.91</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	24.25	9.03	3.76	19.10	16.29	<b>14.49</b>	<b>BETL</b>
ARCH 2222 BG II	20.33	9.47	3.27	20.45	17.88	<b>14.28</b>	<b>BETL</b>
ARCH 2227 BG II	23.25	9.13	3.27	20.30	19.61	<b>15.11</b>	<b>BETL</b>
KCH 9393 BG II	25.67	9.40	2.98	22.35	16.80	<b>15.44</b>	<b>BETL</b>
DACH 57N57 BG II	24.83	9.77	3.49	18.95	19.45	<b>15.30</b>	<b>BETL</b>
Zonal BGII Check – 1	23.00	9.93	3.67	19.65	17.58	<b>14.77</b>	<b>BETL</b>
Zonal BGII Check – 2	23.08	9.73	3.51	20.90	17.33	<b>14.91</b>	<b>BETL</b>
DC 5420 BG II	25.42	10.20	2.53	21.20	15.59	<b>14.99</b>	<b>BETL</b>
SP7706 BGII	21.42	8.67	3.38	14.95	15.88	<b>12.86</b>	<b>BETL</b>
GBCH 3388 BG II	21.33	9.20	2.82	21.45	14.34	<b>13.83</b>	<b>BETL</b>
RCH 1109 BG II	26.00	8.50	3.27	20.10	15.62	<b>14.70</b>	<b>BETL</b>
ACH 721-2 BG II	21.42	10.10	3.31	21.35	17.02	<b>14.64</b>	<b>BETL</b>
C 9319 BG II	21.33	9.43	3.47	19.90	16.08	<b>14.04</b>	<b>BETL</b>
KCH 9391 BG II	21.58	9.73	3.64	21.85	19.25	<b>15.21</b>	<b>BETL</b>
DACH 67N67 BGII	24.92	9.50	3.62	21.35	16.62	<b>15.20</b>	<b>BETL</b>
RCH 1106 BG II	26.42	9.13	3.29	20.10	19.83	<b>15.75</b>	<b>BETL</b>
US 718 BG II	22.75	10.13	3.31	20.75	18.40	<b>15.07</b>	<b>BETL</b>
GBCH 3001 BGII	22.83	10.27	4.22	19.30	16.92	<b>14.71</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	1.92	1.57	0.36	2.57	0.95	<b>1.47</b>	
ARCH 2222 BG II	1.79	1.78	0.38	3.53	0.40	<b>1.58</b>	
ARCH 2227 BG II	1.56	1.43	0.36	0.83	1.15	<b>1.07</b>	
KCH 9393 BG II	2.15	1.72	0.31	0.60	1.80	<b>1.31</b>	
DACH 57N57 BG II	1.95	1.53	0.33	3.83	1.13	<b>1.76</b>	
Zonal BGII Check – 1	2.27	1.73	0.27	1.43	1.20	<b>1.38</b>	
Zonal BGII Check – 2	1.97	1.70	0.27	3.50	1.29	<b>1.74</b>	
DC 5420 BG II	1.78	1.67	0.27	1.50	1.13	<b>1.27</b>	
SP7706 BGII	2.08	1.67	0.33	1.30	1.16	<b>1.31</b>	
GBCH 3388 BG II	2.13	1.65	0.31	0.97	1.36	<b>1.28</b>	
RCH 1109 BG II	2.08	1.77	0.31	2.40	1.74	<b>1.66</b>	
ACH 721-2 BG II	1.63	1.53	0.31	2.93	1.41	<b>1.56</b>	
C 9319 BG II	2.56	1.65	0.36	2.07	1.25	<b>1.58</b>	
KCH 9391 BG II	2.31	1.60	0.29	2.90	1.21	<b>1.66</b>	
DACH 67N67 BGII	2.18	1.57	0.31	2.60	1.29	<b>1.59</b>	
RCH 1106 BG II	1.69	1.68	0.38	2.53	1.20	<b>1.50</b>	
US 718 BG II	1.55	1.43	0.29	3.13	1.30	<b>1.54</b>	
GBCH 3001 BGII	1.40	1.50	0.31	3.53	1.61	<b>1.67</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2222 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2227 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9393 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 57N57 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC 5420 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7706 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3388 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1109 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ACH 721-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
C 9319 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9391 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 67N67 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1106 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 718 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3001 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa&amp;SG- Sriganaganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms(No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	2.50	0.00	0.00	0.00	0.50	BETL
ARCH 2222 BG II	0.00	1.50	0.00	0.00	0.00	0.30	BETL
ARCH 2227 BG II	0.00	1.50	0.00	0.00	0.00	0.30	BETL
KCH 9393 BG II	0.00	2.00	0.00	0.00	0.00	0.40	BETL
DACH 57N57 BG II	0.00	2.00	0.00	0.00	0.00	0.40	BETL
Zonal BGII Check – 1	0.00	2.00	0.00	0.00	0.00	0.40	BETL
Zonal BGII Check – 2	0.00	1.00	0.00	0.00	0.00	0.20	BETL
DC 5420 BG II	0.00	1.50	0.00	0.00	0.00	0.30	BETL
SP7706 BGII	0.00	2.50	0.00	0.00	0.00	0.50	BETL
GBCH 3388 BG II	0.00	1.00	0.00	0.00	0.00	0.20	BETL
RCH 1109 BG II	0.00	1.50	0.00	0.00	0.00	0.30	BETL
ACH 721-2 BG II	0.00	2.50	0.00	0.00	0.00	0.50	BETL
C 9319 BG II	0.00	2.50	0.00	0.00	0.00	0.50	BETL
KCH 9391 BG II	0.00	2.00	0.00	0.00	0.00	0.40	BETL
DACH 67N67 BGII	0.00	2.00	0.00	0.00	0.00	0.40	BETL
RCH 1106 BG II	0.00	1.50	0.00	0.00	0.00	0.30	BETL
US 718 BG II	0.00	1.50	0.00	0.00	0.00	0.30	BETL
GBCH 3001 BGII	0.00	1.50	0.00	0.00	0.00	0.30	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganaganagar



Table: Advanced H X H trial in North Zone under Unprotected Conditions – *Spodoptera litura*

Name of Entry	<i>Spodoptera litura</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2222 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2227 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9393 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 57N57 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC 5420 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7706 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3388 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1109 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ACH 721-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
C 9319 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9391 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 67N67 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1106 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 718 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3001 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

Table: Advanced H X H trial in North Zone under Unprotected Conditions – Pink Bollworm

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.75	1.50	1.33	0.38	2.11	1.21	AETL
ARCH 2222 BG II	0.38	2.50	1.11	0.38	3.89	1.65	AETL
ARCH 2227 BG II	0.38	2.00	2.44	0.63	3.22	1.73	AETL
KCH 9393 BG II	1.38	2.50	1.33	0.75	3.55	1.90	AETL
DACH 57N57 BG II	1.13	2.00	1.45	0.75	3.66	1.80	AETL
Zonal BGII Check – 1	2.00	2.00	1.33	1.00	3.89	2.04	AETL
Zonal BGII Check – 2	1.63	2.00	1.44	0.50	3.44	1.80	AETL
DC 5420 BG II	1.13	2.00	1.00	0.88	3.22	1.64	AETL
SP7706 BGII	2.25	2.00	1.67	0.63	2.33	1.77	AETL
GBCH 3388 BG II	1.38	3.00	1.67	1.13	2.55	1.94	AETL
RCH 1109 BG II	1.50	2.00	1.00	0.63	2.55	1.54	AETL
ACH 721-2 BG II	0.63	1.50	1.78	0.50	3.00	1.48	AETL
C 9319 BG II	0.88	2.50	1.67	0.63	4.00	1.93	AETL
KCH 9391 BG II	2.00	2.00	1.89	0.50	2.78	1.83	AETL
DACH 67N67 BGII	2.00	1.50	2.00	0.38	3.33	1.84	AETL
RCH 1106 BG II	1.38	1.50	1.22	0.38	2.44	1.38	AETL
US 718 BG II	0.88	2.50	1.44	0.75	3.00	1.71	AETL
GBCH 3001 BGII	0.63	2.50	0.78	0.38	3.22	1.50	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2222 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ARCH 2227 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9393 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 57N57 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 1	0.00	0.00	0.00	0.00	0.00	0.00	BETL
Zonal BGII Check – 2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DC 5420 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
SP7706 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3388 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1109 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
ACH 721-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
C 9319 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
KCH 9391 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
DACH 67N67 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RCH 1106 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
US 718 BG II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
GBCH 3001 BGII	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa&SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Green Boll Damage (Pink bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	10.42	15.00	20.00	11.25	16.00	14.53	AETL
ARCH 2222 BG II	5.83	20.00	15.56	10.00	7.67	11.81	AETL
ARCH 2227 BG II	7.92	25.00	30.00	11.25	6.84	16.20	AETL
KCH 9393 BG II	10.00	25.00	16.67	15.00	8.92	15.12	AETL
DACH 57N57 BG II	8.75	15.00	16.67	10.00	5.59	11.20	AETL
Zonal BGII Check – 1	13.33	25.00	22.22	12.50	9.75	16.56	AETL
Zonal BGII Check – 2	11.67	25.00	18.89	12.50	11.00	15.81	AETL
DC 5420 BG II	12.50	15.00	16.67	16.25	16.42	15.37	AETL
SP7706 BGII	17.08	15.00	18.89	8.75	14.34	14.81	AETL
GBCH 3388 BG II	10.42	25.00	17.78	17.50	5.59	15.26	AETL
RCH 1109 BG II	11.25	25.00	20.00	12.50	11.00	15.95	AETL
ACH 721-2 BG II	9.17	15.00	24.44	11.25	19.54	15.88	AETL
C 9319 BG II	7.08	25.00	23.33	8.75	7.46	14.33	AETL
KCH 9391 BG II	12.50	15.00	25.56	7.50	11.42	14.39	AETL
DACH 67N67 BGII	14.58	15.00	26.67	10.00	10.59	15.37	AETL
RCH 1106 BG II	10.00	15.00	17.78	7.50	10.59	12.17	AETL
US 718 BG II	10.00	25.00	22.22	11.25	12.67	16.23	AETL
GBCH 3001 BGII	8.33	25.00	11.11	11.25	7.25	12.59	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	4.61	17.50	12.84	18.40	53.33	<b>21.34</b>	
ARCH 2222 BG II	8.34	27.50	14.53	19.97	41.67	<b>22.40</b>	
ARCH 2227 BG II	9.64	17.50	14.20	18.75	55.00	<b>23.02</b>	
KCH 9393 BG II	20.24	17.50	14.21	15.55	70.00	<b>27.50</b>	
DACH 57N57 BG II	15.50	20.00	6.95	14.55	45.00	<b>20.40</b>	
Zonal BGII Check – 1	13.01	15.00	8.35	17.03	62.50	<b>23.18</b>	
Zonal BGII Check – 2	6.25	22.50	10.73	16.08	72.50	<b>25.61</b>	
DC 5420 BG II	6.58	22.50	11.55	19.90	60.00	<b>24.11</b>	
SP7706 BGII	8.48	20.00	14.15	20.11	62.50	<b>25.05</b>	
GBCH 3388 BG II	17.27	25.00	12.68	19.57	65.00	<b>27.90</b>	
RCH 1109 BG II	7.70	12.50	10.84	18.76	23.33	<b>14.63</b>	
ACH 721-2 BG II	7.44	22.50	17.52	19.02	35.00	<b>20.30</b>	
C 9319 BG II	10.62	20.00	12.30	17.22	35.00	<b>19.03</b>	
KCH 9391 BG II	10.48	25.00	14.72	19.08	37.50	<b>21.35</b>	
DACH 67N67 BGII	10.89	22.50	11.37	12.28	27.50	<b>16.91</b>	
RCH 1106 BG II	4.28	17.50	16.11	19.49	37.50	<b>18.97</b>	
US 718 BG II	8.36	22.50	15.55	13.33	55.00	<b>22.95</b>	
GBCH 3001 BGII	3.42	27.50	12.47	19.08	30.00	<b>18.49</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 751-2 BG II	2.45	2.60	4.80	9.53	15.65	<b>7.01</b>	
ARCH 2222 BG II	3.45	1.80	3.61	10.68	14.56	<b>6.82</b>	
ARCH 2227 BG II	4.29	2.25	4.04	8.84	15.93	<b>7.07</b>	
KCH 9393 BG II	8.61	3.00	1.76	7.93	30.23	<b>10.31</b>	
DACH 57N57 BG II	6.81	3.80	4.02	7.96	14.13	<b>7.34</b>	
Zonal BGII Check – 1	6.94	3.00	5.15	8.47	32.80	<b>11.27</b>	
Zonal BGII Check – 2	3.24	2.35	4.10	8.24	27.50	<b>9.09</b>	
DC 5420 BG II	3.45	3.40	5.49	10.04	20.00	<b>8.47</b>	
SP7706 BGII	4.73	2.85	3.96	9.29	27.87	<b>9.74</b>	
GBCH 3388 BG II	7.91	3.30	3.36	7.81	27.38	<b>9.95</b>	
RCH 1109 BG II	3.79	4.00	3.07	9.70	9.17	<b>5.95</b>	
ACH 721-2 BG II	3.73	1.40	3.55	13.06	17.11	<b>7.77</b>	
C 9319 BG II	4.26	1.72	3.96	5.71	12.90	<b>5.71</b>	
KCH 9391 BG II	5.00	5.05	4.65	9.94	14.88	<b>7.91</b>	
DACH 67N67 BGII	5.72	3.40	3.85	10.70	13.69	<b>7.47</b>	
RCH 1106 BG II	1.48	4.40	5.38	9.27	13.79	<b>6.86</b>	
US 718 BG II	3.78	2.85	7.07	9.03	27.09	<b>9.96</b>	
GBCH 3001 BGII	1.67	3.40	3.41	8.99	11.21	<b>5.74</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



## Reaction to Diseases

### C. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



**Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-I (AET-I Hybrids-I) under unprotected conditions**

Code-I	Code-II	Entries	Average FFLS , BLB PDI & Disease Reaction (DR) under unprotected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
235	50031	ACH 751-2 BG II	10.5	3.5	R
239	50032	ARCH 2222 BG II	10.8	4.0	R
247	50033	ARCH 2227 BG II	11.0	4.3	R
243	50034	KCH 9393 BG II	12.0	5.3	R
233	50035	DACH 57N57 BG II	10.0	3.8	R
241	50036	<b>Zonal BGII Check – 1</b>	10.0	3.5	R
231	50037	<b>Zonal BGII Check – 2</b>	7.5	3.8	R
237	50038	DC 5420 BG II	10.0	3.5	R
246	50039	SP7706 BGII	9.5	3.0	R
238	50040	GBCH 3388 BG II	10.3	3.5	R
234	50041	RCH 1109 BG II	11.8	5.0	R
248	50042	ACH 721-2 BG II	11.0	4.5	R
240	50043	C 9319 BG II	9.5	3.3	R
232	50044	KCH 9391 BG II	7.3	2.8	R
245	50045	DACH 67N67 BGII	10.8	4.0	R
242	50046	RCH 1106 BG II	12.3	5.5	R
236	50047	US 718 BG II	10.5	4.8	R
244	50048	GBCH 3001 BGII	10.5	4.0	R

**Table 2 (c) Advanced Evaluation Trial of Intra Hirsutum Hybrids-I (AET-I Hybrids) unprotected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under unprotected conditions	
			Kaveri, Hanumangarh	
			CLCuD	
			PDI	DR
235	50031	ACH 751-2 BG II	6.1	HR
239	50032	ARCH 2222 BG II	1.9	HR
247	50033	ARCH 2227 BG II	2.5	HR
243	50034	KCH 9393 BG II	1.7	HR
233	50035	DACH 57N57 BG II	0.0	DF
241	50036	<b>Zonal BGII Check – 1</b>	9.7	HR
231	50037	<b>Zonal BGII Check – 2</b>	15.8	R
237	50038	DC 5420 BG II	4.2	HR
246	50039	SP7706 BGII	1.9	HR
238	50040	GBCH 3388 BG II	7.3	HR
234	50041	RCH 1109 BG II	0.9	HR
248	50042	ACH 721-2 BG II	5.3	HR
240	50043	C 9319 BG II	0.0	DF
232	50044	KCH 9391 BG II	5.0	HR
245	50045	DACH 67N67 BGII	0.0	DF
242	50046	RCH 1106 BG II	0.0	DF
236	50047	US 718 BG II	0.0	DF
244	50048	GBCH 3001 BGII	5.3	HR



Table 2 (d) Advanced Evaluation Trial of Intra Hirsutum Hybrids-I (AET-I Hybrids) under unprotected conditions

Cod e-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under unprotected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		SriGanganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
235	50031	ACH 751-2 BG II	6.7	HR	10.1	R	8.4	HR	20.0	R	17.0	R	18.5	R	11.7	R	12.9	R
239	50032	ARCH 2222 BG II	7.5	HR	3.6	HR	5.5	HR	24.2	MR	0.0	DF	12.1	R	1.0	HR	6.2	HR
247	50033	ARCH 2227 BG II	4.2	HR	3.6	HR	3.9	HR	20.8	MR	9.4	HR	15.1	R	4.7	HR	7.9	HR
243	50034	KCH 9393 BG II	5.8	HR	14.4	R	10.1	R	25.8	MR	18.5	R	22.2	MR	9.5	HR	13.9	R
233	50035	DACH 57N57 BG II	15.0	R	0.0	HR	7.5	HR	22.5	MR	5.9	HR	14.2	R	0.0	DF	7.2	HR
241	50036	<b>Zonal BGII Check - 1</b>	10.0	HR	10.7	R	10.4	R	28.3	MR	8.3	HR	18.3	R	18.5	R	15.7	R
231	50037	<b>Zonal BGII Check - 2</b>	5.0	HR	6.6	HR	5.8	HR	23.3	MR	35.2	MS	29.3	MR	22.5	MR	19.2	R
237	50038	DC 5420 BG II	9.2	HR	11.2	R	10.2	R	25.8	MR	14.9	R	20.4	MR	5.8	HR	12.1	R
246	50039	SP7706 BGII	6.7	HR	4.2	HR	5.4	HR	21.7	MR	2.1	HR	11.9	R	7.2	HR	8.2	HR
238	50040	GBCH 3388 BG II	8.3	HR	19.1	R	13.7	R	28.3	MR	12.5	R	20.4	MR	16.7	R	16.9	R
234	50041	RCH 1109 BG II	6.7	HR	1.8	HR	4.2	HR	22.5	MR	2.5	HR	12.5	R	0.0	DF	5.6	HR
248	50042	ACH 721-2 BG II	8.3	HR	14.8	R	11.5	R	24.2	MR	20.6	MR	22.4	MR	10.8	R	14.9	R
240	50043	C 9319 BG II	5.0	HR	0.0	HR	2.5	HR	23.3	MR	2.4	HR	12.9	R	1.0	HR	5.5	HR
232	50044	KCH 9391 BG II	11.7	R	15.0	R	13.3	R	26.7	MR	12.2	R	19.5	R	10.0	HR	14.3	R
245	50045	DACH 67N67 BGII	5.0	HR	1.8	HR	3.4	HR	20.0	R	3.8	HR	11.9	R	0.0	DF	5.1	HR
242	50046	RCH 1106 BG II	5.8	HR	1.2	HR	3.5	HR	18.3	R	1.8	HR	10.1	R	0.0	DF	4.5	HR
236	50047	US 718 BG II	6.7	HR	2.0	HR	4.3	HR	17.5	R	25.7	MR	21.6	MR	0.0	DF	8.6	HR
244	50048	GBCH 3001 BGII	7.5	HR	18.0	R	12.7	R	20.8	MR	40.9	S	30.9	MS	2.5	HR	15.4	R



## Advanced Evaluation Trial - II of Intra-Hirsutum Bt Cotton Hybrids

### Constitution of Trial

The trial was constituted with 10 Bt cotton hybrids containing MON 15985 event sponsored by various Private organization along with two different check hybrids as furnished below.

S. No.	Code-I	Code-II	Entries	Sponsored by
1	356	50051	ACH 905-2 BGII	Ajeet Seeds
2	353	50052	ACH 333-2 BG II	Ajeet Seeds
3	359	50053	KCH 9390 BG II	Kaveri Seed Company limited
4	351	50054	KCH 9389 BG II	Kaveri Seed Company limited
5	355	50055	US 716 BGII	SeedWorks International
6	357	50056	RCH 1001 BG II	Rasi Seeds
7	352	50057	<b>RCH 926 BGII (ZC)</b>	<b>ACH 177-2 BGII</b>
8	361	50058	<b>MC 5408 BGII (ZC)</b>	<b>ACH 945-2 BGII</b>
9	358	50059	ARCH 1111 BG II	Ankur Seeds
10	362	50060	DACH 48N48 BG II	Dharti
11	360	50061	DACH 49N49 BG II	Dharti
12	354	50062	C 9318 BG II	Mahyco Pvt.Ltd.

The trial was conducted in seven different locations viz., PAU, Faridkot; PAU, Bathinda; CCSHAU, Hisar; ICAR-CICR, Sirsa; SKRAU, Sriganagar, Kaveri Seed Pvt. Ltd., Hanumangarh and Ankur Seeds at Fazilka. The trial was conducted with four rows of 6 meters per entry with three replications. As per the recommendation of the Monitoring Committee, the trial conducted at CCSHAU, Hisar was treated as “**Vitiated**” and hence the data was not included.



**Data recorded:****Biometric evaluation****Table: Plant height (cm) at harvest in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	234.0	173.9	168.7	159.9	178.7	190.7	<b>184.3</b>
2	ACH 333-2 BG II	248.0	151.7	193.8	188.9	188.4	212.3	<b>197.2</b>
3	KCH 9390 BG II	236.0	145.6	175.6	166.1	179.3	195.3	<b>183.0</b>
4	KCH 9389 BG II	245.0	142.2	175.0	157.5	165.9	198.0	<b>180.6</b>
5	US 716 BGII	220.0	168.9	193.3	175.9	167.1	199.0	<b>187.4</b>
6	RCH 1001 BG II	213.0	151.7	155.1	155.4	163.8	178.0	<b>169.5</b>
7	<b>ACH 177-2 BGII</b>	240.0	163.9	186.3	183.7	185.3	218.7	<b>196.3</b>
8	<b>ACH 945-2 BGII</b>	240.0	158.3	214.3	191.9	187.6	215.3	<b>201.2</b>
9	ARCH 1111 BG II	236.0	145.0	184.9	163.3	151.8	206.7	<b>181.3</b>
10	DACH 48N48 BG II	224.0	145.0	159.4	164.7	156.4	179.7	<b>171.5</b>
11	DACH 49N49 BG II	227.0	173.9	180.4	157.8	170.9	210.9	<b>186.8</b>
12	C 9318 BG II	246.0	171.1	189.1	158.7	174.0	211.7	<b>191.8</b>
CD@5%			12.9	18.5	12.2	19.6		
CV %			4.8	6.0	4.2	6.6		

**Table: Number of monopodia in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	3.0	0.9	2.0	1.5	2.2	1.9	<b>1.9</b>
2	ACH 333-2 BG II	2.2	1.4	1.8	1.1	1.7	1.9	<b>1.7</b>
3	KCH 9390 BG II	2.2	0.7	1.4	0.9	1.6	2.0	<b>1.5</b>
4	KCH 9389 BG II	2.2	0.9	1.0	1.0	1.3	1.8	<b>1.4</b>
5	US 716 BGII	1.8	0.3	1.2	0.8	1.8	1.3	<b>1.2</b>
6	RCH 1001 BG II	1.8	0.3	1.3	1.7	1.3	1.3	<b>1.3</b>
7	<b>ACH 177-2 BGII</b>	2.0	1.2	0.8	0.8	2.7	1.9	<b>1.6</b>
8	<b>ACH 945-2 BGII</b>	2.6	1.2	2.1	1.9	2.9	2.4	<b>2.2</b>
9	ARCH 1111 BG II	3.2	0.6	1.6	0.8	1.6	2.3	<b>1.7</b>
10	DACH 48N48 BG II	3.4	1.0	1.7	1.0	1.9	1.7	<b>1.8</b>
11	DACH 49N49 BG II	2.2	0.1	0.8	0.8	1.3	2.3	<b>1.3</b>
12	C 9318 BG II	2.0	0.3	1.6	1.5	2.0	2.0	<b>1.6</b>
CD@5%			0.6	0.3	0.2	0.8		
CV %			46.4	9.8	8.2	24.1		



**Table: Number of sympodia in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	21.2	20.6	18.3	18.6	28.6	20.3	<b>21.3</b>
2	ACH 333-2 BG II	21.0	22.0	19.1	19.9	27.4	24.2	<b>22.3</b>
3	KCH 9390 BG II	21.8	18.9	20.3	19.9	27.9	19.3	<b>21.4</b>
4	KCH 9389 BG II	19.4	20.4	20.3	21.7	26.7	24.2	<b>22.1</b>
5	US 716 BGII	16.6	21.9	23.2	19.3	26.1	23.9	<b>21.8</b>
6	RCH 1001 BG II	16.4	21.2	13.0	18.0	26.1	18.3	<b>18.8</b>
7	<b>ACH 177-2 BGII</b>	20.2	19.8	19.9	19.5	26.3	22.3	<b>21.3</b>
8	<b>ACH 945-2 BGII</b>	16.4	20.0	22.8	19.6	26.1	22.1	<b>21.2</b>
9	ARCH 1111 BG II	15.6	19.1	17.9	20.5	27.4	22.7	<b>20.5</b>
10	DACH 48N48 BG II	19.0	21.6	22.3	20.0	26.0	21.2	<b>21.7</b>
11	DACH 49N49 BG II	20.0	21.8	21.6	16.2	27.0	20.2	<b>21.1</b>
12	C 9318 BG II	22.4	21.0	21.9	18.6	24.2	21.7	<b>21.6</b>
CD@5%			2.3	3.9	1.8	3.9		
CV %			6.7	11.6	5.3	8.8		

**Table: Boll weight (g) in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	2.9	4.1	3.9	3.4	3.7	3.9	<b>3.7</b>
2	ACH 333-2 BG II	3.3	3.9	4.2	4.0	4.1	3.8	<b>3.9</b>
3	KCH 9390 BG II	4.0	4.8	5.0	4.4	4.9	3.7	<b>4.5</b>
4	KCH 9389 BG II	3.1	4.3	4.9	4.2	4.7	3.5	<b>4.1</b>
5	US 716 BGII	3.6	4.3	4.7	4.1	4.1	3.5	<b>4.1</b>
6	RCH 1001 BG II	3.7	4.8	4.5	4.4	4.5	4.2	<b>4.4</b>
7	<b>ACH 177-2 BGII</b>	3.8	4.1	4.4	3.4	4.3	3.7	<b>4.0</b>
8	<b>ACH 945-2 BGII</b>	3.2	4.3	4.1	3.2	4.2	3.7	<b>3.8</b>
9	ARCH 1111 BG II	3.3	4.0	4.9	4.4	4.8	3.9	<b>4.2</b>
10	DACH 48N48 BG II	3.8	4.1	4.7	3.6	4.5	3.9	<b>4.1</b>
11	DACH 49N49 BG II	3.5	4.6	4.8	3.4	4.9	3.8	<b>4.2</b>
12	C 9318 BG II	3.1	4.1	4.4	3.5	4.5	3.5	<b>3.9</b>
CD@5%			0.3	0.5	0.3	0.5		
CV %			4.2	6.0	4.7	6.9		



**Table: Number of bolls / plant in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	65.6	33.8	56.6	29.4	54.3	27.5	<b>44.5</b>
2	ACH 333-2 BG II	44.4	35.1	58.4	29.6	54.0	27.6	<b>41.5</b>
3	KCH 9390 BG II	53.0	41.8	50.7	34.8	65.0	26.8	<b>45.4</b>
4	KCH 9389 BG II	36.6	42.6	47.0	40.4	66.3	30.7	<b>43.9</b>
5	US 716 BGII	38.4	44.4	45.6	30.8	64.8	28.7	<b>42.1</b>
6	RCH 1001 BG II	38.4	29.9	32.6	33.3	50.9	25.6	<b>35.1</b>
7	<b>ACH 177-2 BGII</b>	41.4	34.2	48.3	35.7	54.9	21.3	<b>39.3</b>
8	<b>ACH 945-2 BGII</b>	34.0	32.8	54.7	43.5	57.9	23.8	<b>41.1</b>
9	ARCH 1111 BG II	27.6	36.9	48.6	40.2	62.1	29.3	<b>40.8</b>
10	DACH 48N48 BG II	35.2	35.2	60.0	43.4	59.1	25.6	<b>43.1</b>
11	DACH 49N49 BG II	49.0	42.6	68.0	23.4	66.9	26.9	<b>46.1</b>
12	C 9318 BG II	47.8	36.6	50.9	36.5	55.3	24.4	<b>41.9</b>
CD@5%			3.4	6.1	4.3	7.6		
CV %			5.3	7.0	7.1	7.6		

**Table: Number of bolls / sq.m. in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Bathinda	Sirsa	Mean
1	ACH 905-2 BGII	99.5	90.7	76.3	<b>88.8</b>
2	ACH 333-2 BG II	66.8	81.0	76.0	<b>74.6</b>
3	KCH 9390 BG II	79.8	69.3	88.9	<b>79.3</b>
4	KCH 9389 BG II	56.1	72.3	104.0	<b>77.5</b>
5	US 716 BGII	59.3	66.3	79.4	<b>68.3</b>
6	RCH 1001 BG II	59.3	34.0	84.3	<b>59.2</b>
7	<b>ACH 177-2 BGII</b>	63.4	73.0	90.4	<b>75.6</b>
8	<b>ACH 945-2 BGII</b>	51.6	88.3	111.7	<b>83.9</b>
9	ARCH 1111 BG II	42.6	68.3	103.3	<b>71.4</b>
10	DACH 48N48 BG II	53.9	54.3	110.9	<b>73.0</b>
11	DACH 49N49 BG II	71.3	93.0	59.4	<b>74.6</b>
12	C 9318 BG II	73.8	79.3	96.1	<b>83.1</b>
CD@5%			16.6		
CV %			13.5		



**Table: Lint Index (g) in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	5.3	4.5	5.0	5.7	5.0	<b>5.1</b>
2	ACH 333-2 BG II	4.9	4.1	5.7	5.8	4.9	<b>5.1</b>
3	KCH 9390 BG II	6.0	4.1	5.8	6.1	4.3	<b>5.3</b>
4	KCH 9389 BG II	5.2	4.0	5.7	5.8	4.9	<b>5.1</b>
5	US 716 BGII	5.4	4.3	5.4	5.8	4.8	<b>5.1</b>
6	RCH 1001 BG II	5.8	4.3	6.2	6.5	4.6	<b>5.5</b>
7	<b>ACH 177-2 BGII</b>	5.6	5.3	5.4	6.2	5.1	<b>5.5</b>
8	<b>ACH 945-2 BGII</b>	6.0	4.9	5.8	6.4	5.2	<b>5.7</b>
9	ARCH 1111 BG II	6.0	4.1	6.0	6.6	5.4	<b>5.6</b>
10	DACH 48N48 BG II	6.0	4.9	5.8	6.1	5.5	<b>5.7</b>
11	DACH 49N49 BG II	5.7	5.0	5.1	6.1	5.6	<b>5.5</b>
12	C 9318 BG II	5.2	4.7	4.9	5.7	5.2	<b>5.1</b>
CD@5%		0.5	0.6		0.5		
CV %		5.5	7.5		5.0		

**Table: Seed Index (g) in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	8.7	9.2	9.2	8.1	10.5	10.3	<b>9.3</b>
2	ACH 333-2 BG II	10.1	9.0	8.8	9.3	11.2	10.3	<b>9.8</b>
3	KCH 9390 BG II	11.2	11.0	10.0	10.0	11.6	10.3	<b>10.7</b>
4	KCH 9389 BG II	9.6	9.7	9.7	9.4	11.1	11.0	<b>10.1</b>
5	US 716 BGII	9.6	9.7	10.0	9.5	11.2	10.3	<b>10.1</b>
6	RCH 1001 BG II	10.6	10.7	10.0	11.1	13.4	10.3	<b>11.0</b>
7	<b>ACH 177-2 BGII</b>	9.5	9.5	10.7	9.9	10.8	10.3	<b>10.1</b>
8	<b>ACH 945-2 BGII</b>	9.7	10.4	10.0	9.7	11.4	11.3	<b>10.4</b>
9	ARCH 1111 BG II	11.4	10.7	10.6	10.9	13.1	11.3	<b>11.3</b>
10	DACH 48N48 BG II	10.8	10.9	10.7	10.0	12.2	11.7	<b>11.1</b>
11	DACH 49N49 BG II	8.8	9.7	10.1	8.6	10.8	10.7	<b>9.8</b>
12	C 9318 BG II	9.5	9.0	9.6	7.7	9.7	9.7	<b>9.2</b>
CD@5%			0.6	0.9	0.2	0.7		
CV %			3.3	5.2	1.1	3.7		



**Table: Ginning outturn (%) in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	37.6	36.4	33.7	38.3	35.3	32.5	<b>35.6</b>
2	ACH 333-2 BG II	35.3	35.3	32.8	38.0	34.2	32.1	<b>34.6</b>
3	KCH 9390 BG II	33.8	35.4	30.2	37.0	35.8	29.4	<b>33.6</b>
4	KCH 9389 BG II	34.4	35.2	30.0	37.7	35.7	31.0	<b>34.0</b>
5	US 716 BGII	34.0	35.7	31.1	36.3	34.0	31.5	<b>33.8</b>
6	RCH 1001 BG II	34.7	35.3	31.0	35.7	32.6	30.6	<b>33.3</b>
7	<b>ACH 177-2 BGII</b>	37.1	36.9	34.1	35.5	36.5	33.0	<b>35.5</b>
8	<b>ACH 945-2 BGII</b>	37.0	36.5	33.7	37.3	36.0	31.7	<b>35.4</b>
9	ARCH 1111 BG II	34.3	36.0	29.2	35.3	33.6	32.1	<b>33.4</b>
10	DACH 48N48 BG II	34.8	35.6	32.5	36.7	33.5	32.1	<b>34.2</b>
11	DACH 49N49 BG II	38.1	37.2	34.2	37.4	36.1	34.3	<b>36.2</b>
12	C 9318 BG II	38.9	36.7	34.0	38.7	36.9	34.9	<b>36.7</b>
CD@5%			1.5	2.0		1.0		
CV %			2.5	3.7		1.8		

**Table: Upper Half Mean Length (mm) in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	27.1	28.2	28.3	26.3	27.7	26.2	<b>27.3</b>
2	ACH 333-2 BG II	29.1	28.2	27.8	26.9	29.2	28.3	<b>28.3</b>
3	KCH 9390 BG II	29.3	28.9	30.1	29.1	29.2	27.8	<b>29.1</b>
4	KCH 9389 BG II	29.9	29.1	30.5	27.6	29.7	28.3	<b>29.2</b>
5	US 716 BGII	32.0	32.7	33.4	30.7	33.2	31.2	<b>32.2</b>
6	RCH 1001 BG II	27.5	28.0	29.3	27.2	30.6	26.4	<b>28.2</b>
7	<b>ACH 177-2 BGII</b>	28.8	28.9	29.3	27.6	29.3	28.2	<b>28.7</b>
8	<b>ACH 945-2 BGII</b>	29.2	29.3	29.4	28.2	29.4	27.8	<b>28.9</b>
9	ARCH 1111 BG II	32.3	32.3	32.2	30.9	32.4	30.3	<b>31.7</b>
10	DACH 48N48 BG II	31.5	33.3	32.0	30.9	33.5	30.3	<b>31.9</b>
11	DACH 49N49 BG II	28.5	28.2	29.6	26.5	28.5	27.3	<b>28.1</b>
12	C 9318 BG II	29.3	29.3	30.7	27.3	29.5	28.1	<b>29.0</b>



**Table: Uniformity index under HVI Mode in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	83.0	85.0	82.0	83.0	84.0	84.0	<b>83.5</b>
2	ACH 333-2 BG II	85.0	85.0	83.0	84.0	86.0	85.4	<b>84.7</b>
3	KCH 9390 BG II	84.0	84.0	84.0	85.0	85.0	85.1	<b>84.5</b>
4	KCH 9389 BG II	85.0	84.0	84.0	83.0	85.0	84.5	<b>84.3</b>
5	US 716 BGII	84.0	86.0	88.0	84.0	87.0	84.8	<b>85.6</b>
6	RCH 1001 BG II	86.0	87.0	84.0	85.0	83.0	84.8	<b>85.0</b>
7	<b>ACH 177-2 BGII</b>	84.0	86.0	83.0	85.0	86.0	85.3	<b>84.9</b>
8	<b>ACH 945-2 BGII</b>	85.0	86.0	83.0	85.0	88.0	84.6	<b>85.3</b>
9	ARCH 1111 BG II	84.0	87.0	85.0	85.0	84.0	84.1	<b>84.9</b>
10	DACH 48N48 BG II	84.0	87.0	83.0	84.0	84.0	84.2	<b>84.4</b>
11	DACH 49N49 BG II	83.0	86.0	82.0	82.0	84.0	84.3	<b>83.6</b>
12	C 9318 BG II	85.0	86.0	84.0	82.0	85.0	84.5	<b>84.4</b>

**Table: Micronaire under HVI Mode in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	4.2	4.8	4.7	4.6	4.9	4.5	<b>4.6</b>
2	ACH 333-2 BG II	4.6	5.2	5.0	4.6	4.8	4.8	<b>4.8</b>
3	KCH 9390 BG II	4.2	4.3	4.5	4.5	4.3	4.2	<b>4.3</b>
4	KCH 9389 BG II	4.2	4.2	4.3	4.1	4.2	4.1	<b>4.2</b>
5	US 716 BGII	4.2	4.3	4.5	4.2	4.2	4.2	<b>4.3</b>
6	RCH 1001 BG II	5.2	5.5	4.8	5.1	5.2	5.0	<b>5.1</b>
7	<b>ACH 177-2 BGII</b>	4.4	4.9	4.6	4.1	4.5	4.5	<b>4.5</b>
8	<b>ACH 945-2 BGII</b>	4.2	4.4	4.6	4.2	4.5	4.1	<b>4.3</b>
9	ARCH 1111 BG II	4.6	5.1	4.8	4.6	4.7	4.4	<b>4.7</b>
10	DACH 48N48 BG II	4.5	4.7	4.7	4.3	4.8	4.6	<b>4.6</b>
11	DACH 49N49 BG II	5.2	5.2	4.7	5.0	5.6	4.8	<b>5.1</b>
12	C 9318 BG II	4.70	4.8	4.8	4.5	5.2	4.8	<b>4.8</b>



**Table: Tenacity under HVI Mode in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	29.2	29.8	29.1	27.5	29.5	29.9	<b>29.2</b>
2	ACH 333-2 BG II	31.1	30.1	28.6	28.7	30.5	31.7	<b>30.1</b>
3	KCH 9390 BG II	31.0	31.7	29.7	29.0	30.9	29.7	<b>30.3</b>
4	KCH 9389 BG II	30.0	30.9	30.9	28.4	29.5	30.2	<b>30.0</b>
5	US 716 BGII	32.0	32.1	33.2	30.7	33.8	31.3	<b>32.2</b>
6	RCH 1001 BG II	29.7	30.6	29.1	28.5	29.8	30.9	<b>29.8</b>
7	<b>ACH 177-2 BGII</b>	30.6	31.4	30.8	29.6	31.6	32.1	<b>31.0</b>
8	<b>ACH 945-2 BGII</b>	30.9	30.9	31.2	30.5	32.1	30.6	<b>31.0</b>
9	ARCH 1111 BG II	31.5	31.5	30.9	31.3	32.3	31.0	<b>31.4</b>
10	DACH 48N48 BG II	32.6	32.9	31.0	33.3	33.7	31.5	<b>32.5</b>
11	DACH 49N49 BG II	30.7	29.6	28.6	27.0	30.6	28.9	<b>29.2</b>
12	C 9318 BG II	31.6	30.8	31.5	27.6	30.3	30.4	<b>30.4</b>

**Table: Seed Cotton Yield at 140 DAS (q/ha) at 140 DAS in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	18.08	19.66	14.94	19.40	9.57	<b>16.33</b>
2	ACH 333-2 BG II	18.04	22.12	18.13	19.24	7.63	<b>17.03</b>
3	KCH 9390 BG II	17.24	24.38	19.29	22.99	9.20	<b>18.62</b>
4	KCH 9389 BG II	19.08	24.80	19.71	22.94	10.27	<b>19.36</b>
5	US 716 BGII	17.16	24.85	17.69	21.95	9.61	<b>18.25</b>
6	RCH 1001 BG II	15.35	12.35	18.30	17.19	8.27	<b>14.29</b>
7	<b>ACH 177-2 BGII</b>	13.71	22.74	17.09	18.51	5.49	<b>15.51</b>
8	<b>ACH 945-2 BGII</b>	9.06	25.15	18.50	16.53	4.98	<b>14.84</b>
9	ARCH 1111 BG II	16.40	20.98	16.98	22.61	9.28	<b>17.25</b>
10	DACH 48N48 BG II	10.81	22.77	17.64	21.91	9.77	<b>16.58</b>
11	DACH 49N49 BG II	17.04	25.09	14.35	23.60	9.55	<b>17.93</b>
12	C 9318 BG II	13.41	25.03	17.69	23.01	10.14	<b>17.86</b>
CD@5%			2.41	2.96	4.10		
CV %			6.35	9.89	11.70		



**Table: Seed Cotton Yield at 165 DAS (q/ha) in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH 905-2 BGII	4.34	8.22	5.97	4.44	11.23	<b>6.84</b>
2	ACH 333-2 BG II	4.12	8.65	7.92	4.44	10.45	<b>7.12</b>
3	KCH 9390 BG II	9.60	9.09	9.47	6.39	10.51	<b>9.01</b>
4	KCH 9389 BG II	8.46	10.04	11.11	7.12	10.37	<b>9.42</b>
5	US 716 BGII	13.49	9.86	8.54	6.73	12.24	<b>10.17</b>
6	RCH 1001 BG II	2.74	5.11	7.24	3.12	6.98	<b>5.04</b>
7	<b>ACH 177-2 BGII</b>	9.37	9.53	7.55	5.99	11.25	<b>8.74</b>
8	<b>ACH 945-2 BGII</b>	10.97	10.27	7.35	5.91	9.92	<b>8.88</b>
9	ARCH 1111 BG II	9.83	8.74	12.20	6.02	11.67	<b>9.69</b>
10	DACH 48N48 BG II	11.66	8.64	12.65	5.82	11.07	<b>9.97</b>
11	DACH 49N49 BG II	10.29	10.69	7.08	8.37	11.72	<b>9.63</b>
12	C 9318 BG II	9.60	10.49	7.45	5.15	11.95	<b>8.93</b>
CD@5%			1.54	1.24	1.30		
CV %			10.04	8.32	12.90		

**Table: Total Seed Cotton Yield (q/ha) in Advanced Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean	Rank	% Inc over best check
1	ACH 905-2 BGII	27.15	22.42	27.88	20.91	23.84	20.80	<b>23.83</b>	9	1.6
2	ACH 333-2 BG II	25.40	22.16	30.77	26.05	23.68	18.09	<b>24.36</b>	8	3.8
3	KCH 9390 BG II	21.78	26.84	33.47	28.75	29.39	19.71	<b>26.66</b>	3	13.6
4	KCH 9389 BG II	21.24	27.54	34.84	30.83	30.06	20.64	<b>27.53</b>	1	17.3
5	US 716 BGII	20.33	30.64	34.71	26.22	28.67	21.85	<b>27.07</b>	2	15.4
6	RCH 1001 BG II	23.12	18.10	17.46	25.54	20.31	15.25	<b>19.96</b>	12	-14.9
7	<b>ACH 177-2 BGII</b>	19.51	23.08	32.27	24.64	24.49	16.74	<b>23.46</b>	10	0.0
8	<b>ACH 945-2 BGII</b>	16.66	20.04	35.42	25.85	22.44	14.90	<b>22.55</b>	11	-3.9
9	ARCH 1111 BG II	19.14	26.23	29.72	29.18	28.63	20.95	<b>25.64</b>	5	9.3
10	DACH 48N48 BG II	18.70	22.47	31.41	30.29	27.73	20.84	<b>25.24</b>	7	7.6
11	DACH 49N49 BG II	21.78	27.33	35.78	21.43	31.97	21.27	<b>26.59</b>	4	13.4
12	C 9318 BG II	19.09	23.01	35.52	25.14	28.16	22.10	<b>25.50</b>	6	8.7
CD@5%		2.98	4.25	3.37	3.60	1.30	3.62			
CV %		8.32	10.40	6.30	8.06	12.90	11.00			



## Evaluation under Protected Condition for Insect pests & Diseases Incidences

### Reaction to Insect Pests

**Table: Advanced H X H trial in North Zone under Protected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	1.58	0.83	2.67	3.76	1.38	<b>2.04</b>	BETL
ACH 333-2 BG II	1.67	0.77	2.36	4.16	1.24	<b>2.04</b>	BETL
KCH 9390 BG II	1.75	0.60	1.96	3.80	1.31	<b>1.88</b>	BETL
KCH 9389 BG II	1.58	0.85	2.56	4.22	1.00	<b>2.04</b>	BETL
US 716 BGII	1.33	0.85	2.29	4.73	1.58	<b>2.16</b>	BETL
RCH 1001 BG II	1.75	0.77	1.78	4.16	1.58	<b>2.01</b>	BETL
RCH 926 BGII (ZC)	1.33	0.55	1.93	3.00	1.20	<b>1.60</b>	BETL
MC 5408 BGII (ZC)	1.58	0.62	2.00	4.13	1.53	<b>1.97</b>	BETL
ARCH 1111 BG II	1.33	0.80	2.02	4.13	1.69	<b>2.00</b>	BETL
DACH 48N48 BG II	1.58	1.00	2.62	3.91	1.24	<b>2.07</b>	BETL
DACH 49N49 BG II	1.00	0.55	2.40	4.07	1.53	<b>1.91</b>	BETL
C 9318 BG II	1.42	0.93	2.38	3.42	1.91	<b>2.01</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	III	I	II	II	I	II	
ACH 333-2 BG II	III	I	II	II	I	II	
KCH 9390 BG II	III	I	II	II	I	II	
KCH 9389 BG II	III	I	II	II	I	II	
US 716 BGII	III	I	II	II	I	II	
RCH 1001 BG II	III	I	II	II	I	II	
RCH 926 BGII (ZC)	III	I	II	II	I	II	
MC 5408 BGII (ZC)	III	I	II	II	I	II	
ARCH 1111 BG II	IV	I	II	II	I	II	
DACH 48N48 BG II	III	I	II	II	I	II	
DACH 49N49 BG II	III	I	II	II	I	II	
C 9318 BG II	III	I	II	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						
	FA	BT	HI	SI	SG	Mean	Remark
ACH 905-2 BGII	9.67	23.15	5.80	18.87	7.48	<b>12.99</b>	<b>BETL</b>
ACH 333-2 BG II	6.50	22.49	7.47	19.91	6.27	<b>12.53</b>	<b>BETL</b>
KCH 9390 BG II	7.75	25.34	8.02	16.59	8.28	<b>13.20</b>	<b>BETL</b>
KCH 9389 BG II	11.00	36.21	6.09	20.27	8.18	<b>16.35</b>	<b>BETL</b>
US 716 BGII	6.17	36.67	7.09	18.93	7.68	<b>15.31</b>	<b>BETL</b>
RCH 1001 BG II	7.33	31.60	6.20	19.29	9.60	<b>14.80</b>	<b>BETL</b>
RCH 926 BGII (ZC)	7.50	28.09	9.31	18.00	7.77	<b>14.13</b>	<b>BETL</b>
MC 5408 BGII (ZC)	9.75	25.07	8.02	18.91	6.96	<b>13.74</b>	<b>BETL</b>
ARCH 1111 BG II	10.83	29.91	7.73	18.29	7.98	<b>14.95</b>	<b>BETL</b>
DACH 48N48 BG II	9.25	28.84	10.36	18.80	7.71	<b>14.99</b>	<b>BETL</b>
DACH 49N49 BG II	11.42	31.92	7.93	16.40	6.59	<b>14.85</b>	<b>BETL</b>
C 9318 BG II	8.92	29.46	6.22	17.76	7.88	<b>14.05</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						
	FA	BT	HI	SI	SG	Mean	Remark
ACH 905-2 BGII	4.50	4.29	2.04	11.38	10.86	<b>6.62</b>	<b>BETL</b>
ACH 333-2 BG II	3.75	5.44	2.33	12.20	11.10	<b>6.97</b>	<b>BETL</b>
KCH 9390 BG II	3.50	4.30	2.80	11.84	11.14	<b>6.72</b>	<b>BETL</b>
KCH 9389 BG II	3.92	5.97	3.02	12.78	11.85	<b>7.51</b>	<b>BETL</b>
US 716 BGII	4.92	6.07	2.53	12.36	12.62	<b>7.70</b>	<b>BETL</b>
RCH 1001 BG II	4.33	5.23	2.40	11.87	12.14	<b>7.19</b>	<b>BETL</b>
RCH 926 BGII (ZC)	4.00	5.68	3.38	11.76	10.90	<b>7.14</b>	<b>BETL</b>
MC 5408 BGII (ZC)	6.25	5.43	2.98	11.84	10.87	<b>7.47</b>	<b>BETL</b>
ARCH 1111 BG II	4.58	4.35	2.53	12.87	11.97	<b>7.26</b>	<b>BETL</b>
DACH 48N48 BG II	3.50	5.65	3.78	13.31	11.56	<b>7.56</b>	<b>BETL</b>
DACH 49N49 BG II	3.75	6.04	2.73	12.13	13.90	<b>7.71</b>	<b>BETL</b>
C 9318 BG II	4.92	5.86	2.33	12.60	9.47	<b>7.04</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Mean	Remark
	FA	BT	HI	SI	SG			
ACH 905-2 BGII	–	1.65	0.20	0.29	0.78	<b>0.73</b>		
ACH 333-2 BG II	–	1.80	0.27	0.29	1.31	<b>0.92</b>		
KCH 9390 BG II	–	1.32	0.24	0.33	1.19	<b>0.77</b>		
KCH 9389 BG II	–	1.65	0.27	0.27	1.31	<b>0.87</b>		
US 716 BGII	–	1.47	0.27	0.38	1.22	<b>0.83</b>		
RCH 1001 BG II	–	1.72	0.22	0.42	1.32	<b>0.92</b>		
RCH 926 BGII (ZC)	–	1.57	0.22	0.22	1.43	<b>0.86</b>		
MC 5408 BGII (ZC)	–	1.55	0.24	0.42	0.97	<b>0.80</b>		
ARCH 1111 BG II	–	1.67	0.22	0.40	1.11	<b>0.85</b>		
DACH 48N48 BG II	–	1.68	0.31	0.40	1.21	<b>0.90</b>		
DACH 49N49 BG II	–	1.55	0.18	0.55	0.78	<b>0.77</b>		
C 9318 BG II	–	1.50	0.24	0.20	0.63	<b>0.64</b>		

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5Plants)						Mean	Remark
	FA	BT	HI	SI	SG			
ACH 905-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
ACH 333-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
KCH 9390 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
KCH 9389 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
US 716 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
RCH 1001 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
RCH 926 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
MC 5408 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
ARCH 1111 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
DACH 48N48 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
DACH 49N49 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	
C 9318 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions –Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5Plants)						Mean	Remark
	FA	BT	HI	SI	SG			
ACH 905-2 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 333-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9390 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9389 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
US 716 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 1001 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 926 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
MC 5408 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 1111 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 48N48 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 49N49 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
C 9318 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions –*Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5Plants)						Mean	Remark
	FA	BT	HI	SI	SG			
ACH 905-2 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 333-2 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9390 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9389 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
US 716 BGII	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 1001 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 926 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
MC 5408 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 1111 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 48N48 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 49N49 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
C 9318 BG II	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions –Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.00	0.33	0.78	0.17	2.89	<b>0.83</b>	BETL
ACH 333-2 BG II	0.13	0.67	0.56	0.25	2.61	<b>0.84</b>	BETL
KCH 9390 BG II	0.63	0.17	1.00	0.33	5.67	<b>1.56</b>	AETL
KCH 9389 BG II	0.25	0.17	0.67	0.17	2.17	<b>0.68</b>	BETL
US 716 BGII	0.50	0.17	1.44	0.25	4.67	<b>1.41</b>	AETL
RCH 1001 BG II	0.13	0.33	0.33	0.25	3.95	<b>1.00</b>	AETL
RCH 926 BGII (ZC)	0.25	0.33	0.78	0.17	3.00	<b>0.91</b>	BETL
MC 5408 BGII (ZC)	0.25	0.50	0.44	0.25	2.34	<b>0.76</b>	BETL
ARCH 1111 BG II	0.25	0.17	0.67	0.33	3.34	<b>0.95</b>	BETL
DACH 48N48 BG II	0.00	0.50	1.22	0.17	2.89	<b>0.96</b>	BETL
DACH 49N49 BG II	0.19	0.50	0.89	0.50	2.56	<b>0.93</b>	BETL
C 9318 BG II	0.00	0.50	0.89	0.33	2.34	<b>0.81</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar

**Table: AdvancedH X H trial in North Zone under Protected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 333-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9390 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9389 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
US 716 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 1001 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 926 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
MC 5408 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 1111 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 48N48 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 49N49 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
C 9318 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	1.25	13.33	11.11	9.17	16.11	<b>10.19</b>	AETL
ACH 333-2 BG II	2.08	15.00	10.00	8.33	12.22	<b>9.53</b>	BETL
KCH 9390 BG II	4.58	8.33	12.22	7.50	6.86	<b>7.90</b>	BETL
KCH 9389 BG II	6.04	10.00	11.11	6.67	17.78	<b>10.32</b>	AETL
US 716 BGII	8.33	10.00	16.67	8.33	9.90	<b>10.65</b>	AETL
RCH 1001 BG II	4.58	13.33	11.11	6.67	14.74	<b>10.09</b>	AETL
RCH 926 BGII (ZC)	2.92	11.67	15.56	9.17	7.93	<b>9.45</b>	BETL
MC 5408 BGII (ZC)	3.75	15.00	12.22	10.00	10.00	<b>10.19</b>	AETL
ARCH 1111 BG II	2.08	8.33	10.00	7.50	11.18	<b>7.82</b>	BETL
DACH 48N48 BG II	2.01	8.33	13.33	6.00	15.85	<b>9.11</b>	BETL
DACH 49N49 BG II	3.51	11.67	14.44	10.83	11.73	<b>10.44</b>	AETL
C 9318 BG II	1.47	13.33	16.67	10.00	10.00	<b>10.29</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	1.63	5.00	13.09	13.92	7.67	<b>8.26</b>	
ACH 333-2 BG II	7.29	5.00	6.20	15.92	11.00	<b>9.08</b>	
KCH 9390 BG II	5.50	5.00	12.68	12.95	12.67	<b>9.76</b>	
KCH 9389 BG II	1.71	5.00	8.20	15.23	17.67	<b>9.56</b>	
US 716 BGII	10.39	5.00	6.94	15.39	14.33	<b>10.41</b>	
RCH 1001 BG II	6.52	2.50	13.75	14.17	6.00	<b>8.59</b>	
RCH 926 BGII (ZC)	6.35	2.50	8.25	13.05	19.46	<b>9.92</b>	
MC 5408 BGII (ZC)	7.51	5.00	13.00	13.38	6.00	<b>8.98</b>	
ARCH 1111 BG II	8.49	5.00	14.26	15.87	4.67	<b>9.66</b>	
DACH 48N48 BG II	11.00	2.50	11.49	13.20	8.00	<b>9.24</b>	
DACH 49N49 BG II	7.86	5.00	12.63	13.75	9.67	<b>9.78</b>	
C 9318 BG II	8.50	2.50	11.89	15.71	14.67	<b>10.65</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar



**Table: Advanced H X H trial in North Zone under Protected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.83	2.21	4.25	7.05	5.81	<b>4.03</b>	
ACH 333-2 BG II	4.15	3.03	2.44	8.20	8.16	<b>5.19</b>	
KCH 9390 BG II	3.57	1.48	5.09	6.35	9.63	<b>5.22</b>	
KCH 9389 BG II	0.88	2.49	2.52	6.84	10.78	<b>4.70</b>	
US 716 BGII	5.03	2.40	3.45	7.53	10.17	<b>5.72</b>	
RCH 1001 BG II	3.64	1.04	4.39	8.11	5.05	<b>4.45</b>	
RCH 926 BGII (ZC)	3.25	1.19	3.10	7.55	9.87	<b>4.99</b>	
MC 5408 BGII (ZC)	3.92	2.81	4.50	7.25	3.81	<b>4.46</b>	
ARCH 1111 BG II	3.22	2.21	5.76	8.00	4.62	<b>4.76</b>	
DACH 48N48 BG II	4.63	1.27	4.54	6.66	6.83	<b>4.78</b>	
DACH 49N49 BG II	3.85	2.40	4.17	7.48	7.23	<b>5.03</b>	
C 9318 BG II	4.76	1.13	3.64	8.48	9.62	<b>5.53</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Protected Conditions –Number of sprays for Insect-pest**

Name of Entry	Number of spray for Insect-pest						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ACH 333-2 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
KCH 9390 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
KCH 9389 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
US 716 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
RCH 1001 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
RCH 926 BGII (ZC)	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
MC 5408 BGII (ZC)	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ARCH 1111 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DACH 48N48 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DACH 49N49 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
C 9318 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



## Reaction to Diseases

### D. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-II (AET-II Hybrids) under protected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions															
			Bhatinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		Sri Ganganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
356	50051	ACH 905-2 BGII	9.2	HR	2.1	HR	5.7	HR	19.2	R	3.4	HR	11.3	R	9.4	HR	8.8	HR
353	50052	ACH 333-2 BG II	3.3	HR	6.4	HR	4.9	HR	15.8	R	8.0	HR	11.9	R	4.7	HR	7.2	HR
359	50053	KCH 9390 BG II	5.8	HR	5.4	HR	5.6	HR	20.0	R	3.7	HR	11.9	R	3.8	HR	7.1	HR
351	50054	KCH 9389 BG II	11.7	R	4.2	HR	8.0	HR	18.3	R	6.9	HR	12.6	R	8.4	HR	9.7	HR
355	50055	US 716 BGII	5.0	HR	0.0	DF	2.5	HR	17.5	R	0.3	HR	8.9	HR	0.0	DF	3.8	HR
357	50056	RCH 1001 BG II	6.7	HR	0.5	HR	3.6	HR	18.3	R	4.2	HR	11.3	R	0.3	HR	5.1	HR
352	50057	<b>Zonal BGII Check – 1</b>	10.0	HR	4.2	HR	7.1	HR	15.8	R	8.3	HR	12.1	R	8.0	HR	9.1	HR
361	50058	<b>Zonal BGII Check – 2</b>	4.2	HR	6.3	HR	5.3	HR	16.7	R	6.6	HR	11.7	R	5.6	HR	7.5	HR
358	50059	ARCH 1111 BG II	3.3	HR	0.0	DF	1.7	HR	19.2	R	2.0	HR	10.6	R	0.0	DF	4.1	HR
362	50060	DACH 48N48 BG II	3.3	HR	1.0	HR	2.2	HR	20.0	R	1.5	HR	10.8	R	0.0	DF	4.3	HR
360	50061	DACH 49N49 BG II	2.5	HR	0.0	DF	1.3	HR	12.5	R	1.5	HR	7.0	HR	0.0	DF	2.8	HR
354	50062	C 9318 BG II	3.3	HR	0.7	HR	2.0	HR	15.8	R	0.9	HR	8.4	HR	2.3	HR	4.2	HR



Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-II (AET-II Hybrids) under protected conditions

Code-I	Code-II	Entries	Average FFLS, BLB PDI & Disease Reaction (DR) Under protected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
356	50051	ACH 905-2 BGII	6.5	4.3	R
353	50052	ACH 333-2 BG II	7.0	4.8	R
359	50053	KCH 9390 BG II	7.5	4.8	R
351	50054	KCH 9389 BG II	7.0	4.8	R
355	50055	US 716 BGII	7.3	4.8	R
357	50056	RCH 1001 BG II	6.5	4.5	R
352	50057	<b>Zonal BGII Check – 1</b>	6.8	4.5	R
361	50058	<b>Zonal BGII Check – 2</b>	7.8	5.3	R
358	50059	ARCH 1111 BG II	7.8	5.5	R
362	50060	DACH 48N48 BG II	7.5	5.5	R
360	50061	DACH 49N49 BG II	7.0	5.5	R
354	50062	C 9318 BG II	7.8	5.5	R

Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-II (AET-II Hybrids) under protected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under Protected conditions			
			Ankur, Fazilka		Kaveri, Hanumangarh	
			CLCuD		CLCuD	
			PDI	DR	PDI	DR
356	50051	ACH 905-2 BGII	0.3	HR	6.8	HR
353	50052	ACH 333-2 BG II	0.0	DF	2.3	HR
359	50053	KCH 9390 BG II	0.2	HR	2.2	HR
351	50054	KCH 9389 BG II	0.2	HR	2.6	HR
355	50055	US 716 BGII	0.2	HR	0.0	DF
357	50056	RCH 1001 BG II	0.0	DF	1.0	HR
352	50057	<b>Zonal BGII Check – 1</b>	0.7	HR	5.3	HR
361	50058	<b>Zonal BGII Check – 2</b>	0.0	DF	4.6	HR
358	50059	ARCH 1111 BG II	0.2	HR	0.0	DF
362	50060	DACH 48N48 BG II	0.0	DF	0.0	DF
360	50061	DACH 49N49 BG II	0.0	DF	0.0	DF
354	50062	C 9318 BG II	0.0	DF	3.2	HR



## Evaluation under Unprotected Condition for Insect pests & Disease Incidence Reaction to Insect Pest

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	4.58	3.50	3.04	8.05	2.52	<b>4.34</b>	<b>BETL</b>
ACH 333-2 BG II	5.50	3.33	3.13	7.85	2.39	<b>4.44</b>	<b>BETL</b>
KCH 9390 BG II	5.17	2.43	3.42	8.25	2.45	<b>4.35</b>	<b>BETL</b>
KCH 9389 BG II	4.83	2.40	3.29	7.75	2.14	<b>4.08</b>	<b>BETL</b>
US 716 BGII	5.25	2.43	4.00	10.10	2.72	<b>4.90</b>	<b>BETL</b>
RCH 1001 BG II	6.08	2.20	2.53	8.60	2.72	<b>4.43</b>	<b>BETL</b>
RCH 926 BGII (ZC)	5.08	2.07	3.00	8.20	2.34	<b>4.14</b>	<b>BETL</b>
MC 5408 BGII (ZC)	6.58	1.97	2.87	7.85	2.68	<b>4.39</b>	<b>BETL</b>
ARCH 1111 BG II	5.25	2.13	2.82	6.20	2.83	<b>3.85</b>	<b>BETL</b>
DACH 48N48 BG II	7.00	2.37	4.24	7.40	2.39	<b>4.68</b>	<b>BETL</b>
DACH 49N49 BG II	6.00	2.17	2.80	8.45	2.68	<b>4.42</b>	<b>BETL</b>
C 9318 BG II	3.92	2.37	3.58	10.30	3.05	<b>4.64</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	III	II	III	II	I	II	
ACH 333-2 BG II	IV	II	III	II	I	II	
KCH 9390 BG II	III	II	III	II	I	II	
KCH 9389 BG II	III	II	III	II	I	II	
US 716 BGII	III	II	III	II	I	II	
RCH 1001 BG II	III	II	II	II	I	II	
RCH 926 BGII (ZC)	IV	II	III	II	I	II	
MC 5408 BGII (ZC)	III	II	III	II	I	II	
ARCH 1111 BG II	IV	II	II	II	I	II	
DACH 48N48 BG II	III	II	III	II	I	II	
DACH 49N49 BG II	III	II	III	II	I	II	
C 9318 BG II	III	II	III	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	20.25	62.07	16.49	25.20	17.81	<b>28.36</b>	BETL
ACH 333-2 BG II	15.92	65.10	15.24	21.85	16.60	<b>26.94</b>	BETL
KCH 9390 BG II	18.75	62.97	18.38	25.30	18.61	<b>28.80</b>	BETL
KCH 9389 BG II	19.08	60.83	18.22	23.35	18.51	<b>28.00</b>	BETL
US 716 BGII	15.33	61.87	17.16	24.15	18.01	<b>27.30</b>	BETL
RCH 1001 BG II	15.00	63.57	16.00	24.70	19.94	<b>27.84</b>	BETL
RCH 926 BGII (ZC)	23.83	62.73	17.67	23.30	18.10	<b>29.13</b>	BETL
MC 5408 BGII (ZC)	21.50	63.00	17.36	23.40	17.29	<b>28.51</b>	BETL
ARCH 1111 BG II	15.42	60.37	17.31	24.00	18.31	<b>27.08</b>	BETL
DACH 48N48 BG II	16.17	60.67	19.09	23.05	18.05	<b>27.40</b>	BETL
DACH 49N49 BG II	15.92	61.57	17.82	23.50	16.93	<b>27.15</b>	BETL
C 9318 BG II	19.50	57.03	18.84	23.25	18.21	<b>27.37</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	27.42	10.37	4.51	18.45	15.66	<b>15.28</b>	BETL
ACH 333-2 BG II	26.42	11.10	4.76	20.35	15.90	<b>15.70</b>	BETL
KCH 9390 BG II	26.58	9.87	5.22	21.15	15.94	<b>15.75</b>	BETL
KCH 9389 BG II	24.25	11.03	6.31	21.50	16.65	<b>15.95</b>	BETL
US 716 BGII	24.50	10.53	4.71	21.25	17.42	<b>15.68</b>	BETL
RCH 1001 BG II	25.58	10.17	5.53	21.70	16.93	<b>15.98</b>	BETL
RCH 926 BGII (ZC)	29.42	10.97	6.31	21.35	15.70	<b>16.75</b>	BETL
MC 5408 BGII (ZC)	30.25	10.50	5.33	21.30	15.67	<b>16.61</b>	BETL
ARCH 1111 BG II	28.67	10.80	5.07	19.00	16.77	<b>16.06</b>	BETL
DACH 48N48 BG II	33.00	10.57	5.78	18.75	16.36	<b>16.89</b>	BETL
DACH 49N49 BG II	31.25	10.67	5.47	20.05	18.69	<b>17.23</b>	BETL
C 9318 BG II	24.50	11.47	6.09	19.45	14.27	<b>15.15</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	1.89	1.60	0.29	1.33	0.90	<b>1.20</b>	
ACH 333-2 BG II	1.72	1.73	0.33	1.60	1.45	<b>1.37</b>	
KCH 9390 BG II	1.81	1.43	0.29	1.47	1.34	<b>1.27</b>	
KCH 9389 BG II	1.97	1.63	0.29	1.47	1.13	<b>1.30</b>	
US 716 BGII	2.06	1.60	0.27	1.47	1.38	<b>1.35</b>	
RCH 1001 BG II	2.22	1.70	0.29	0.93	1.48	<b>1.32</b>	
RCH 926 BGII (ZC)	2.00	1.47	0.24	1.23	1.58	<b>1.30</b>	
MC 5408 BGII (ZC)	1.69	1.58	0.33	1.40	1.13	<b>1.23</b>	
ARCH 1111 BG II	2.25	1.68	0.31	1.57	1.27	<b>1.42</b>	
DACH 48N48 BG II	2.47	1.62	0.33	0.57	1.36	<b>1.27</b>	
DACH 49N49 BG II	2.31	1.58	0.31	1.77	0.92	<b>1.38</b>	
C 9318 BG II	2.53	1.63	0.29	1.40	0.79	<b>1.33</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 333-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9390 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9389 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
US 716 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 1001 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 926 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
MC 5408 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 1111 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 48N48 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 49N49 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
C 9318 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions –Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	<b>BETL</b>
ACH 333-2 BG II	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	<b>BETL</b>
KCH 9390 BG II	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	<b>BETL</b>
KCH 9389 BG II	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	<b>BETL</b>
US 716 BGII	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	<b>BETL</b>
RCH 1001 BG II	0.00	2.00	0.00	0.00	0.00	<b>0.40</b>	<b>BETL</b>
RCH 926 BGII (ZC)	0.00	1.00	0.00	0.00	0.00	<b>0.20</b>	<b>BETL</b>
MC 5408 BGII (ZC)	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	<b>BETL</b>
ARCH 1111 BG II	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	<b>BETL</b>
DACH 48N48 BG II	0.00	1.00	0.00	0.00	0.00	<b>0.20</b>	<b>BETL</b>
DACH 49N49 BG II	0.00	2.00	0.00	0.00	0.00	<b>0.40</b>	<b>BETL</b>
C 9318 BG II	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions –*Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ACH 333-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH 9390 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH 9389 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
US 716 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
RCH 1001 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
RCH 926 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
MC 5408 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 1111 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 48N48 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 49N49 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
C 9318 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.31	2.50	1.00	0.38	4.22	<b>1.68</b>	AETL
ACH 333-2 BG II	0.44	2.50	1.67	0.75	3.94	<b>1.86</b>	AETL
KCH 9390 BG II	0.44	1.50	1.33	1.13	6.00	<b>2.08</b>	AETL
KCH 9389 BG II	0.56	2.50	2.11	0.38	3.50	<b>1.81</b>	AETL
US 716 BGII	0.19	2.50	1.44	0.50	5.44	<b>2.01</b>	AETL
RCH 1001 BG II	0.50	2.00	1.78	0.50	5.00	<b>1.96</b>	AETL
RCH 926 BGII (ZC)	0.56	1.50	2.89	1.13	4.33	<b>2.08</b>	AETL
MC 5408 BGII (ZC)	0.94	1.50	0.89	0.75	3.67	<b>1.55</b>	AETL
ARCH 1111 BG II	1.06	2.00	1.11	0.75	4.67	<b>1.92</b>	AETL
DACH 48N48 BG II	0.94	2.50	1.11	0.63	4.22	<b>1.88</b>	AETL
DACH 49N49 BG II	0.50	2.50	1.67	0.38	3.89	<b>1.79</b>	AETL
C 9318 BG II	0.50	1.50	1.22	0.25	3.67	<b>1.43</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 333-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9390 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9389 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
US 716 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 1001 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
RCH 926 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
MC 5408 BGII (ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 1111 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 48N48 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 49N49 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
C 9318 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions –Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	2.50	25.00	18.89	10.00	14.41	<b>14.16</b>	<b>AETL</b>
ACH 333-2 BG II	4.58	25.00	20.00	12.50	11.91	<b>14.80</b>	<b>AETL</b>
KCH 9390 BG II	3.54	15.00	23.33	13.75	7.48	<b>12.62</b>	<b>AETL</b>
KCH 9389 BG II	5.42	25.00	27.78	7.50	15.25	<b>16.19</b>	<b>AETL</b>
US 716 BGII	2.08	25.00	18.89	10.00	9.34	<b>13.06</b>	<b>AETL</b>
RCH 1001 BG II	4.38	15.00	25.56	13.75	14.22	<b>14.58</b>	<b>AETL</b>
RCH 926 BGII (ZC)	5.83	15.00	27.78	18.75	7.86	<b>15.04</b>	<b>AETL</b>
MC 5408 BGII (ZC)	6.67	15.00	11.11	11.25	9.41	<b>10.69</b>	<b>AETL</b>
ARCH 1111 BG II	5.63	25.00	24.44	12.50	10.30	<b>15.57</b>	<b>AETL</b>
DACH 48N48 BG II	5.42	25.00	18.89	11.25	15.05	<b>15.12</b>	<b>AETL</b>
DACH 49N49 BG II	4.17	25.00	17.78	10.00	11.54	<b>13.70</b>	<b>AETL</b>
C 9318 BG II	5.00	15.00	20.00	11.25	9.41	<b>12.13</b>	<b>AETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced H X H trial in North Zone under Unprotected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	5.56	22.50	10.48	18.76	26.67	<b>16.79</b>	
ACH 333-2 BG II	10.93	22.50	9.92	19.01	35.00	<b>19.47</b>	
KCH 9390 BG II	17.98	22.50	9.43	18.33	36.67	<b>20.98</b>	
KCH 9389 BG II	18.17	20.00	7.87	21.21	41.67	<b>21.78</b>	
US 716 BGII	15.91	25.00	16.54	22.38	38.33	<b>23.63</b>	
RCH 1001 BG II	7.09	25.00	9.18	20.85	25.00	<b>17.42</b>	
RCH 926 BGII (ZC)	8.80	20.00	14.54	17.44	43.46	<b>20.85</b>	
MC 5408 BGII (ZC)	16.22	20.00	10.19	18.33	30.00	<b>18.95</b>	
ARCH 1111 BG II	17.81	20.00	15.90	17.80	50.00	<b>24.30</b>	
DACH 48N48 BG II	10.69	17.50	15.88	19.28	45.00	<b>21.67</b>	
DACH 49N49 BG II	8.31	22.50	10.33	17.32	41.67	<b>20.02</b>	
C 9318 BG II	14.86	25.00	10.32	17.74	36.67	<b>20.92</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced H X H trial in North Zone under Unprotected Conditions –Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH 905-2 BGII	2.77	2.70	3.23	8.41	10.27	<b>5.48</b>	
ACH 333-2 BG II	5.35	1.70	4.97	8.87	15.62	<b>7.30</b>	
KCH 9390 BG II	8.58	3.70	3.90	8.36	15.42	<b>7.99</b>	
KCH 9389 BG II	8.94	1.70	2.91	9.58	16.24	<b>7.87</b>	
US 716 BGII	8.03	3.90	6.33	9.91	15.64	<b>8.76</b>	
RCH 1001 BG II	2.71	4.50	5.22	9.39	8.85	<b>6.13</b>	
RCH 926 BGII (ZC)	4.43	4.10	6.04	9.99	12.67	<b>7.45</b>	
MC 5408 BGII (ZC)	8.34	3.15	4.50	8.32	9.61	<b>6.78</b>	
ARCH 1111 BG II	7.69	4.75	4.90	7.65	12.69	<b>7.54</b>	
DACH 48N48 BG II	5.36	4.20	6.54	8.30	15.29	<b>7.94</b>	
DACH 49N49 BG II	3.98	5.00	4.31	7.30	13.36	<b>6.79</b>	
C 9318 BG II	7.18	4.00	3.84	7.66	15.75	<b>7.69</b>	

**FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar**



## Reaction to Diseases

### E. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



**Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-II (AET-II Hybrids) under unprotected conditions**

Code-I	Code-II	Entries	Average FFLS, BLB PDI & Disease Reaction (DR) under unprotected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
356	50051	ACH 905-2 BGII	8.0	5.0	R
353	50052	ACH 333-2 BG II	8.5	5.5	R
359	50053	KCH 9390 BG II	9.0	5.5	R
351	50054	KCH 9389 BG II	8.5	5.5	R
355	50055	US 716 BGII	8.8	5.5	R
357	50056	RCH 1001 BG II	8.0	5.3	R
352	50057	<b>Zonal BGII Check – 1</b>	8.3	5.3	R
361	50058	<b>Zonal BGII Check – 2</b>	9.3	6.0	R
358	50059	ARCH 1111 BG II	9.3	6.3	R
362	50060	DACH 48N48 BG II	9.0	6.3	R
360	50061	DACH 49N49 BG II	8.5	6.3	R
354	50062	C 9318 BG II	9.3	6.3	R

**Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-II (AET-II Hybrids) under unprotected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under Unprotected conditions	
			Kaveri , Hanumangarh	
			CLCuD	
			PDI	DR
356	50051	ACH 905-2 BGII	5.8	HR
353	50052	ACH 333-2 BG II	5.3	HR
359	50053	KCH 9390 BG II	2.5	HR
351	50054	KCH 9389 BG II	3.3	HR
355	50055	US 716 BGII	0.0	DF
357	50056	RCH 1001 BG II	0.9	HR
352	50057	<b>Zonal BGII Check – 1</b>	4.2	HR
361	50058	<b>Zonal BGII Check – 2</b>	5.8	HR
358	50059	ARCH 1111 BG II	0.0	DF
362	50060	DACH 48N48 BG II	0.0	DF
360	50061	DACH 49N49 BG II	0.0	DF
354	50062	C 9318 BG II	5.0	HR



**Table: Advanced Evaluation Trial of Intra Hirsutum Hybrids-II (AET-II Hybrids) under unprotected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under unprotected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		Sri Ganganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
356	50051	ACH 905-2 BGII	12.5	R	3.6	HR	8.0	HR	22.5	MR	15.1	R	18.8	R	22.2	MR	16.3	R
353	50052	ACH 333-2 BG II	5.0	HR	6.0	HR	5.5	HR	17.5	R	9.4	HR	13.5	R	13.2	R	10.7	R
359	50053	KCH 9390 BG II	8.3	HR	6.6	HR	7.4	HR	21.7	MR	20.8	MR	21.3	MR	8.3	HR	12.3	R
351	50054	KCH 9389 BG II	14.2	R	9.5	HR	11.9	R	20.0	R	26.1	MR	23.1	MR	12.2	R	15.7	R
355	50055	US 716 BGII	5.8	HR	1.8	HR	3.8	HR	19.2	R	0.0	DF	9.6	HR	0.0	DF	4.5	HR
357	50056	RCH 1001 BG II	10.8	R	1.4	HR	6.1	HR	22.5	MR	0.8	HR	11.7	R	0.0	DF	5.9	HR
352	50057	<b>Zonal BGII Check – 1</b>	13.3	R	15.9	R	14.6	R	16.7	R	26.0	MR	21.4	MR	23.0	MR	19.7	R
361	50058	<b>Zonal BGII Check – 2</b>	6.7	HR	8.3	HR	7.5	HR	18.3	R	26.4	MR	22.4	MR	10.7	R	13.5	R
358	50059	ARCH 1111 BG II	6.7	HR	0.6	HR	3.7	HR	21.7	MR	0.0	DF	10.9	R	0.0	DF	4.9	HR
362	50060	DACH 48N48 BG II	6.7	HR	0.0	HR	3.4	HR	22.5	MR	8.3	HR	15.4	R	0.0	DF	6.3	HR
360	50061	DACH 49N49 BG II	5.0	HR	0.6	HR	2.8	HR	13.3	R	5.8	HR	9.6	HR	0.0	DF	4.1	HR
354	50062	C 9318 BG II	6.7	HR	0.0	HR	3.4	HR	18.3	R	0.0	DF	9.2	HR	2.2	HR	4.9	HR



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### **Agronomic evaluation**

Agronomic requirement studies are conducted to determine the specific environment includes, geometry, nutrient, and management conditions necessary for optimal crop growth, maximizing yield, and enhancing quality. These studies are essential for developing sustainable agricultural practices, such as precise fertilization and plant population management

#### **Agronomy : Agronomic requirements of promising pre-release Bt Variety /Bt hybrids**

##### **FARIDKOT**

The experiment Agronomic requirements of promising pre-release Bt hybrids studied in Faridkot (Table 1). The results revealed that, among the tested Bt hybrids, ACH 905-2 BGII resulted in the highest seed cotton yield (2667.0 kg/ha), though it remained at par with ARCH 1111 BG II (2511 kg/ha), and it was significantly better than the other two genotypes. ACH 333-2 BG II recorded the least SCY (2071 kg/ha). Planting geometry of 67.5 x 60 cm showed significantly higher seed cotton yield (2733 kg/ha) of all the tested genotypes. Also, N levels affected cotton yield significantly up to 100 % N (2437 kg/ha), but further increases in nitrogen could not improve yield significantly. The seed cotton yield of all genotypes improved with either level of increase in nitrogen. However, ACH-333-2 BG II (2582 kg/ha) and ACH-905-2 BG II (3051 kg/ha) performed better with S<sub>1</sub> (67.5 X 60 cm) at 100 % N, while ARCH 111 BG II (2869 kg/ha) performed better at 125 % N, with a planting geometry of 67.5 x 60 cm.



Table 1. Seed cotton yield (kg/ha) as influenced by genotypes (G), spacing levels (S) and fertilizer (F) levels in Faridkot

Treatments	G1. ACH 333-2 BG II			G2. ACH 905-2 BGII			G3. ARCH 1111 BG II			G4. ACH-177-2BG II			Mean
	S1 (67.5 x 60)	S2 (67.5 x 75)	S3 (67.5 x 90)	S1 (67.5 x 60)	S2 (67.5 x 75)	S3 (67.5 x 90)	S1 (67.5 x 60)	S2 (67.5 x 75)	S3 (67.5 x 90)	S1 (67.5 x 60)	S2 (67.5 x 75)	S3 (67.5 x 90)	
F <sub>1</sub> .75%N	2,326	2,030	1,534	2,902	2,483	2,224	2,836	2,445	1,900	2,553	2,162	1,947	<b>2,279</b>
F <sub>2</sub> .100%N	2,582	2,273	1,671	3,051	2,580	2,403	2,794	2,571	2,340	2,714	2,263	2,008	<b>2,437</b>
F <sub>3</sub> .125%N	2,458	2,156	1,612	3,003	2,816	2,540	2,868	2,582	2,268	2,713	2,510	2,057	<b>2,465</b>
<b>Mean</b>	<b>2,455</b>	<b>2,153</b>	<b>1,606</b>	<b>2,985</b>	<b>2,627</b>	<b>2,389</b>	<b>2,833</b>	<b>2,533</b>	<b>2,169</b>	<b>2,660</b>	<b>2,312</b>	<b>2,004</b>	
<b>Interaction (two way)</b>	<b>S1 (67.5 x 60)</b>	<b>S2 (67.5 x 75)</b>	<b>S3 (67.5 x 90)</b>	<b>Mean</b>	<b>F<sub>1</sub>. 75%N</b>	<b>F<sub>2</sub>. 100%N</b>	<b>F<sub>3</sub>. 125%N</b>	<b>Mean</b>	<b>Interaction (two way)</b>	<b>F<sub>1</sub>. 75%N</b>	<b>F<sub>2</sub>. 100%N</b>	<b>F<sub>3</sub>. 125%N</b>	<b>Mean</b>
<b>G1.</b> ACH 333-2 BG II	2,455	2,153	1,606	<b>2,071</b>	1,963	2,175	2,075	<b>2,071</b>	<b>S1 (67.5 x 60)</b>	2,655	2,785	2,760	<b>2,733</b>
<b>G2.</b> ACH 905-2 BGII	2,985	2,627	2,389	<b>2,667</b>	2,537	2,678	2,787	<b>2,667</b>	<b>S2 (67.5 x 75)</b>	2,280	2,422	2,516	<b>2,406</b>
<b>G3.</b> ARCH 1111 BG II	2,833	2,533	2,169	<b>2,511</b>	2,394	2,568	2,573	<b>2,511</b>	<b>S3 (67.5 x 90)</b>	1,901	2,105	2,119	<b>2,042</b>
<b>G4.</b> ACH-177-2BG II	2,660	2,312	2,004	<b>2,325</b>	2,221	2,328	2,426	<b>2,325</b>	<b>Mean</b>	<b>2,279</b>	<b>2,437</b>	<b>2,465</b>	
<b>Mean</b>	<b>2,733</b>	<b>2,406</b>	<b>2,042</b>		<b>2,279</b>	<b>2,437</b>	<b>2,465</b>						
<b>ANOVA</b>	<b>Genotype</b>	<b>Spacing</b>	<b>Fertilizers</b>	<b>GXS</b>	<b>GXF</b>	<b>SXF</b>	<b>GXSXF</b>						
<b>SEd</b>	120.8	71.0	53.4	142.0	106.9	92.6	185.2						
<b>CD (5%)</b>	294.8	150.6	107.5	NS	NS	NS	NS						
<b>CV (%)</b>	18.5	12.5	9.4										

Basic parameters: Soil type: pH: 8.65, EC: 0.262 mmhos/cm, OC (%): 0.15, Available P<sub>2</sub>O<sub>5</sub>: 5 kg/ha, Available K<sub>2</sub>O: 475 kg/ha, Recommended nutrients: 105 kg N and 30 kg P<sub>2</sub>O<sub>5</sub>/ha, Cotton species: HxH Bt hybrid, Environment: Irrigated, Total rainfall during cropping period: 750 mm



**BATHINDA (DACH 48N48 BG II)**

Performance of the tested Bt cotton hybrid DACH 48N48 BG II varied significantly under different planting geometries and fertilizer levels with respect to seed cotton yield in Bathinda (Table 2). DACH 48N48 BG II produced significantly higher seed cotton yield (2956 kg/ha) under planting geometry of 67.5 x 60 cm. Significantly the least yield was recorded under 67.5 x 90 cm. Among the fertilizer levels, the highest seed cotton yield (2930 kg/ha) was recorded under 125% RDN followed by under 100 %RDN. Further decrease in nitrogen to 75% RDN resulted in a significant decline in seed cotton yield. Interaction among the different planting geometries and fertilizer levels was non-significant.

**Table 2. Seed cotton yield (kg/ha) as influenced by spacing levels and nutrient levels with DACH 48N48 BG II at Bathinda**

Treatments	S1. 67.5 X 60 cm	S2. 67.5 X 75 cm	S3. 67.5 X 90 cm	Mean (Fertilizers)	Anova	SE d	CD (5%)
F <sub>1</sub> . 75% RDN	2663	2578	2366	2536	Spacing	143	306
F <sub>2</sub> . 100% RDN	2967	2752	2599	2773	Fertilizers	143	306
F <sub>3</sub> . 125% RDN	3237	2928	2626	2930	S X F	248	NS
Mean (spacing)	2956	2753	2530				
FMDH 9 at 67.5 x 45 cm (RND 100%)				3031			

Basic parameters: pH: 8.53, EC: 0.084 mmhos/cm, OC (%): 0.42, Available N: 525 kg/ha, Available P<sub>2</sub>O<sub>5</sub>: 7.6 kg/ha, Available K<sub>2</sub>O: 250 kg/ha, Recommended nutrients: 105 kg N/ha, Genotype: DACH 48N48 BG II, Environment: Irrigated, Total rainfall during cropping period: 622 mm

**BATHINDA (DACH 49N49 BG II)**

The results found that Bt cotton hybrid DACH 49N49 BG II varied significantly under different planting geometries and nitrogen levels with respect to seed cotton yield in Bathinda (Table 3). DACH 49N49 BG II produced significantly higher seed cotton yield (3211 kg/ha) under planting geometry of 67.5 x 60 cm. Significantly the least yield was recorded under 67.5 x 90 cm. Among the nitrogen levels, the highest seed cotton yield (3430 kg/ha) was recorded under 125% RDN followed by under 100 %RDN. Further decrease in nitrogen to 75% RDN resulted in a significant decline in seed cotton yield. Interaction among the different planting geometries and fertilizer levels was non-significant.

**Table 3. Seed cotton yield (kg/ha) of DACH 49N49 BG II as influenced by spacing levels and nutrient levels at Bathinda**

Treatments	S1. 67.5 X 60 cm	S2. 67.5 X 75 cm	S3. 67.5 X 90 cm	Mean (Fertilizers)	Anova	SE d	CD (5%)
F <sub>1</sub> . 75% RDN	2658	2589	2426	2558	Spacing	91	195
F <sub>2</sub> . 100% RDN	3387	3139	2914	3146	Fertilizers	91	195
F <sub>3</sub> . 125% RDN	3589	3591	3111	3430	S X F	158	NS
Mean (spacing)	3211	3106	2817				
FMDH 9 at 67.5 x 45 cm (RND 100%)				3078			

Basic parameters: pH: 8.53, EC: 0.084 mmhos/cm, OC (%): 0.42, Available N: 525 kg/ha, Available P<sub>2</sub>O<sub>5</sub>: 7.6 kg/ha, Available K<sub>2</sub>O: 250 kg/ha, Recommended nutrients: 105 kg N/ha, Genotype: DACH 48N48 BG II, Environment: Irrigated, Total rainfall during cropping period: 622 mm



**HISAR (RCH 1001, US761)**

The study was conducted at HISAR to find out the geometry and nitrogen requirement of the Bt hybrid (RCH 1001, US761). Significantly higher seed cotton yield was recorded with plant spacing of 100x45 cm as compared to the other two spacing. The significantly higher seed cotton yield with 100% RDN and 125% RDN was recorded as compared to 75% RDN in genotype RCH 1001 (Table 4a). In genotype US761, plant spacing with 100x45 cm recorded the highest seed cotton yield as compared to the other two planting spacings, whereas the level of nitrogen application does not influence the seed cotton yield significantly (Table 4b).

**Table 4a. Seed cotton yield (kg/ha) as influenced by spacing levels and nutrient levels in RCH 1001 at Hisar**

Treatments	S <sub>1</sub> - 100x45 cm	S <sub>2</sub> - 100x30 cm	S <sub>3</sub> - 100x60 cm	Mean (Nitrogen)	ANOVA	SE d	CD (5%)
N <sub>1</sub> - 75% RDN	637	326	504	489	Spacing	25	53.02
N <sub>2</sub> - 100% RDN	711	333	585	543	Nitrogen	25	53.02
N <sub>3</sub> - 125% RDN	704	363	667	578	S X N	43	NS
Mean (spacing)	684	340	585				
Control ACH 177-2	733						

**Table 4b. Seed cotton yield (kg/ha) as influenced by spacing levels and nutrient levels in US761 at Hisar**

Treatments	S <sub>1</sub> - 100x45 cm	S <sub>2</sub> - 100x30 cm	S <sub>3</sub> - 100x60 cm	Mean (Nitrogen)	ANOVA	SE d	CD (5%)
N <sub>1</sub> - 75% RDN	667	459	556	561	Spacing	23.89	51.09
N <sub>2</sub> - 100% RDN	711	452	585	583	Nitrogen	23.89	NS
N <sub>3</sub> - 125% RDN	748	437	681	622	S X N	41.39	NS
Mean (spacing)	709	449	607				
Control ACH 177-2	763						

Basic parameters: pH: 8.1, EC: 1.27 dSm<sup>-1</sup>, OC (%): 0.53, Available N: 246.4 kg/ha, Available P<sub>2</sub>O<sub>5</sub>: 24 kg/ha, Available K<sub>2</sub>O: 397 kg/ha, Recommended nutrients: 175:60:60:25 kg N:P:K:ZnSO<sub>4</sub>/ha, Genotype: RCH 1001 and US 761, Environment: Irrigated, Total rainfall during cropping period: 892.7 mm

**SRIGANGANAGAR (KCH 9389 BG II (Bt hybrid))**

The study was conducted to determine the optimum crop geometry and nitrogen requirement of Bt hybrid KCH 9389 BG II at Sriganaganagar (Table 6). The results revealed that the maximum seed cotton yield was recorded with the crop geometry of 67.5 × 90 cm (2439 kg/ha), which was significantly higher than the other two spacing tested in the study. Further, the application of 125% RDN produced a seed cotton yield of 2470 kg/ha, which was statistically at par with the recommended dose of fertilizer (100% RDN: 2406 kg/ha), but significantly higher than the lower dose of fertilizer (75% RDN: 2167 kg/ha).



**Table 6. Seed cotton yield (q/ha) as influenced by spacing levels and nutrient levels in KCH 9389 BG II at Srinagar**

Treatments	S1. 67.5 X 60 cm	S2. 67.5 X 90 cm	S3. 67.5 X 120 cm	Mean
F1 – 75% RDN	2213	2273	2014	2167
F2 – 100% RDN	2266	2483	2469	2406
F3 – 125% RDN	2378	2562	2469	2470
Mean	2285	2439	2318	2727
<b>ANOVA</b>	<b>Spacing</b>	<b>Fertilizers</b>	<b>S × F</b>	<b>CV</b>
S.Em±	41.17	120.16	71.31	6.08
CD (5%)	41.17	120.16	208.13	

Basic parameters: pH: 7.7, EC: 0.28, OC (%): 0.27, Available N: 150 kg/ha, Available P<sub>2</sub>O<sub>5</sub>: 38 kg/ha, Available K<sub>2</sub>O: 354 kg/ha, Recommended nutrients: 150:40:20:24 kg N:P<sub>2</sub>O<sub>5</sub>:K<sub>2</sub>O:ZnSO<sub>4</sub>/ha, Genotype: KCH 9389 BG II, Environment: Irrigated, Total rainfall during cropping period: 547.3 mm,

**SRIGANGANAGAR (KCH 9390 BG II (Bt hybrid))**

The study was conducted to determine the optimum crop geometry and nitrogen requirement of Bt hybrid KCH 9390 BG II at Sriganganagar (Table 7). The results revealed that the highest seed cotton yield was recorded with the crop geometry of 67.5 × 90 cm (2638 kg/ha), which was significantly higher than the other two spacings tested in the study. Further, the application of 125% RDN resulted in a seed cotton yield of 2670 kg/ha, which was statistically at par with the recommended dose of nitrogen (100% RDN: 2604 kg/ha), but significantly higher than the lower dose (75% RDN).

**Table 7. Seed cotton yield (q/ha) as influenced by spacing and nitrogen levels in KCH 9390 BG II (Bt hybrid) at Sriganganagar**

Treatments	S1 (67.5 × 60 cm)	S2 (67.5 × 90 cm)	S3 (67.5 × 120 cm)	Mean (kg/ha)
F1 – 75% RDN	2413	2473	2214	2367
F2 – 100% RDN	2466	2678	2669	2604
F3 – 125% RDN	2578	2762	2669	2670
Mean	2485	2638	2518	
<b>ANOVA</b>	<b>Spacing</b>	<b>Fertilizers</b>	<b>S × F</b>	
S.Em±	41	120	71	
CD (5%)	41	120	NS	

Basic parameters: pH: 7.7, EC: 0.28, OC (%): 0.27, Available N: 150 kg/ha, Available P<sub>2</sub>O<sub>5</sub>: 38 kg/ha, Available K<sub>2</sub>O: 354 kg/ha, Recommended nutrients: 150:40:20:24 kg NPK:ZnSO<sub>4</sub>/ha, Genotype: KCH 9390 BG II (Bt hybrid), Environment: Irrigated, Total rainfall during cropping period: 547.3 mm



**SRIGANGANAGAR (C 9318 BG II (Mahyco Bt hybrid))**

The agronomic requirement study was conducted to determine the optimum crop geometry and nitrogen requirement of Bt hybrid C 9318 BG II (Mahyco Bt hybrid) at Sriganaganagar (Table 8). The results revealed that the maximum seed cotton yield was recorded with the crop geometry of 67.5 × 90 cm (1938 kg/ha), which was significantly higher than the other two spacings tested in the study. Further, the application of 125% RDN produced a seed cotton yield of 1970 kg/ha, which was statistically at par with the recommended dose of nitrogen (100% RDN: 1905 kg/ha), but significantly higher than the lower dose (75% RDN).

**Table 8. Seed cotton yield (q/ha) as influenced by spacing levels and nutrient levels in C 9318 BG II at Sriganaganagar**

Treatments	S1 (67.5 × 60 cm)	S2 (67.5 × 90 cm)	S3 (67.5 × 120 cm)	Mean (kg/ha)
F1 – 75% RDN	1713	1773	1514	1667
F2 – 100% RDN	1766	1979	1969	1905
F3 – 125% RDN	1878	2062	1969	1970
Mean	1785	1938	1818	
ANOVA	Spacing	Fertilizers	S X F	
S.Em±	41.22	120.32	72	
CD (5%)	41.22	120.32	208	

Basic parameters: pH: 7.7, EC: 0.28, OC (%): 0.27, Available N: 150 kg/ha, Available P<sub>2</sub>O<sub>5</sub>: 38 kg/ha, Available K<sub>2</sub>O: 354 kg/ha, Recommended nutrients: 150:40:20:24 kg NPK:ZnSO<sub>4</sub>/ha, Genotype: KCH 9318 BG II (Bt hybrid), Environment: Irrigated, Total rainfall during cropping period: 547.3 mm



## Initial Evaluation Trial of Compact Intra-Hirsutum Bt Cotton Hybrids

The trial was constituted with six compact Bt cotton hybrids containing MON 15985 event sponsored by various Private organization along with two different check hybrids in closer spacing and ACH 177 BG II at normal spacing as furnished below.

S. No.	Code-I	Code-II	Entries	Sponsored by
1	474	50071	ACH-91-2 BGII	Ajeet
2	478	50072	DACH 32N23 BGII	Dharti
3	476	50073	<b>(ZC2) – ACH 945-2 BGII</b>	
4	471	50074	<b>(ZC1) ACH 177-2 BG II</b>	
5	473	50075	Bioseed 6275 BGII	Bioseed
6	477	50076	ARCH 5555 BGII	Ankur
7	472	50077	KCH 9370 BG II	Kaveri Seed
8	475	50078	GBCH 301 BGII	Green Gold Seeds
9			<b>(ZC1) ACH 177-2 BG II under normal</b>	

The trial was conducted in eight different locations viz., PAU, Faridkot; PAU, Bathinda; CCSHAU, Hisar; ICAR-CICR, Sirsa; SKRAU, Sriganaganagar; Kaveri Seed Pvt. Ltd., Hanumangarh and Ankur Seeds at Fazilka. The trial was conducted with six rows of 6 meters per entry with three replications.



**Data recorded:****Biometric evaluation****Table: Plant height (cm) at harvest in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	183.0	118.3	165.4	122.1	177.9	125.0	155.5	<b>149.6</b>
2	DACH 32N23 BGII	181.0	127.8	167.2	121.9	184.7	128.8	162.3	<b>153.4</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	164.0	122.8	172.7	140.3	177.3	139.3	162.0	<b>154.1</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	168.0	114.4	174.0	138.0	188.0	132.7	153.0	<b>152.6</b>
5	Bioseed 6275 BGII	140.0	123.9	165.9	110.4	198.9	129.8	162.8	<b>147.4</b>
6	ARCH 5555 BGII	156.0	117.3	160.3	116.9	141.3	128.7	150.5	<b>138.7</b>
7	KCH 9370 BG II	158.0	120.00	153.9	111.3	170.0	125.3	151.5	<b>141.4</b>
8	GBCH 301 BGII	133.0	110.60	153.3	113.5	155.3	106.6	157.5	<b>132.8</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	234.0	172.80	206.6	200.4	211.2	189.4	226.8	<b>205.9</b>
CD@5%			8.40	13.6		15.7	15.8		
CV %			3.90	4.7		5.0	8.1		



**Table: Number of monopodia in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	1.6	0.4	0.9	0.5	1.5	1.9	0.5	<b>1.0</b>
2	DACH 32N23 BGII	2.0	0.4	0.7	1.1	1.1	0.4	0.5	<b>0.9</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	1.6	0.8	1.1	1.1	1.3	1.3	0.6	<b>1.1</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	1.8	0.9	0.6	0.9	0.9	1.3	0.5	<b>1.0</b>
5	Bioseed 6275 BGII	1.6	0.1	0.8	0.8	0.7	1.3	0.5	<b>0.8</b>
6	ARCH 5555 BGII	1.8	0.4	0.3	0.6	1.5	1.1	0.5	<b>0.9</b>
7	KCH 9370 BG II	1.6	0.30	0.8	0.9	0.9	0.9	0.6	<b>0.9</b>
8	GBCH 301 BGII	1.6	0.10	0.2	0.9	0.5	0.9	0.6	<b>0.7</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	2.4	1.00	1.7	0.9	1.5	2.6	2.6	<b>1.8</b>
CD@5%			0.60	0.4		0.2	0.6		
CV %			63.40	15.3		10.4	33.2		



Table: Number of sympodia in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	12.2	23.4	16.7	11.3	18.9	19.8	15.6	<b>16.8</b>
2	DACH 32N23 BGII	11.6	23.9	16.7	12.1	21.3	21.7	15.5	<b>17.5</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	10.4	27	20.0	12.9	20.1	21.8	16.3	<b>18.4</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	13.0	25.1	22.4	14.6	20.8	22.0	16.7	<b>19.2</b>
5	Bioseed 6275 BGII	13.4	24.2	19.2	13.5	19.0	21.9	16.2	<b>18.2</b>
6	ARCH 5555 BGII	12.4	22.3	16.8	12.9	16.5	22.6	16.0	<b>17.1</b>
7	KCH 9370 BG II	12.2	23.60	18.2	12.5	21.0	22.1	16.9	<b>18.1</b>
8	GBCH 301 BGII	13.4	23.20	16.2	13.5	16.8	18.5	15.4	<b>16.7</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	19.2	24.70	22.4	17.9	21.1	24.8	23.3	<b>21.9</b>
CD@5%			2.30	3.0		1.5	4.2		
CV %			5.40	9.3		4.3	13.3		



Table: Boll weight (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	3.5	4.7	4.6	4.6	4.3	4.4	4.1	<b>4.3</b>
2	DACH 32N23 BGII	3.7	4.3	4.9	4.4	4.8	4.3	3.9	<b>4.3</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	3.6	4.2	4.7	4.4	4.8	4.1	4.0	<b>4.3</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	3.5	4	4.8	4.8	3.9	4.5	4.0	<b>4.2</b>
5	Bioseed 6275 BGII	3.9	4.5	4.6	4.8	4.9	5.0	4.1	<b>4.5</b>
6	ARCH 5555 BGII	3.8	4.7	4.9	5.0	4.3	4.9	4.1	<b>4.5</b>
7	KCH 9370 BG II	3.9	4.40	4.9	5.0	4.5	4.9	4.0	<b>4.5</b>
8	GBCH 301 BGII	3.3	4.20	4.3	4.7	4.1	4.2	4.2	<b>4.1</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	3.5	4.10	4.2	4.6	3.7	4.1	3.7	<b>4.0</b>
CD@5%			0.30	0.5		0.3	0.3		
CV %			3.90	6.0		4.2	5.2		



Table: Number of bolls / plant in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	20.6	25.6	15.4	16.9	24.5	13.9	14.2	<b>18.7</b>
2	DACH 32N23 BGII	20.6	26.3	17.2	18.1	25.8	15.6	16.1	<b>20.0</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	28.8	23.3	15.4	17.6	24.9	15.7	14.5	<b>20.0</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	31.4	25.4	15.3	18.0	26.8	13.6	12.9	<b>20.5</b>
5	Bioseed 6275 BGII	26.6	27	13.9	21.2	25.5	13.9	12.6	<b>20.1</b>
6	ARCH 5555 BGII	28.2	29.1	15.4	20.0	21.3	15.8	16.9	<b>21.0</b>
7	KCH 9370 BG II	26.2	29.60	15.3	16.2	25.5	16.8	12.7	<b>20.3</b>
8	GBCH 301 BGII	24.8	24.80	15.3	19.9	21.2	12.2	15.3	<b>19.1</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	41.6	40.20	47.0	31.5	35.6	42.2	15.9	<b>36.3</b>
CD@5%			3.40	2.6		2.5	4.7		
CV %			7.10	8.0		5.5	18.1		



**Table: Number of bolls / sq.m. in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Bathinda	Hisar	Sirsa	Mean
1	ACH-91-2 BGII	93.8	89.3	60.9	115.7	<b>89.9</b>
2	DACH 32N23 BGII	83.7	94.0	64.8	127.2	<b>92.4</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	122.4	89.3	62.9	118.8	<b>98.4</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	124.1	89.0	73.2	128.0	<b>103.6</b>
5	Bioseed 6275 BGII	107.7	84.7	73.8	124.4	<b>97.7</b>
6	ARCH 5555 BGII	99.3	89.3	69.6	101.3	<b>89.9</b>
7	KCH 9370 BG II	106.0	89.0	60.2	125.3	<b>95.1</b>
8	GBCH 301 BGII	89.6	89.0	71.9	101.8	<b>88.1</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	66.2	115.3	60.7	80.1	<b>80.6</b>
CD@5%			10.5			
CV %			6.6			



Table: Lint Index (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	5.9	4.2	5.5	5.8	6.6	4.7	5.5
2	DACH 32N23 BGII	6.6	5.1	5.0	5.6	6.2	5.2	5.6
3	<b>(ZC2) – ACH 945-2 BGII</b>	6.1	5.1	5.9	5.9	7.0	4.9	5.8
4	<b>(ZC1) - ACH 177-2 BG II</b>	6.1	4.7	5.9	5.8	6.9	4.9	5.7
5	Bioseed 6275 BGII	6	4.7	5.6	6.6	7.2	5.4	5.9
6	ARCH 5555 BGII	5.9	4.2	5.3	5.8	6.5	5.1	5.5
7	KCH 9370 BG II	5.80	3.7	4.9	5.8	6.9	4.4	5.3
8	GBCH 301 BGII	6.10	3.0	5.2	5.5	5.9	4.8	5.1
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	5.30	4.6	5.4	5.6	5.8	4.9	5.3
CD@5%		0.40	0.3			0.7		
CV %		4.30	4.6			7.3		



Table: Seed Index (g) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	10.7	10.8	10.5	10.6	9.9	12.0	11.0	<b>10.8</b>
2	DACH 32N23 BGII	11.4	11.6	10.2	10.5	11.5	13.5	11.5	<b>11.5</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	10.1	10.6	10.9	10.5	10.1	11.9	10.8	<b>10.7</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	10.2	10.6	10.8	10.8	10.7	12.2	10.8	<b>10.9</b>
5	Bioseed 6275 BGII	9.2	10.6	10.2	10.1	11.2	12.7	11.0	<b>10.7</b>
6	ARCH 5555 BGII	9.9	10.7	10.2	10.8	10.3	12.4	11.0	<b>10.8</b>
7	KCH 9370 BG II	10.1	10.10	9.5	10.2	10.5	12.5	11.3	<b>10.6</b>
8	GBCH 301 BGII	9.3	11.20	7.9	10.0	9.8	12.4	11.3	<b>10.3</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	9.8	9.60	9.5	9.4	9.5	10.5	10.0	<b>9.8</b>
CD@5%			0.70	0.7			1.0		
CV %			3.80	4.3			5.5		



Table: Ginning outturn (%) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	34.2	35.2	30.1	34.3	37.0	35.6	30.1	<b>33.8</b>
2	DACH 32N23 BGII	33.3	36.2	34.7	32.4	32.7	31.4	31.2	<b>33.1</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	35.0	36.5	33.4	35.8	36.7	36.8	31.4	<b>35.1</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	36.0	36.4	31.9	35.4	35.2	36.2	31.2	<b>34.6</b>
5	Bioseed 6275 BGII	37.1	35.9	33.2	35.6	37.0	36.2	32.9	<b>35.4</b>
6	ARCH 5555 BGII	33.6	35.4	30.9	33.0	36.0	34.3	31.6	<b>33.5</b>
7	KCH 9370 BG II	33.9	36.30	29.4	32.5	35.6	35.7	28.2	<b>33.1</b>
8	GBCH 301 BGII	33.7	35.20	29.0	34.1	36.0	32.3	30.1	<b>32.9</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	37.7	35.60	34.2	36.4	37.3	35.3	32.7	<b>35.6</b>
CD@5%			1.10	1.5			2.1		
CV %			1.80	2.9			4.2		



**Table: Upper Half Mean Length (mm) in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	28.1	25.5	29.1	26.7	27.7	28.9	26.8	<b>27.5</b>
2	DACH 32N23 BGII	32.2	30.9	32.6	30.7	32.2	32.3	30.9	<b>31.7</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	30.2	28.5	30.9	28.9	28.0	29.3	28.3	<b>29.2</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	30.3	26.6	29.9	28.1	29.4	31.0	28.5	<b>29.1</b>
5	Bioseed 6275 BGII	26.5	25.1	29.0	25.4	26.3	27.3	25.2	<b>26.4</b>
6	ARCH 5555 BGII	29.3	28.7	30.3	28.1	28.8	29.5	27.9	<b>28.9</b>
7	KCH 9370 BG II	29.2	28.4	30.4	28.2	28.1	29.4	28.8	<b>28.9</b>
8	GBCH 301 BGII	27.8	27.4	29.6	26.3	26.6	28.6	26.4	<b>27.5</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	28.6	26.9	29.7	28.2	28.0	28.4	28.2	<b>28.3</b>

**Table: Uniformity index under HVI Mode in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	86.0	83.0	82.0	82.8	85.0	84.0	84.9	<b>84.0</b>
2	DACH 32N23 BGII	85.0	85.0	83.0	84.0	86.0	84.0	84.8	<b>84.5</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	87.0	86.0	83.0	84.6	85.0	86.0	84.6	<b>85.2</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	83.0	82.0	84.0	83.7	85.0	85.0	85.5	<b>84.0</b>
5	Bioseed 6275 BGII	85.0	84.0	83.0	83.0	84.0	84.0	84.1	<b>83.9</b>
6	ARCH 5555 BGII	85.0	85.0	83.0	85.3	84.0	84.0	84.7	<b>84.4</b>
7	KCH 9370 BG II	84.0	85.0	84.0	81.8	84.0	83.0	84.5	<b>83.8</b>
8	GBCH 301 BGII	83.0	85.0	83.0	81.7	83.0	84.0	84.0	<b>83.4</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	85.0	82.0	84.0	85.7	84.0	85.0	85.3	<b>84.4</b>



**Table: Micronaire under HVI Mode in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	4.6	4.9	4.6	4.2	4.6	4.8	4.7	4.6
2	DACH 32N23 BGII	4.8	4.8	4.7	3.8	4.4	4.7	4.5	4.5
3	<b>(ZC2) – ACH 945-2 BGII</b>	5.0	4.7	4.5	4.1	3.9	4.2	4.2	4.4
4	<b>(ZC1) - ACH 177-2 BG II</b>	4.4	4.9	4.8	4.4	4.4	4.4	4.2	4.5
5	Bioseed 6275 BGII	5.4	5.5	4.9	4.7	5.2	5.0	5.3	5.1
6	ARCH 5555 BGII	4.4	4.3	4.4	3.9	4.5	4.5	4.2	4.3
7	KCH 9370 BG II	4.2	4.5	4.5	3.8	4.1	4.0	4.1	4.2
8	GBCH 301 BGII	4.7	4.7	4.2	3.7	4.7	4.7	4.9	4.5
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	4.5	4.8	4.4	4.1	4.3	4.9	4.3	4.5

**Table: Tenacity under HVI Mode in Initial Evaluation Trial of H X H hybrids**

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	30.1	24.5	30.3	28.0	30.3	31.6	34.2	29.9
2	DACH 32N23 BGII	31.3	29.0	29.9	31.5	30.2	32.5	30.7	30.7
3	<b>(ZC2) – ACH 945-2 BGII</b>	32.4	27.2	31.5	29.5	30.2	31.6	32.1	30.6
4	<b>(ZC1) - ACH 177-2 BG II</b>	31.7	25.6	30.5	30.4	31.7	30.7	33.5	30.6
5	Bioseed 6275 BGII	28.2	24.5	29.2	26.0	28.0	29.3	30.6	28.0
6	ARCH 5555 BGII	31.0	27.3	31.2	30.5	32.3	29.5	29.1	30.1
7	KCH 9370 BG II	31.0	27.1	29.6	29.7	30.9	30.4	30.7	29.9
8	GBCH 301 BGII	30.3	26.5	30.2	27.7	29.8	29.4	31.6	29.4
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	30.0	28.6	31.9	30.6	29.7	30.0	32.7	30.5



Table: Seed Cotton Yield at 140 DAS (q/ha) at 140 DAS in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	19.33	18.43	17.22	12.31	16.11	9.65	<b>15.51</b>
2	DACH 32N23 BGII	22.80	24.55	18.89	16.13	20.05	9.32	<b>18.62</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	17.56	21.48	16.39	15.36	14.58	5.80	<b>15.20</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	18.77	21.57	20.37	15.61	14.83	7.29	<b>16.41</b>
5	Bioseed 6275 BGII	19.72	20.38	18.89	18.89	18.26	10.59	<b>17.79</b>
6	ARCH 5555 BGII	20.80	15.59	16.94	12.88	23.88	13.06	<b>17.19</b>
7	KCH 9370 BG II	21.72	20.37	21.57	19.70	22.79	10.29	<b>19.41</b>
8	GBCH 301 BGII	18.82	17.79	16.02	12.84	13.60	9.39	<b>14.74</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	13.18	17.57	17.59	12.90	17.40	5.23	<b>13.98</b>
CD@5%			3.15	3.38	2.05	3.30		
CV %			9.25	10.63	7.74	12.60		

Table: Seed Cotton Yield at 165 DAS (q/ha) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean
1	ACH-91-2 BGII	2.56	7.77	2.41	12.48	2.49	7.16	<b>5.81</b>
2	DACH 32N23 BGII	4.23	11.17	5.00	14.21	4.45	10.17	<b>8.21</b>
3	<b>(ZC2) – ACH 945-2 BGII</b>	5.64	9.86	3.24	12.67	4.66	8.20	<b>7.38</b>
4	<b>(ZC1) - ACH 177-2 BG II</b>	4.36	9.49	3.61	12.05	4.02	8.76	<b>7.05</b>
5	Bioseed 6275 BGII	5.00	8.98	3.15	13.13	2.69	8.22	<b>6.86</b>
6	ARCH 5555 BGII	5.06	6.55	1.67	11.60	3.17	8.36	<b>6.07</b>
7	KCH 9370 BG II	5.13	8.59	2.41	12.86	5.76	9.53	<b>7.38</b>
8	GBCH 301 BGII	5.64	7.50	3.06	12.01	5.82	7.40	<b>6.91</b>
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	8.97	7.40	2.87	14.13	6.49	9.21	<b>8.18</b>
CD@5%			1.62	N/A	1.67	1.40		
CV %			10.94	34.04	7.46	20.60		



Table: Total Seed Cotton Yield (q/ha) in Initial Evaluation Trial of H X H hybrids

S. No.	Entries	SGNR	Faridkot	Bathinda	Hisar	Sirsa	H'Garh (Kaveri)	Fazilka (Ankur)	Mean	Rank	% Inc over best check
1	ACH-91-2 BGII	18.26	21.89	26.20	19.63	24.80	18.60	16.81	<b>20.88</b>	9	-8.1
2	DACH 32N23 BGII	17.11	27.03	35.71	23.89	30.34	24.50	19.49	<b>25.44</b>	2	12.0
3	<b>(ZC2) – ACH 945-2 BGII</b>	20.88	23.20	31.35	19.63	28.03	19.25	14.00	<b>22.33</b>	7	-1.7
4	<b>(ZC1) - ACH 177-2 BG II</b>	17.68	23.13	31.06	23.98	27.65	18.85	16.05	<b>22.63</b>	6	-0.4
5	Bioseed 6275 BGII	19.65	24.72	29.36	22.04	32.02	20.95	18.81	<b>23.94</b>	3	5.4
6	ARCH 5555 BGII	22.41	25.86	22.14	18.61	24.48	27.04	21.42	<b>23.14</b>	4	1.8
7	KCH 9370 BG II	23.73	26.84	28.96	23.98	32.55	28.54	19.83	<b>26.35</b>	1	16.0
8	GBCH 301 BGII	23.33	24.47	25.29	19.07	24.85	19.43	16.79	<b>21.89</b>	8	-3.7
9	<b>(ZC1) - ACH 177-2 BG II under normal</b>	26.06	22.15	24.98	20.46	27.03	23.89	14.44	<b>22.72</b>	5	0.0
CD@5%		3.10	3.43	4.60	2.62	2.95	3.10	3.16			
CV %		8.69	8.10	9.39	7.06	6.05	9.40	12.38			



## Evaluation under Protected Condition for Insect pests & Diseases Incidences

### Reaction to Insect Pests.

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	1.25	0.47	2.53	5.18	1.87	<b>2.26</b>	<b>BETL</b>
DACH 32N23 BGII	0.42	0.58	1.58	5.78	2.20	<b>2.11</b>	<b>BETL</b>
(ZC2) – ACH 945-2 BGII	0.58	0.67	2.64	6.09	1.76	<b>2.35</b>	<b>BETL</b>
(ZC1) - ACH 177-2 BG II	0.75	0.42	2.89	5.84	1.69	<b>2.32</b>	<b>BETL</b>
Bioseed 6275 BGII	0.75	0.47	2.24	6.78	1.96	<b>2.44</b>	<b>BETL</b>
ARCH 5555 BGII	1.75	0.43	1.22	5.78	2.06	<b>2.25</b>	<b>BETL</b>
KCH 9370 BG II	0.50	0.18	2.22	5.89	2.09	<b>2.18</b>	<b>BETL</b>
GBCH 301 BGII	0.83	0.42	2.20	6.33	1.76	<b>2.31</b>	<b>BETL</b>
ACH 177-2 BG-II	1.00	-	-	5.33	2.09	<b>2.81</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	II	I	II	II	I	II	
DACH 32N23 BGII	II	I	II	II	I	II	
(ZC2) – ACH 945-2 BGII	II	I	III	II	I	II	
(ZC1) - ACH 177-2 BG II	II	I	II	II	I	II	
Bioseed 6275 BGII	II	I	III	II	I	II	
ARCH 5555 BGII	III	I	II	II	I	II	
KCH 9370 BG II	II	I	II	II	I	II	
GBCH 301 BGII	II	I	II	II	I	II	
ACH 177-2 BG-II	III	-	-	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	1.83	24.42	6.62	20.33	11.33	<b>12.91</b>	BETL
DACH 32N23 BGII	1.75	37.52	7.04	22.76	10.74	<b>15.96</b>	BETL
(ZC2) – ACH 945-2 BGII	0.92	37.69	7.98	20.49	13.11	<b>16.04</b>	BETL
(ZC1) - ACH 177-2 BG II	1.25	33.44	8.42	20.16	12.06	<b>15.07</b>	BETL
Bioseed 6275 BGII	1.50	30.38	8.36	21.40	10.15	<b>14.36</b>	BETL
ARCH 5555 BGII	3.83	26.29	6.33	18.00	11.64	<b>13.22</b>	BETL
KCH 9370 BG II	1.17	31.08	6.22	20.31	11.16	<b>13.99</b>	BETL
GBCH 301 BGII	1.67	30.93	8.16	19.04	12.46	<b>14.45</b>	BETL
ACH 177-2 BG-II	2.5	-	-	18.66	13.48	<b>11.55</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	10.25	5.23	1.96	16.09	19.57	<b>10.62</b>	BETL
DACH 32N23 BGII	9.17	5.68	2.51	16.76	21.16	<b>11.06</b>	BETL
(ZC2) – ACH 945-2 BGII	16.08	5.76	2.33	18.20	19.15	<b>12.31</b>	BETL
(ZC1) - ACH 177-2 BG II	18.08	4.79	2.64	17.91	22.31	<b>13.15</b>	BETL
Bioseed 6275 BGII	21.58	4.59	2.02	16.00	18.40	<b>12.52</b>	BETL
ARCH 5555 BGII	18.92	5.66	2.44	16.42	19.38	<b>12.56</b>	BETL
KCH 9370 BG II	15.50	5.44	2.27	16.98	17.67	<b>11.57</b>	BETL
GBCH 301 BGII	22.17	5.99	2.67	16.42	18.76	<b>13.20</b>	BETL
ACH 177-2 BG-II	15.75	-	-	16.20	21.41	<b>17.79</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions - Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	0.89	1.75	0.29	0.87	3.64	<b>1.49</b>	
DACH 32N23 BGII	1.32	1.25	0.27	1.09	1.16	<b>1.02</b>	
(ZC2) – ACH 945-2 BGII	1.11	1.57	0.27	1.09	3.53	<b>1.51</b>	
(ZC1) - ACH 177-2 BG II	1.22	1.57	0.22	0.64	2.86	<b>1.30</b>	
Bioseed 6275 BGII	1.33	1.70	0.24	0.98	3.53	<b>1.56</b>	
ARCH 5555 BGII	1.25	1.78	0.24	0.78	1.55	<b>1.12</b>	
KCH 9370 BG II	1.06	1.57	0.29	0.89	3.60	<b>1.48</b>	
GBCH 301 BGII	1.53	1.68	0.22	0.98	4.26	<b>1.74</b>	
ACH 177-2 BG-II	1.56	-	-	1.00	1.89	<b>1.48</b>	

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**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 32N23 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC2) – ACH 945-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC1) - ACH 177-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Bioseed 6275 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 5555 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9370 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 301 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 177-2 BG-II	0.00	-	-	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 32N23 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC2) – ACH 945-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC1) - ACH 177-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Bioseed 6275 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 5555 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9370 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 301 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 177-2 BG-II	0.00	-	-	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – *Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5plants)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 32N23 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC2) – ACH 945-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC1) - ACH 177-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Bioseed 6275 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 5555 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9370 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 301 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 177-2 BG-II	0.00	-	-	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	0.13	0.67	0.67	0.17	1.00	<b>0.53</b>	BETL
DACH 32N23 BGII	0.00	0.67	0.89	0.33	2.00	<b>0.78</b>	BETL
(ZC2) – ACH 945-2 BGII	0.25	0.50	1.44	0.25	3.50	<b>1.19</b>	AETL
(ZC1) - ACH 177-2 BG II	0.13	0.33	0.89	0.17	2.83	<b>0.87</b>	BETL
Bioseed 6275 BGII	0.25	0.50	1.11	0.50	3.50	<b>1.17</b>	AETL
ARCH 5555 BGII	0.63	0.33	0.78	0.17	1.83	<b>0.75</b>	BETL
KCH 9370 BG II	0.00	0.50	0.89	0.25	2.83	<b>0.89</b>	BETL
GBCH 301 BGII	0.00	0.83	0.56	0.33	2.50	<b>0.84</b>	BETL
ACH 177-2 BG-II	0.00	-	-	0.17	4.17	<b>1.45</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 32N23 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC2) – ACH 945-2 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC1) - ACH 177-2 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Bioseed 6275 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 5555 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9370 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 301 BGII	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 177-2 BG-II	0.00	-	-	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Green Boll damage (Pink Bollworm)**

Name of Entry	Green Boll damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	2.50	10.00	7.78	8.33	19.37	<b>9.60</b>	BETL
DACH 32N23 BGII	3.33	13.33	7.78	6.67	12.30	<b>8.68</b>	BETL
(ZC2) – ACH 945-2 BGII	1.67	8.33	15.56	7.50	18.95	<b>10.40</b>	AETL
(ZC1) - ACH 177-2 BG II	7.50	3.33	12.22	5.83	27.70	<b>11.32</b>	AETL
Bioseed 6275 BGII	3.33	8.33	11.11	10.00	9.44	<b>8.44</b>	BETL
ARCH 5555 BGII	4.17	8.33	12.22	7.50	14.79	<b>9.40</b>	BETL
KCH 9370 BG II	4.83	8.33	11.11	8.33	19.37	<b>10.40</b>	AETL
GBCH 301 BGII	2.40	10.00	6.67	7.50	17.70	<b>8.85</b>	BETL
ACH 177-2 BG-II	3.31	-	-	6.33	23.63	<b>11.09</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	9.48	5.00	6.16	15.15	8.06	<b>8.77</b>	
DACH 32N23 BGII	1.92	5.00	7.78	16.20	13.06	<b>8.79</b>	
(ZC2) – ACH 945-2 BGII	4.48	0.00	5.40	17.47	14.73	<b>8.42</b>	
(ZC1) - ACH 177-2 BG II	4.98	2.50	8.56	17.26	20.00	<b>10.66</b>	
Bioseed 6275 BGII	6.22	2.50	3.76	17.07	18.06	<b>9.52</b>	
ARCH 5555 BGII	7.41	5.00	6.09	14.64	8.00	<b>8.23</b>	
KCH 9370 BG II	10.15	5.00	3.41	15.69	7.73	<b>8.40</b>	
GBCH 301 BGII	8.06	2.50	6.07	16.82	6.70	<b>8.03</b>	
ACH 177-2 BG-II	7.09	-	-	15.00	13.04	<b>11.71</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	3.37	2.05	3.92	6.85	6.69	<b>4.58</b>	
DACH 32N23 BGII	0.47	2.19	4.01	9.26	11.64	<b>5.51</b>	
(ZC2) – ACH 945-2 BGII	2.17	0.00	3.01	8.14	10.74	<b>4.81</b>	
(ZC1) - ACH 177-2 BG II	2.87	1.79	4.80	7.58	17.30	<b>6.87</b>	
Bioseed 6275 BGII	2.62	0.59	2.41	7.23	16.29	<b>5.83</b>	
ARCH 5555 BGII	2.91	2.01	2.36	6.85	6.71	<b>4.17</b>	
KCH 9370 BG II	4.42	2.14	1.32	8.21	7.50	<b>4.72</b>	
GBCH 301 BGII	2.84	1.17	3.20	9.91	5.18	<b>4.46</b>	
ACH 177-2 BG-II	3.77	-	-	7.00	11.31	<b>7.36</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial H X H (Compact) trial in North Zone under Protected Conditions – Number of sprays for Insect-pests**

Name of Entry	Number of sprays for Insect-pests						Remark
	FA	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
DACH 32N23 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
(ZC2) – ACH 945-2 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
(ZC1) - ACH 177-2 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
Bioseed 6275 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ARCH 5555 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
KCH 9370 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
GBCH 301 BGII	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
ACH 177-2 BG-II	9.00	-	-	9.00	8.00	<b>8.67</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



## Reaction to Diseases

### F. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



Table: Initial Evaluation Trial of Compact Hirsutum Hybrids (IET-Compact) under protected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		Sri Ganganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
474	50071	ACH-91-2 BGII	21.7	MR	0.0	DF	10.9	R	5.8	HR	12.9	R	9.4	HR	0.4	HR	7.0	HR
478	50072	DACH 32N23 BGII	17.5	R	0.0	DF	8.8	R	9.2	HR	2.0	HR	5.6	HR	0.8	HR	5.0	HR
476	50073	<b>(ZC2) – ACH 945-2 BGII</b>	44.2	S	4.6	HR	24.4	MR	12.5	R	23.4	MR	18.0	R	3.6	HR	15.0	R
471	50074	<b>(ZC1) ACH 177-2 BG II</b>	55.0	HS	4.6	HR	29.8	MR	15.0	R	21.2	MR	18.1	R	12.1	R	20.0	R
473	50075	Bioseed 6275 BGII	64.2	HS	13.8	R	39.0	MS	32.5	MS	43.5	S	38.0	MS	37.9	MS	38.0	MS
477	50076	ARCH 5555 BGII	16.7	R	0.0	DF	8.4	HR	23.3	MR	1.0	HR	12.2	R	0.0	DF	7.0	HR
472	50077	KCH 9370 BG II	54.2	HS	0.0	DF	27.1	MR	19.2	R	10.0	HR	14.6	R	0.5	HR	14.0	R
475	50078	GBCH 301 BGII	64.2	HS	2.9	HR	33.6	MS	34.2	MS	22.0	MR	28.1	MR	4.8	HR	22.0	MR



**Table 4 (b) Initial Evaluation Trial of Compact Hirsutum Hybrids (IET-Compact) under protected conditions**

Code-I	Code-II	Entries	Average FFLS, BLB PDI & Disease Reaction (DR) Under protected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
474	50071	ACH-91-2 BGII	11.8	5.0	R
478	50072	DACH 32N23 BGII	12.3	6.0	R
476	50073	<b>(ZC2) – ACH 945-2 BGII</b>	11.8	6.5	R
471	50074	<b>(ZC1) ACH 177-2 BG II</b>	13.8	6.5	R
473	50075	Bioseed 6275 BGII	16.0	4.8	R
477	50076	ARCH 5555 BGII	11.3	5.0	R
472	50077	KCH 9370 BG II	13.3	5.0	R
475	50078	GBCH 301 BGII	13.5	5.3	R

**Table 4 (c) Initial Evaluation Trial of Compact Hirsutum Hybrids (IET-Compact) under protected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions			
			Ankur ,Fazilka		Kaveri , Hanumangarh	
			PDI	DR	PDI	DR
474	50071	ACH-91-2 BGII	0.0	DF	1.7	HR
478	50072	DACH 32N23 BGII	0.0	DF	0.5	HR
476	50073	<b>(ZC2) – ACH 945-2 BGII</b>	0.2	HR	2.9	HR
471	50074	<b>(ZC1) ACH 177-2 BG II</b>	0.0	DF	8.3	HR
473	50075	Bioseed 6275 BGII	0.1	HR	16.7	R
477	50076	ARCH 5555 BGII	0.0	DF	0.0	DF
472	50077	KCH 9370 BG II	0.0	DF	0.3	HR
475	50078	GBCH 301 BGII	0.8	HR	3.0	HR



## Evaluation under Unprotected Condition for Insect pests and Disease incidences

### Reaction to Insect Pests.

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	1.57	2.27	10.15	2.76	<b>4.19</b>	<b>BETL</b>
DACH 32N23 BGII	-	1.87	2.33	9.70	3.09	<b>4.25</b>	<b>BETL</b>
(ZC2) – ACH 945-2 BGII	-	2.03	2.51	8.45	2.65	<b>3.91</b>	<b>BETL</b>
(ZC1) - ACH 177-2 BG II	-	2.07	3.33	10.50	2.58	<b>4.62</b>	<b>BETL</b>
Bioseed 6275 BGII	-	1.70	3.31	10.05	2.85	<b>4.48</b>	<b>BETL</b>
ARCH 5555 BGII	-	1.27	2.91	9.55	2.95	<b>4.17</b>	<b>BETL</b>
KCH 9370 BG II	-	1.93	3.64	10.35	2.98	<b>4.73</b>	<b>BETL</b>
GBCH 301 BGII	-	2.10	3.22	9.85	2.65	<b>4.45</b>	<b>BETL</b>
ACH 177-2 BG-II	-	-	-	9.33	2.98	<b>6.16</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar , \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	I	III	II	II	II	
DACH 32N23 BGII	-	I	III	II	II	II	
(ZC2) – ACH 945-2 BGII	-	I	III	II	II	II	
(ZC1) - ACH 177-2 BG II	-	I	III	II	II	II	
Bioseed 6275 BGII	-	I	III	II	II	II	
ARCH 5555 BGII	-	I	II	II	II	II	
KCH 9370 BG II	-	I	II	II	II	II	
GBCH 301 BGII	-	II	III	II	II	II	
ACH 177-2 BG-II	-	-	-	II	II	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	58.87	18.31	25.45	20.19	<b>30.71</b>	<b>AETL</b>
DACH 32N23 BGII	-	66.33	21.31	20.25	19.61	<b>31.88</b>	<b>AETL</b>
(ZC2) – ACH 945-2 BGII	-	59.80	21.56	25.75	21.97	<b>32.27</b>	<b>AETL</b>
(ZC1) - ACH 177-2 BG II	-	58.47	18.44	23.25	20.93	<b>30.27</b>	<b>AETL</b>
Bioseed 6275 BGII	-	56.07	18.53	24.65	19.02	<b>29.57</b>	<b>BETL</b>
ARCH 5555 BGII	-	61.33	22.00	20.90	20.51	<b>31.18</b>	<b>AETL</b>
KCH 9370 BG II	-	57.97	22.51	23.95	20.03	<b>31.11</b>	<b>AETL</b>
GBCH 301 BGII	-	59.17	21.69	20.85	21.33	<b>30.76</b>	<b>AETL</b>
ACH 177-2 BG-II	-	-	-	21.00	22.35	<b>21.68</b>	<b>AETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted



**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	10.80	5.16	20.40	25.55	<b>15.48</b>	<b>BETL</b>
DACH 32N23 BGII	-	10.17	5.16	19.10	26.48	<b>15.23</b>	<b>BETL</b>
(ZC2) – ACH 945-2 BGII	-	9.93	5.27	21.75	24.39	<b>15.33</b>	<b>BETL</b>
(ZC1) - ACH 177-2 BG II	-	9.63	5.73	22.30	27.55	<b>16.30</b>	<b>BETL</b>
Bioseed 6275 BGII	-	10.30	6.71	19.70	23.63	<b>15.09</b>	<b>BETL</b>
ARCH 5555 BGII	-	10.17	4.93	19.55	24.61	<b>14.82</b>	<b>BETL</b>
KCH 9370 BG II	-	9.20	4.27	22.45	22.90	<b>14.70</b>	<b>BETL</b>
GBCH 301 BGII	-	10.37	5.82	20.80	23.99	<b>15.25</b>	<b>BETL</b>
ACH 177-2 BG-II	-	-	-	19.55	26.65	<b>23.10</b>	<b>AETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	1.73	0.31	1.50	2.89	<b>1.61</b>	
DACH 32N23 BGII	-	1.43	0.29	1.37	2.04	<b>1.28</b>	
(ZC2) – ACH 945-2 BGII	-	1.63	0.47	1.60	2.90	<b>1.65</b>	
(ZC1) - ACH 177-2 BG II	-	1.53	0.36	1.53	3.18	<b>1.65</b>	
Bioseed 6275 BGII	-	1.50	0.40	1.73	3.41	<b>1.76</b>	
ARCH 5555 BGII	-	1.73	0.44	1.63	2.47	<b>1.57</b>	
KCH 9370 BG II	-	1.60	0.47	1.43	3.71	<b>1.80</b>	
GBCH 301 BGII	-	1.63	0.42	1.27	3.57	<b>1.72</b>	
ACH 177-2 BG-II	-	-	-	1.50	2.19	<b>1.85</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5plants)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
DACH 32N23 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
(ZC2) – ACH 945-2 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
(ZC1) - ACH 177-2 BG II	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Bioseed 6275 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ARCH 5555 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
KCH 9370 BG II	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
GBCH 301 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
ACH 177-2 BG-II	-	-	-	0.00	0.00	<b>0.00</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted



**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5plants)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	2.50	0.00	0.00	0.00	<b>0.63</b>	BETL
DACH 32N23 BGII	-	1.50	0.00	0.00	0.00	<b>0.38</b>	BETL
(ZC2) – ACH 945-2 BGII	-	1.00	0.00	0.00	0.00	<b>0.25</b>	BETL
(ZC1) - ACH 177-2 BG II	-	2.50	0.00	0.00	0.00	<b>0.63</b>	BETL
Bioseed 6275 BGII	-	1.50	0.00	0.00	0.00	<b>0.38</b>	BETL
ARCH 5555 BGII	-	1.50	0.00	0.00	0.00	<b>0.38</b>	BETL
KCH 9370 BG II	-	2.50	0.00	0.00	0.00	<b>0.63</b>	BETL
GBCH 301 BGII	-	1.50	0.00	0.00	0.00	<b>0.38</b>	BETL
ACH 177-2 BG-II	-	-	-	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – *Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5plants)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 32N23 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC2) – ACH 945-2 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC1) - ACH 177-2 BG II	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Bioseed 6275 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 5555 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9370 BG II	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 301 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 177-2 BG-II	-	-	-	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	1.50	1.22	0.50	2.13	<b>1.34</b>	AETL
DACH 32N23 BGII	-	1.50	1.56	0.63	2.83	<b>1.63</b>	AETL
(ZC2) – ACH 945-2 BGII	-	2.00	1.22	0.38	3.17	<b>1.69</b>	AETL
(ZC1) - ACH 177-2 BG II	-	2.00	1.56	0.50	3.08	<b>1.78</b>	AETL
Bioseed 6275 BGII	-	1.50	1.78	0.38	3.34	<b>1.75</b>	AETL
ARCH 5555 BGII	-	1.50	2.00	0.25	2.17	<b>1.48</b>	AETL
KCH 9370 BG II	-	2.50	1.44	0.38	2.67	<b>1.75</b>	AETL
GBCH 301 BGII	-	2.50	1.78	0.38	2.25	<b>1.73</b>	AETL
ACH 177-2 BG-II	-	-	-	0.50	4.00	<b>2.25</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted



**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
DACH 32N23 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC2) – ACH 945-2 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
(ZC1) - ACH 177-2 BG II	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Bioseed 6275 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ARCH 5555 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
KCH 9370 BG II	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
GBCH 301 BGII	-	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
ACH 177-2 BG-II	-	-	-	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	25.00	20.00	12.50	25.87	<b>20.84</b>	AETL
DACH 32N23 BGII	-	15.00	17.78	11.25	19.63	<b>15.91</b>	AETL
(ZC2) – ACH 945-2 BGII	-	15.00	20.00	13.75	26.28	<b>18.76</b>	AETL
(ZC1) - ACH 177-2 BG II	-	25.00	18.89	12.50	35.03	<b>22.86</b>	AETL
Bioseed 6275 BGII	-	15.00	21.11	8.75	15.44	<b>15.08</b>	AETL
ARCH 5555 BGII	-	15.00	23.33	10.00	22.03	<b>17.59</b>	AETL
KCH 9370 BG II	-	25.00	15.56	11.25	25.45	<b>19.31</b>	AETL
GBCH 301 BGII	-	25.00	23.33	10.00	24.28	<b>20.65</b>	AETL
ACH 177-2 BG-II	-	-	-	9.00	30.29	<b>19.65</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted

**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	17.50	6.07	16.58	43.33	<b>20.87</b>	
DACH 32N23 BGII	-	12.50	7.68	18.31	48.33	<b>21.71</b>	
(ZC2) – ACH 945-2 BGII	-	22.50	10.28	16.20	50.00	<b>24.75</b>	
(ZC1) - ACH 177-2 BG II	-	17.50	10.70	17.32	63.33	<b>27.21</b>	
Bioseed 6275 BGII	-	17.50	7.88	18.30	53.33	<b>24.25</b>	
ARCH 5555 BGII	-	17.50	12.56	16.67	28.33	<b>18.77</b>	
KCH 9370 BG II	-	20.00	8.32	17.61	35.00	<b>20.23</b>	
GBCH 301 BGII	-	22.50	4.79	16.42	20.00	<b>15.93</b>	
ACH 177-2 BG-II	-	-	-	16.33	38.33	<b>27.33</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted



**Table: Initial H X H (Compact) trial in North Zone under Unprotected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA*	BT	HI	SI	SG	Mean	
ACH-91-2 BGII	-	1.70	2.56	9.81	13.98	<b>7.01</b>	
DACH 32N23 BGII	-	2.10	2.90	8.95	19.84	<b>8.45</b>	
(ZC2) – ACH 945-2 BGII	-	2.75	3.89	8.73	17.84	<b>8.30</b>	
(ZC1) - ACH 177-2 BG II	-	2.15	3.83	9.68	20.88	<b>9.13</b>	
Bioseed 6275 BGII	-	3.70	5.23	9.45	23.34	<b>10.43</b>	
ARCH 5555 BGII	-	4.70	3.61	8.85	10.31	<b>6.87</b>	
KCH 9370 BG II	-	1.70	3.43	10.72	10.56	<b>6.60</b>	
GBCH 301 BGII	-	2.80	2.65	10.52	6.04	<b>5.50</b>	
ACH 177-2 BG-II	-	-	-	9.00	16.59	<b>12.80</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar, \* FA:-Trial Not Conducted



## Reaction to Diseases

### G. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



**Table: Initial Evaluation Trial of Compact Hirsutum Hybrids (IET-Compact) under unprotected conditions**

Code-I	Code-II	Entries	Average FFLS , BLB PDI & Disease Reaction (DR) under unprotected conditions		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
474	50071	ACH-91-2 BGII	14.0	5.8	R
478	50072	DACH 32N23 BGII	15.5	7.3	R
476	50073	<b>(ZC2) – ACH 945-2 BGII</b>	14.5	7.3	R
471	50074	<b>(ZC1) ACH 177-2 BG II</b>	14.8	7.3	R
473	50075	Bioseed 6275 BGII	17.8	5.8	R
477	50076	ARCH 5555 BGII	12.0	6.0	R
472	50077	KCH 9370 BG II	15.3	6.3	R
475	50078	GBCH 301 BGII	15.3	6.3	R

**Table: Initial Evaluation Trial of Compact Hirsutum Hybrids (IET-Compact) under unprotected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under unprotected conditions	
			Kaveri , Hanumangarh	
			PDI	DR
474	50071	ACH-91-2 BGII	2.6	HR
478	50072	DACH 32N23 BGII	3.0	HR
476	50073	<b>(ZC2) – ACH 945-2 BGII</b>	2.1	HR
471	50074	<b>(ZC1) ACH 177-2 BG II</b>	10.8	R
473	50075	Bioseed 6275 BGII	16.3	R
477	50076	ARCH 5555 BGII	0.0	DF
472	50077	KCH 9370 BG II	0.3	HR
475	50078	GBCH 301 BGII	2.5	HR



Table: Initial Evaluation Trial of Compact Hirsutum Hybrids (IET-Compact) under unprotected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under unprotected conditions											
			Bathinda		Hisar		CICR RS, Sirsa		Mean		SriGanganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
474	50071	ACH-91-2 BGII	27.5	MR	8.3	HR	19.8	R	14.1	R	2.5	HR	15.0	R
478	50072	DACH 32N23 BGII	20.8	MR	11.7	R	3.9	HR	7.8	HR	0.0	DF	10.0	HR
476	50073	<b>(ZC2) – ACH 945-2 BGII</b>	50.8	HS	14.2	R	28.0	MR	21.1	MR	10.5	R	27.0	MR
471	50074	<b>(ZC1) ACH 177-2 BG II</b>	65.0	HS	20.8	MR	35.8	MS	28.3	MR	17.2	R	37.0	MS
473	50075	Bioseed 6275 BGII	71.7	HS	35.0	MS	44.8	S	39.9	MS	33.3	MS	48.0	S
477	50076	ARCH 5555 BGII	20.8	MR	25.8	MR	3.3	HR	14.6	R	0.0	DF	12.0	R
472	50077	KCH 9370 BG II	68.3	HS	20.8	MR	22.3	MR	21.6	MR	1.8	HR	31.0	MS
475	50078	GBCH 301 BGII	75.0	HS	36.7	MS	23.6	MR	30.2	MS	7.3	HR	38.0	MS



## Initial Evaluation Trial of Hirsutum Varieties

### Constitution of Trial

The trial was constituted with eight Bt cotton varieties containing deregulated event as furnished below along with two different check varieties viz., **PAU Bt 2 (Bt Zonal Check-1)** and **PAU Bt 3 (Bt Zonal Check-2)**.

S. No.	Code-I	Code-II	Entries	Sponsored by
1	589	50081	PBH Bt 109	PAU RRS Bathinda
2	585	50082	PBH Bt 103	PAU RRS Bathinda
3	595	50083	FBt 5035	PAU, RRS, Faridkot
4	592	50084	HAU Bt 25	CCS HAU Hisar
5	581	50085	<b>PAU Bt2 (Bt ZC-1)</b>	
6	597	50086	CICRS Bt 58-2	ICAR-CICR, RS, Sirsa
7	587	50087	RS Bt 3067	Sriganganagar
8	583	50088	HAU Bt 5	CCS HAU Hisar
9	594	50089	CICRS Bt 84	ICAR-CICR, RS, Sirsa
10	590	50090	CICRS Bt 63	ICAR-CICR, RS, Sirsa
11	586	50091	CICRS 88 Bt II	ICAR-CICR, RS Sirsa
12	582	50092	RS Bt 3075	Sriganganagar
13	584	50093	FBt 5018	PAU, RRS, Faridkot
14	599	50094	CICRS 55 Bt II	ICAR-CICR, RS, Sirsa
15	591	50095	RS Bt 3074	Sriganganagar
16	588	50096	HAU Bt 15	CCS HAU Hisar
17	598	50097	<b>PAU Bt3 (Bt ZC-2)</b>	
18	593	50098	PBH Bt 133	PAU RRS Bathinda
19	596	50099	FBt 5023	PAU, RRS, Faridkot

The trial was conducted in five different locations viz., PAU, Faridkot; PAU, Bathinda; CCSHAU, Hisar; ICAR-CICR, Sirsa; SKRAU, Sriganganagar. As per the recommendation of the Monitoring Committee, the trial conducted at CCSHAU, Hisar was treated as “**Vitiated**” and hence the data was not included.

**Spacing:** Recommended spacing of 67.5 x 30 cm for the variety has been followed uniformly.

**Number of rows:** 4 rows of 6 meters per entry with three replications



**Data recorded:****Biometric evaluation****Table: Plant height (cm) at harvest in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	231.0	157.2	217.8	190.9	<b>199.2</b>
2	PBH Bt 103	218.0	140.6	188.6	181.4	<b>182.2</b>
3	FBt 5035	298.0	142.2	214.9	167.1	<b>205.6</b>
4	HAU Bt 25	217.0	131.7	210.8	188.8	<b>187.1</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	242.0	125.6	222.8	199.6	<b>197.5</b>
6	CICRS Bt 58-2	236.0	150.0	210.7	171.5	<b>192.1</b>
7	RS Bt 3067	224.0	132.2	210.3	166.5	<b>183.3</b>
8	HAU Bt 5	234.0	140.6	217.0	189.7	<b>195.3</b>
9	CICRS Bt 84	220.0	157.8	199.7	182.3	<b>190.0</b>
10	CICRS Bt 63	230.0	117.2	189.6	166.5	<b>175.8</b>
11	CICRS 88 Bt II	252.0	163.9	227.0	193.5	<b>209.1</b>
12	RS Bt 3075	183.0	121.1	209.2	178.0	<b>172.8</b>
13	FBt 5018	209.0	121.7	215.9	196.0	<b>185.7</b>
14	CICRS 55 Bt II	204.0	149.4	239.6	186.1	<b>194.8</b>
15	RS Bt 3074	208.0	128.3	182.0	163.3	<b>170.4</b>
16	HAU Bt 15	227.0	143.9	207.7	196.3	<b>193.7</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	221.0	155.0	228.6	197.6	<b>200.6</b>
18	PBH Bt 133	239.0	135.6	205.0	181.5	<b>190.3</b>
19	FBt 5023	230.0	127.8	159.7	157.8	<b>168.8</b>
CD@5%			8.1	26.6	16.0	
CV %			3.5	7.7	5.3	



**Table: Number of monopodia in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	3.0	0.1	2.2	0.8	1.5
2	PBH Bt 103	3.0	0.2	1.3	0.9	1.4
3	FBt 5035	2.0	0.1	1.3	0.9	1.1
4	HAU Bt 25	3.0	1.0	2.2	0.9	1.8
5	<b>PAU Bt2 (Bt ZC-1)</b>	6.0	0.3	1.4	1.7	2.4
6	CICRS Bt 58-2	4.0	0.4	1.6	1.9	2.0
7	RS Bt 3067	3.0	0.2	1.8	1.5	1.6
8	HAU Bt 5	3.0	0.7	1.6	1.1	1.6
9	CICRS Bt 84	4.0	0.8	1.3	1.2	1.8
10	CICRS Bt 63	2.0	0.6	1.7	0.9	1.3
11	CICRS 88 Bt II	2.0	0.9	1.6	0.7	1.3
12	RS Bt 3075	3.0	0.1	2.4	1.1	1.7
13	FBt 5018	3.0	1.0	1.6	1.7	1.8
14	CICRS 55 Bt II	2.0	0.7	1.7	1.4	1.5
15	RS Bt 3074	3.0	0.6	1.9	0.7	1.6
16	HAU Bt 15	2.0	0.2	1.9	1.1	1.3
17	<b>PAU Bt3 (Bt ZC-2)</b>	3.0	0.4	1.7	2.1	1.8
18	PBH Bt 133	2.0	0.1	1.9	1.1	1.3
19	FBt 5023	3.0	0.3	2.2	1.9	1.9
CD@5%			0.5	0.2	0.2	
CV %			60.6	7.0	9.9	

**Table: Number of sympodia in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	9.0	20.4	18.2	17.8	16.4
2	PBH Bt 103	8.0	19.0	25.8	17.1	17.5
3	FBt 5035	21.0	20.4	23.9	19.1	21.1
4	HAU Bt 25	23.0	18.0	22.3	17.9	20.3
5	<b>PAU Bt2 (Bt ZC-1)</b>	9.0	16.0	23.7	17.1	16.5
6	CICRS Bt 58-2	19.0	19.1	18.1	21.7	19.5
7	RS Bt 3067	16.0	15.8	17.8	17.1	16.7
8	HAU Bt 5	17.0	16.7	15.6	20.7	17.5
9	CICRS Bt 84	16.0	19.7	24.7	21.4	20.5
10	CICRS Bt 63	17.0	16.2	21.6	16.7	17.9
11	CICRS 88 Bt II	19.0	19.9	21.1	22.9	20.7
12	RS Bt 3075	11.0	15.1	19.6	17.9	15.9
13	FBt 5018	9.0	14.9	18.7	22.1	16.2
14	CICRS 55 Bt II	14.0	19.6	22.3	19.2	18.8
15	RS Bt 3074	8.0	16.9	16.2	15.8	14.2
16	HAU Bt 15	14.0	20.8	21.4	18.4	18.7
17	<b>PAU Bt3 (Bt ZC-2)</b>	16.0	18.9	18.9	21.3	18.8
18	PBH Bt 133	15.0	19.0	18.9	18.3	17.8
19	FBt 5023	17.0	18.3	16.0	16.9	17.1
CD@5%			1.8	4.0	1.6	
CV %			6.0	12.1	5.0	



**Table: Boll weight (g) in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	3.1	3.7	3.8	3.1	<b>3.4</b>
2	PBH Bt 103	3.0	4.0	4.1	3.4	<b>3.6</b>
3	FBt 5035	3.0	3.9	3.5	3.8	<b>3.6</b>
4	HAU Bt 25	3.1	3.7	3.8	3.5	<b>3.5</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	2.8	3.7	4.2	3.3	<b>3.5</b>
6	CICRS Bt 58-2	2.9	4.0	3.8	3.6	<b>3.6</b>
7	RS Bt 3067	3.1	3.3	3.5	2.7	<b>3.2</b>
8	HAU Bt 5	2.7	3.8	4.0	3.5	<b>3.5</b>
9	CICRS Bt 84	3.2	4.1	4.5	3.8	<b>3.9</b>
10	CICRS Bt 63	3.2	4.5	4.2	3.6	<b>3.9</b>
11	CICRS 88 Bt II	2.8	4.1	4.2	3.5	<b>3.7</b>
12	RS Bt 3075	3.2	3.8	3.7	3.0	<b>3.4</b>
13	FBt 5018	3.1	3.8	3.3	3.2	<b>3.4</b>
14	CICRS 55 Bt II	2.1	4.1	3.9	2.8	<b>3.2</b>
15	RS Bt 3074	2.8	3.8	4.1	2.8	<b>3.4</b>
16	HAU Bt 15	2.5	4.0	4.1	2.9	<b>3.4</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	2.8	3.2	3.6	3.2	<b>3.2</b>
18	PBH Bt 133	2.4	3.7	3.6	2.9	<b>3.2</b>
19	FBt 5023	3.1	3.7	3.7	3.1	<b>3.4</b>
CD@5%			0.3	0.5	0.3	
CV %			5.0	8.0	5.6	

**Table: Number of bolls / plant in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	28.0	39.0	44.7	29.9	<b>35.4</b>
2	PBH Bt 103	31.0	34.0	61.1	28.1	<b>38.6</b>
3	FBt 5035	29.0	40.8	42.7	33.7	<b>36.6</b>
4	HAU Bt 25	32.0	31.6	40.2	29.2	<b>33.3</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	32.0	36.4	64.7	25.8	<b>39.7</b>
6	CICRS Bt 58-2	36.0	38.9	43.1	31.3	<b>37.3</b>
7	RS Bt 3067	40.0	26.9	47.4	26.7	<b>35.3</b>
8	HAU Bt 5	29.0	30.9	39.4	29.9	<b>32.3</b>
9	CICRS Bt 84	36.0	37.8	63.6	33.9	<b>42.8</b>
10	CICRS Bt 63	33.0	29.9	39.8	23.6	<b>31.6</b>
11	CICRS 88 Bt II	41.0	43.8	58.9	33.5	<b>44.3</b>
12	RS Bt 3075	38.0	25.1	33.6	27.9	<b>31.2</b>
13	FBt 5018	24.0	36.0	32.8	34.7	<b>31.9</b>
14	CICRS 55 Bt II	33.0	33.6	34.4	26.9	<b>32.0</b>
15	RS Bt 3074	29.0	32.2	28.3	25.2	<b>28.7</b>
16	HAU Bt 15	42.0	34.0	28.0	30.8	<b>33.7</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	26.0	34.3	35.2	34.9	<b>32.6</b>
18	PBH Bt 133	36.0	33.7	31.0	31.7	<b>33.1</b>
19	FBt 5023	23.0	34.0	34.4	26.4	<b>29.5</b>
CD@5%			3.6	6.0	3.0	
CV %			6.3	8.5	6.1	



**Table: Number of bolls / sq.m. in Initial Variety trial**

S. No.	Entries	SGNR	Bathinda	Sirsa	Mean
1	PBH Bt 109	127.3	111.7	150.6	<b>129.9</b>
2	PBH Bt 103	140.3	126.3	134.0	<b>133.5</b>
3	FBt 5035	129.5	113.7	157.9	<b>133.7</b>
4	HAU Bt 25	147.5	122.3	139.2	<b>136.3</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	143.6	131.0	121.7	<b>132.1</b>
6	CICRS Bt 58-2	163.7	120.0	158.1	<b>147.3</b>
7	RS Bt 3067	173.7	108.0	127.1	<b>136.3</b>
8	HAU Bt 5	128.9	122.3	142.9	<b>131.4</b>
9	CICRS Bt 84	163.0	130.0	162.0	<b>151.7</b>
10	CICRS Bt 63	146.0	121.7	109.9	<b>125.9</b>
11	CICRS 88 Bt II	181.4	103.3	162.2	<b>149.0</b>
12	RS Bt 3075	168.9	99.3	131.7	<b>133.3</b>
13	FBt 5018	115.1	87.7	166.8	<b>123.2</b>
14	CICRS 55 Bt II	153.5	105.7	130.5	<b>129.9</b>
15	RS Bt 3074	131.3	96.3	120.5	<b>116.0</b>
16	HAU Bt 15	185.8	97.0	151.4	<b>144.7</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	115.6	107.3	176.9	<b>133.3</b>
18	PBH Bt 133	162.2	83.3	156.3	<b>133.9</b>
19	FBt 5023	112.2	107.7	127.7	<b>115.9</b>
CD@5%			12.0		
CV %			6.6		

**Table: Lint Index (g) in Initial Variety trial**

S. No.	Entries	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	4.8	3.8	5.3	<b>4.6</b>
2	PBH Bt 103	5.5	4.9	5.6	<b>5.3</b>
3	FBt 5035	4.7	3.7	5.4	<b>4.6</b>
4	HAU Bt 25	4.8	3.8	5.1	<b>4.6</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	5.2	4.7	4.8	<b>4.9</b>
6	CICRS Bt 58-2	4.8	4.3	5.4	<b>4.8</b>
7	RS Bt 3067	5.0	3.3	5.3	<b>4.5</b>
8	HAU Bt 5	5.0	3.8	4.8	<b>4.5</b>
9	CICRS Bt 84	5.1	4.4	5.9	<b>5.1</b>
10	CICRS Bt 63	5.6	4.3	5.6	<b>5.2</b>
11	CICRS 88 Bt II	5.5	4.1	5.4	<b>5.0</b>
12	RS Bt 3075	5.3	3.4	5.4	<b>4.7</b>
13	FBt 5018	5.1	4.3	6.0	<b>5.1</b>
14	CICRS 55 Bt II	5.2	4.3	5.2	<b>4.9</b>
15	RS Bt 3074	4.9	3.4	4.8	<b>4.4</b>
16	HAU Bt 15	5.0	4.6	4.9	<b>4.8</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	4.9	4.0	5.2	<b>4.7</b>
18	PBH Bt 133	4.7	3.4	4.2	<b>4.1</b>
19	FBt 5023	4.5	4.0	5.5	<b>4.7</b>
CD@5%		0.4	0.4		
CV %		5.1	6.4		



**Table: Seed Index (g) in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	8.0	9.1	8.4	9.4	<b>8.7</b>
2	PBH Bt 103	7.0	9.8	9.6	9.7	<b>9.0</b>
3	FBt 5035	7.7	8.5	9.2	9.2	<b>8.7</b>
4	HAU Bt 25	8.0	8.8	8.5	8.9	<b>8.6</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	7.8	9.4	9.4	8.1	<b>8.7</b>
6	CICRS Bt 58-2	7.4	9.0	9.4	9.1	<b>8.7</b>
7	RS Bt 3067	7.0	8.6	8.3	9.3	<b>8.3</b>
8	HAU Bt 5	7.2	8.7	8.2	8.0	<b>8.0</b>
9	CICRS Bt 84	7.9	9.3	8.7	10.0	<b>9.0</b>
10	CICRS Bt 63	8.5	10.1	10.2	9.7	<b>9.6</b>
11	CICRS 88 Bt II	8.0	9.6	9.4	9.1	<b>9.0</b>
12	RS Bt 3075	8.2	9.2	8.2	9.3	<b>8.7</b>
13	FBt 5018	7.8	9.0	9.5	10.2	<b>9.1</b>
14	CICRS 55 Bt II	8.8	10.0	9.8	9.8	<b>9.6</b>
15	RS Bt 3074	7.8	8.8	8.4	8.4	<b>8.4</b>
16	HAU Bt 15	8.2	9.2	9.4	8.5	<b>8.8</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	7.7	8.3	8.6	8.9	<b>8.4</b>
18	PBH Bt 133	7.6	8.7	7.7	8.0	<b>8.0</b>
19	FBt 5023	7.9	8.5	9.3	9.9	<b>8.9</b>
CD@5%			0.6	0.4	0.2	
CV %			3.9	2.8	1.0	

**Table: Ginning outturn (%) in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	37.2	34.7	30.9	36.1	<b>34.7</b>
2	PBH Bt 103	37.7	36.2	33.7	36.7	<b>36.1</b>
3	FBt 5035	33.4	35.4	28.6	37.0	<b>33.6</b>
4	HAU Bt 25	36.9	35.2	30.8	36.3	<b>34.8</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	35.8	35.6	33.3	37.3	<b>35.5</b>
6	CICRS Bt 58-2	37.0	34.8	31.6	37.0	<b>35.1</b>
7	RS Bt 3067	35.6	36.6	28.0	36.2	<b>34.1</b>
8	HAU Bt 5	37.9	36.6	31.5	37.4	<b>35.9</b>
9	CICRS Bt 84	38.1	35.4	33.7	37.1	<b>36.1</b>
10	CICRS Bt 63	36.7	35.6	29.7	36.5	<b>34.6</b>
11	CICRS 88 Bt II	38.3	36.4	30.5	37.2	<b>35.6</b>
12	RS Bt 3075	38.0	36.7	29.4	36.8	<b>35.2</b>
13	FBt 5018	38.1	36.0	31.3	37.0	<b>35.6</b>
14	CICRS 55 Bt II	37.4	34.4	30.5	34.9	<b>34.3</b>
15	RS Bt 3074	37.6	35.7	29.0	36.5	<b>34.7</b>
16	HAU Bt 15	37.7	35.3	32.7	36.7	<b>35.6</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	38.6	37.1	31.6	37.1	<b>36.1</b>
18	PBH Bt 133	37.4	34.8	30.5	34.5	<b>34.3</b>
19	FBt 5023	35.1	34.5	30.1	36.0	<b>33.9</b>
CD@5%			1.0	1.9		
CV %			1.7	3.7		



**Table : Upper Half Mean Length (mm) under HVI Mode in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	26.3	25.3	27.3	27.2	<b>26.5</b>
2	PBH Bt 103	28.1	28.5	30.0	26.8	<b>28.4</b>
3	FBt 5035	28.3	29.5	29.5	27.7	<b>28.8</b>
4	HAU Bt 25	25.7	26.6	27.9	25.6	<b>26.5</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	26.9	24.2	26.9	26.4	<b>26.1</b>
6	CICRS Bt 58-2	26.9	27.7	28.3	26.0	<b>27.2</b>
7	RS Bt 3067	26.2	25.3	29.0	26.1	<b>26.7</b>
8	HAU Bt 5	26.8	24.6	28.1	25.7	<b>26.3</b>
9	CICRS Bt 84	26.6	25.8	27.9	26.6	<b>26.7</b>
10	CICRS Bt 63	26.6	25.2	28.9	25.2	<b>26.5</b>
11	CICRS 88 Bt II	27.4	29.0	30.0	26.4	<b>28.2</b>
12	RS Bt 3075	28.3	26.6	29.2	26.5	<b>27.7</b>
13	FBt 5018	26.1	25.4	28.4	26.6	<b>26.6</b>
14	CICRS 55 Bt II	26.5	28.4	29.1	26.2	<b>27.6</b>
15	RS Bt 3074	25.8	26.4	27.6	24.4	<b>26.1</b>
16	HAU Bt 15	26.2	26.4	29.2	25.4	<b>26.8</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	26.1	27.4	27.6	27.0	<b>27.0</b>
18	PBH Bt 133	26.4	27.4	28.2	26.7	<b>27.2</b>
19	FBt 5023	26.5	26.9	28.9	25.5	<b>27.0</b>

**Table : Uniformity index under HVI Mode in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	83.0	83.0	82.0	86.0	<b>83.5</b>
2	PBH Bt 103	84.0	85.0	83.0	83.0	<b>83.8</b>
3	FBt 5035	82.0	86.0	84.0	84.0	<b>84.0</b>
4	HAU Bt 25	82.0	84.0	84.0	83.0	<b>83.3</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	82.0	81.0	80.0	84.0	<b>81.8</b>
6	CICRS Bt 58-2	84.0	84.0	85.0	84.0	<b>84.3</b>
7	RS Bt 3067	83.0	81.0	83.0	84.0	<b>82.8</b>
8	HAU Bt 5	83.0	83.0	83.0	82.0	<b>82.8</b>
9	CICRS Bt 84	83.0	84.0	83.0	84.0	<b>83.5</b>
10	CICRS Bt 63	84.0	84.0	85.0	83.0	<b>84.0</b>
11	CICRS 88 Bt II	85.0	87.0	83.0	85.0	<b>85.0</b>
12	RS Bt 3075	84.0	84.0	82.0	84.0	<b>83.5</b>
13	FBt 5018	83.0	80.0	82.0	84.0	<b>82.3</b>
14	CICRS 55 Bt II	83.0	83.0	83.0	85.0	<b>83.5</b>
15	RS Bt 3074	83.0	83.0	83.0	82.0	<b>82.8</b>
16	HAU Bt 15	84.0	81.0	83.0	83.0	<b>82.8</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	82.0	85.0	84.0	84.0	<b>83.8</b>
18	PBH Bt 133	83.0	85.0	82.0	84.0	<b>83.5</b>
19	FBt 5023	83.0	85.0	82.0	84.0	<b>83.5</b>



**Table :Micronaire under HVI Mode in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	4.8	5.1	4.6	3.9	<b>4.6</b>
2	PBH Bt 103	4.4	4.6	4.2	5.1	<b>4.6</b>
3	FBt 5035	3.7	3.9	4.0	3.6	<b>3.8</b>
4	HAU Bt 25	5.1	4.9	4.2	4.8	<b>4.8</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	5.0	5.2	4.7	5.2	<b>5.0</b>
6	CICRS Bt 58-2	4.8	5.1	4.7	5.2	<b>5.0</b>
7	RS Bt 3067	4.7	4.4	4.2	4.9	<b>4.6</b>
8	HAU Bt 5	5.3	5.4	4.6	5.2	<b>5.1</b>
9	CICRS Bt 84	5.2	4.9	4.5	5.0	<b>4.9</b>
10	CICRS Bt 63	5.2	5.1	4.9	4.7	<b>5.0</b>
11	CICRS 88 Bt II	5.1	4.9	4.5	5.0	<b>4.9</b>
12	RS Bt 3075	5.0	4.6	4.2	4.4	<b>4.6</b>
13	FBt 5018	5.1	4.7	4.6	5.1	<b>4.9</b>
14	CICRS 55 Bt II	4.5	4.6	4.7	5.1	<b>4.7</b>
15	RS Bt 3074	5.1	4.4	4.7	4.6	<b>4.7</b>
16	HAU Bt 15	5.0	4.9	4.5	4.3	<b>4.7</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	4.0	4.1	4.0	3.9	<b>4.0</b>
18	PBH Bt 133	3.8	4.5	4.1	3.7	<b>4.0</b>
19	FBt 5023	4.9	4.6	4.3	4.1	<b>4.5</b>

**Table : Tenacity under HVI Mode in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	27.8	27.1	28.5	28.9	<b>28.1</b>
2	PBH Bt 103	27.2	30.3	31.7	29.0	<b>29.6</b>
3	FBt 5035	28.6	30.6	29.4	28.7	<b>29.3</b>
4	HAU Bt 25	27.7	28.7	29.4	27.0	<b>28.2</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	28.7	24.3	28.6	27.9	<b>27.4</b>
6	CICRS Bt 58-2	27.8	30.4	28.8	27.8	<b>28.7</b>
7	RS Bt 3067	28.0	27.0	30.0	27.7	<b>28.2</b>
8	HAU Bt 5	28.7	25.9	30.2	27.4	<b>28.1</b>
9	CICRS Bt 84	28.9	27.7	28.7	26.7	<b>28.0</b>
10	CICRS Bt 63	28.5	26.8	30.5	27.6	<b>27.6</b>
11	CICRS 88 Bt II	28.9	30.5	32.2	27.6	<b>29.8</b>
12	RS Bt 3075	28.2	28.7	31.3	28.6	<b>29.2</b>
13	FBt 5018	28.1	26.5	30.0	27.8	<b>28.1</b>
14	CICRS 55 Bt II	27.2	30.8	29.7	26.8	<b>28.6</b>
15	RS Bt 3074	27.6	28.7	29.1	25.3	<b>27.7</b>
16	HAU Bt 15	28.2	28.2	29.4	27.0	<b>28.2</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	28.1	29.9	29.9	28.6	<b>29.1</b>
18	PBH Bt 133	28.7	29.9	30.0	28.5	<b>29.3</b>
19	FBt 5023	28.4	28.3	29.9	26.4	<b>28.3</b>



**Table : Seed Cotton Yield at 140 DAS (q/ha) in Initial Variety trial**

S. No.	Entries	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	10.79	13.20	5.31	<b>9.77</b>
2	PBH Bt 103	11.63	21.36	7.86	<b>13.62</b>
3	FBt 5035	15.30	17.24	7.22	<b>13.25</b>
4	HAU Bt 25	8.14	14.02	5.68	<b>9.28</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	12.51	21.32	4.88	<b>12.90</b>
6	CICRS Bt 58-2	13.06	16.39	6.42	<b>11.96</b>
7	RS Bt 3067	7.82	18.29	4.45	<b>10.19</b>
8	HAU Bt 5	10.96	17.97	4.88	<b>11.27</b>
9	CICRS Bt 84	14.44	20.21	8.15	<b>14.27</b>
10	CICRS Bt 63	9.50	13.34	4.94	<b>9.26</b>
11	CICRS 88 Bt II	13.13	20.12	7.22	<b>13.49</b>
12	RS Bt 3075	8.02	13.19	6.85	<b>9.35</b>
13	FBt 5018	14.47	8.31	7.35	<b>10.04</b>
14	CICRS 55 Bt II	9.22	15.42	5.00	<b>9.88</b>
15	RS Bt 3074	11.37	12.81	4.38	<b>9.52</b>
16	HAU Bt 15	11.64	17.81	4.44	<b>11.30</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	10.31	12.02	8.52	<b>10.28</b>
18	PBH Bt 133	5.33	9.50	6.55	<b>7.13</b>
19	FBt 5023	8.28	11.43	6.67	<b>8.79</b>
CD@5%			1.62	1.20	
CV %			6.35	11.72	

**Table : Seed Cotton Yield at 165 DAS (q/ha) in Initial Variety trial**

S. No.	Entries	Faridkot	Bathinda	Sirsa	Mean
1	PBH Bt 109	11.52	4.08	14.00	<b>9.87</b>
2	PBH Bt 103	6.06	6.63	8.91	<b>7.20</b>
3	FBt 5035	10.91	5.61	11.84	<b>9.45</b>
4	HAU Bt 25	10.00	4.97	10.91	<b>8.63</b>
5	<b>PAU Bt2 (Bt ZC-1)</b>	10.30	6.85	9.38	<b>8.84</b>
6	CICRS Bt 58-2	10.00	4.92	16.34	<b>10.42</b>
7	RS Bt 3067	6.67	6.45	9.67	<b>7.60</b>
8	HAU Bt 5	8.79	5.48	12.16	<b>8.81</b>
9	CICRS Bt 84	8.79	5.11	16.38	<b>10.09</b>
10	CICRS Bt 63	6.67	3.97	9.06	<b>6.57</b>
11	CICRS 88 Bt II	14.55	6.48	15.82	<b>12.28</b>
12	RS Bt 3075	3.94	4.71	8.34	<b>5.66</b>
13	FBt 5018	7.27	2.55	15.02	<b>8.28</b>
14	CICRS 55 Bt II	9.39	5.25	12.14	<b>8.93</b>
15	RS Bt 3074	5.45	4.24	8.40	<b>6.03</b>
16	HAU Bt 15	6.67	5.46	11.73	<b>7.95</b>
17	<b>PAU Bt3 (Bt ZC-2)</b>	10.91	4.02	12.78	<b>9.24</b>
18	PBH Bt 133	11.82	2.63	11.71	<b>8.72</b>
19	FBt 5023	8.48	3.41	7.98	<b>6.62</b>
CD@5%			0.68	2.25	
CV %			8.46	11.54	



**Table: Total Seed Cotton Yield (q/ha) in Initial Variety trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean	Rank	% Inc over best check
1	PBH Bt 109	15.63	22.31	17.30	19.30	<b>18.64</b>	11	-12.7
2	PBH Bt 103	24.18	17.69	27.99	16.77	<b>21.66</b>	3	1.4
3	FBt 5035	17.67	26.21	22.76	19.06	<b>21.43</b>	4	0.4
4	HAU Bt 25	15.72	18.14	18.99	16.59	<b>17.36</b>	14	-18.7
5	<b>PAU Bt2 (Bt ZC-1)</b>	20.15	22.82	28.17	14.26	<b>21.35</b>	5	0.0
6	CICRS Bt 58-2	17.06	23.06	21.31	22.76	<b>21.05</b>	6	-1.4
7	RS Bt 3067	23.17	14.48	24.54	14.12	<b>19.08</b>	8	-10.6
8	HAU Bt 5	19.89	19.75	23.46	17.04	<b>20.04</b>	7	-6.2
9	CICRS Bt 84	22.51	23.23	25.31	24.53	<b>23.90</b>	2	11.9
10	CICRS Bt 63	19.70	16.17	17.31	14.00	<b>16.80</b>	16	-21.3
11	CICRS 88 Bt II	20.40	27.68	26.60	23.05	<b>24.43</b>	1	14.4
12	RS Bt 3075	22.62	11.96	17.91	15.19	<b>16.92</b>	15	-20.7
13	FBt 5018	17.57	21.74	10.84	22.37	<b>18.13</b>	13	-15.1
14	CICRS 55 Bt II	18.37	18.62	20.67	17.14	<b>18.70</b>	10	-12.4
15	RS Bt 3074	19.87	16.82	17.05	12.78	<b>16.63</b>	17	-22.1
16	HAU Bt 15	16.36	18.31	23.26	16.17	<b>18.53</b>	12	-13.2
17	<b>PAU Bt3 (Bt ZC-2)</b>	16.64	21.22	16.04	21.30	<b>18.80</b>	9	-11.9
18	PBH Bt 133	16.19	17.15	12.15	18.26	<b>15.94</b>	19	-25.4
19	FBt 5023	19.36	16.76	14.83	14.65	<b>16.40</b>	18	-23.2
CD@5%		2.70	3.70	2.12	2.70			
CV %		8.50	11.30	6.30	9.10			



## Evaluation under Protected Conditions for Insect pests & Diseases incidences

### Reaction to Insect Pests

**Table: Initial Variety trial in North Zone under Protected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	2.42	0.50	2.89	4.38	1.51	<b>2.34</b>	BETL
PBH Bt 103	1.08	0.53	3.27	4.51	0.97	<b>2.07</b>	BETL
FBt 5035	1.00	0.43	3.11	4.22	1.89	<b>2.13</b>	BETL
HAU Bt 25	0.58	0.57	2.69	5.00	1.90	<b>2.15</b>	BETL
PAU Bt2 (Bt ZC-1)	0.92	0.50	3.18	4.36	2.03	<b>2.20</b>	BETL
CICRS Bt 58-2	1.33	0.45	3.02	5.24	1.70	<b>2.35</b>	BETL
RS Bt 3067	1.08	0.50	2.71	4.69	1.54	<b>2.11</b>	BETL
HAU Bt 5	1.08	0.43	2.84	5.33	1.10	<b>2.16</b>	BETL
CICRS Bt 84	1.25	0.40	3.00	4.38	1.90	<b>2.19</b>	BETL
CICRS Bt 63	1.83	0.47	3.07	5.76	1.16	<b>2.46</b>	BETL
CICRS 88 Bt II	1.83	0.93	3.31	4.93	1.72	<b>2.55</b>	BETL
RS Bt 3075	1.92	0.80	2.91	4.49	1.60	<b>2.34</b>	BETL
FBt 5018	1.08	0.88	2.87	4.96	1.74	<b>2.31</b>	BETL
CICRS 55 Bt II	1.58	0.50	2.87	4.93	1.46	<b>2.27</b>	BETL
RS Bt 3074	1.42	0.80	2.49	4.73	1.67	<b>2.22</b>	BETL
HAU Bt 15	1.08	0.70	1.82	4.31	1.82	<b>1.95</b>	BETL
PAU Bt3 (Bt ZC-2)	1.50	0.97	2.07	5.11	1.40	<b>2.21</b>	BETL
PBH Bt 133	1.25	0.83	1.93	4.64	1.46	<b>2.02</b>	BETL
FBt 5023	1.42	0.70	2.07	4.80	1.74	<b>2.15</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Protected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	IV	I	II	II	I	II	
PBH Bt 103	III	I	II	II	I	II	
FBt 5035	IV	I	II	II	I	II	
HAU Bt 25	III	I	II	II	I	II	
PAU Bt2 (Bt ZC-1)	IV	I	II	II	I	II	
CICRS Bt 58-2	III	I	II	II	I	II	
RS Bt 3067	IV	I	II	II	I	II	
HAU Bt 5	III	I	II	II	I	II	
CICRS Bt 84	III	I	II	II	I	II	
CICRS Bt 63	IV	I	III	II	I	II	
CICRS 88 Bt II	III	I	II	II	I	II	
RS Bt 3075	III	I	III	II	I	II	
FBt 5018	IV	I	II	II	I	II	
CICRS 55 Bt II	III	I	III	II	I	II	
RS Bt 3074	IV	I	II	II	I	II	
HAU Bt 15	III	I	II	II	I	II	
PAU Bt3 (Bt ZC-2)	III	I	II	II	I	II	
PBH Bt 133	III	I	II	II	I	II	
FBt 5023	IV	I	II	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Protected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	8.50	17.88	8.51	17.84	5.38	<b>11.62</b>	<b>BETL</b>
PBH Bt 103	8.42	21.28	9.93	20.24	5.49	<b>13.07</b>	<b>BETL</b>
FBt 5035	11.17	20.48	9.51	20.76	5.76	<b>13.54</b>	<b>BETL</b>
HAU Bt 25	8.75	19.30	9.31	19.93	5.15	<b>12.49</b>	<b>BETL</b>
PAU Bt2 (Bt ZC-1)	5.33	22.43	5.49	19.44	5.62	<b>11.66</b>	<b>BETL</b>
CICRS Bt 58-2	10.33	32.75	8.64	21.20	5.60	<b>15.71</b>	<b>BETL</b>
RS Bt 3067	9.75	32.82	7.96	19.33	5.98	<b>15.17</b>	<b>BETL</b>
HAU Bt 5	8.58	33.00	9.02	18.56	5.98	<b>15.03</b>	<b>BETL</b>
CICRS Bt 84	14.25	33.75	10.20	18.80	5.22	<b>16.44</b>	<b>BETL</b>
CICRS Bt 63	9.83	31.63	9.71	18.49	5.47	<b>15.03</b>	<b>BETL</b>
CICRS 88 Bt II	11.67	30.60	9.71	19.51	5.29	<b>15.36</b>	<b>BETL</b>
RS Bt 3075	7.00	30.20	10.22	19.27	4.42	<b>14.22</b>	<b>BETL</b>
FBt 5018	8.58	32.10	8.09	20.82	5.20	<b>14.96</b>	<b>BETL</b>
CICRS 55 Bt II	9.83	35.55	8.80	19.64	5.55	<b>15.88</b>	<b>BETL</b>
RS Bt 3074	9.50	32.10	9.00	19.89	5.47	<b>15.19</b>	<b>BETL</b>
HAU Bt 15	8.33	31.05	8.71	21.02	4.73	<b>14.77</b>	<b>BETL</b>
PAU Bt3 (Bt ZC-2)	11.42	32.48	9.67	18.80	5.38	<b>15.55</b>	<b>BETL</b>
PBH Bt 133	11.42	31.25	10.76	21.73	5.07	<b>16.04</b>	<b>BETL</b>
FBt 5023	11.33	23.92	9.69	20.87	5.13	<b>14.19</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Protected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	7.00	4.70	3.40	13.82	10.44	<b>7.87</b>	BETL
PBH Bt 103	7.92	4.87	3.56	14.10	10.20	<b>8.13</b>	BETL
FBt 5035	6.17	5.13	3.02	13.76	12.45	<b>8.11</b>	BETL
HAU Bt 25	6.00	5.27	3.52	14.11	10.53	<b>7.89</b>	BETL
PAU Bt2 (Bt ZC-1)	5.33	4.68	3.62	15.31	9.58	<b>7.71</b>	BETL
CICRS Bt 58-2	5.08	5.20	3.58	15.58	10.09	<b>7.91</b>	BETL
RS Bt 3067	4.58	4.98	3.11	14.38	11.58	<b>7.73</b>	BETL
HAU Bt 5	6.17	5.23	3.42	15.00	10.93	<b>8.15</b>	BETL
CICRS Bt 84	5.83	6.00	2.96	14.96	10.67	<b>8.08</b>	BETL
CICRS Bt 63	5.33	5.75	2.98	14.87	11.60	<b>8.11</b>	BETL
CICRS 88 Bt II	5.58	5.68	3.76	15.02	11.40	<b>8.29</b>	BETL
RS Bt 3075	5.42	5.97	2.56	14.02	11.09	<b>7.81</b>	BETL
FBt 5018	7.08	5.25	2.53	13.13	11.29	<b>7.86</b>	BETL
CICRS 55 Bt II	5.67	5.35	3.04	14.49	12.71	<b>8.25</b>	BETL
RS Bt 3074	6.58	6.20	3.13	12.58	12.82	<b>8.26</b>	BETL
HAU Bt 15	5.33	5.90	2.62	14.38	12.29	<b>8.11</b>	BETL
PAU Bt3 (Bt ZC-2)	6.42	6.42	2.73	15.34	11.84	<b>8.55</b>	BETL
PBH Bt 133	6.67	5.93	3.44	14.89	10.49	<b>8.28</b>	BETL
FBt 5023	6.08	5.95	2.69	15.57	10.60	<b>8.18</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Protected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	-	1.34	0.24	0.44	0.60	<b>0.66</b>	
PBH Bt 103	-	1.35	0.24	0.38	0.40	<b>0.59</b>	
FBt 5035	-	0.98	0.24	0.33	0.42	<b>0.49</b>	
HAU Bt 25	-	1.28	0.27	0.60	0.72	<b>0.72</b>	
PAU Bt2 (Bt ZC-1)	-	1.19	0.22	0.51	0.71	<b>0.66</b>	
CICRS Bt 58-2	-	1.38	0.18	0.51	0.52	<b>0.65</b>	
RS Bt 3067	-	1.30	0.27	0.40	0.56	<b>0.63</b>	
HAU Bt 5	-	1.33	0.27	0.44	0.40	<b>0.61</b>	
CICRS Bt 84	-	1.34	0.20	0.53	0.43	<b>0.62</b>	
CICRS Bt 63	-	1.39	0.22	0.71	0.72	<b>0.76</b>	
CICRS 88 Bt II	-	1.34	0.31	0.64	0.71	<b>0.75</b>	
RS Bt 3075	-	1.25	0.29	0.58	0.52	<b>0.66</b>	
FBt 5018	-	1.36	0.24	0.64	0.46	<b>0.68</b>	
CICRS 55 Bt II	-	1.30	0.22	0.47	0.42	<b>0.60</b>	
RS Bt 3074	-	1.30	0.22	0.91	0.38	<b>0.70</b>	
HAU Bt 15	-	1.31	0.29	0.53	0.90	<b>0.76</b>	
PAU Bt3 (Bt ZC-2)	-	1.34	0.27	0.60	0.56	<b>0.69</b>	
PBH Bt 133	-	1.19	0.29	0.56	0.59	<b>0.66</b>	
FBt 5023	-	1.33	0.24	0.69	0.48	<b>0.68</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Protected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 103	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5035	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 25	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 58-2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3067	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 5	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 84	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 63	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 88 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3075	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5018	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 55 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3074	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 15	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt3 (Bt ZC-2)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 133	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5023	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Protected Conditions – Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 103	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5035	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 25	0.50	0.00	0.00	0.00	0.00	0.10	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 58-2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3067	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 5	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 84	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 63	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 88 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3075	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5018	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 55 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3074	0.50	0.00	0.00	0.00	0.00	0.10	BETL
HAU Bt 15	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt3 (Bt ZC-2)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 133	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5023	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Protected Conditions – *Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.00	0.00	0.00	0.06	<b>0.01</b>	BETL
PBH Bt 103	0.00	0.00	0.00	0.00	0.12	<b>0.02</b>	BETL
FBt 5035	0.00	0.00	0.00	0.00	0.18	<b>0.04</b>	BETL
HAU Bt 25	0.00	0.00	0.00	0.00	0.39	<b>0.08</b>	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.00	0.00	0.00	0.27	<b>0.05</b>	BETL
CICRS Bt 58-2	0.00	0.00	0.00	0.00	0.02	<b>0.00</b>	BETL
RS Bt 3067	0.00	0.00	0.00	0.00	0.27	<b>0.05</b>	BETL
HAU Bt 5	0.00	0.00	0.00	0.00	0.02	<b>0.00</b>	BETL
CICRS Bt 84	0.00	0.00	0.00	0.00	0.08	<b>0.02</b>	BETL
CICRS Bt 63	0.00	0.00	0.00	0.00	0.39	<b>0.08</b>	BETL
CICRS 88 Bt II	0.00	0.00	0.00	0.00	0.27	<b>0.05</b>	BETL
RS Bt 3075	0.00	0.00	0.00	0.00	0.02	<b>0.00</b>	BETL
FBt 5018	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
CICRS 55 Bt II	0.00	0.00	0.00	0.00	0.02	<b>0.00</b>	BETL
RS Bt 3074	0.00	0.00	0.00	0.00	0.02	<b>0.00</b>	BETL
HAU Bt 15	0.00	0.00	0.00	0.00	0.39	<b>0.08</b>	BETL
PAU Bt3 (Bt ZC-2)	0.00	0.00	0.00	0.00	0.27	<b>0.05</b>	BETL
PBH Bt 133	0.00	0.00	0.00	0.00	0.02	<b>0.00</b>	BETL
FBt 5023	0.00	0.00	0.00	0.00	0.27	<b>0.05</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Protected Conditions- Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.50	0.44	0.25	0.83	<b>0.41</b>	BETL
PBH Bt 103	0.00	0.33	0.56	0.33	1.25	<b>0.49</b>	BETL
FBt 5035	0.00	0.50	0.67	0.42	1.08	<b>0.53</b>	BETL
HAU Bt 25	0.00	0.33	0.89	0.25	0.53	<b>0.40</b>	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.50	0.56	0.33	0.75	<b>0.43</b>	BETL
CICRS Bt 58-2	0.25	0.50	1.33	0.33	0.75	<b>0.63</b>	BETL
RS Bt 3067	0.25	0.33	1.22	0.25	1.22	<b>0.66</b>	BETL
HAU Bt 5	0.00	0.17	1.11	0.17	0.50	<b>0.39</b>	BETL
CICRS Bt 84	0.00	0.33	1.44	0.25	1.50	<b>0.71</b>	BETL
CICRS Bt 63	0.00	0.67	1.22	0.50	1.00	<b>0.68</b>	BETL
CICRS 88 Bt II	0.00	0.17	1.00	0.25	1.00	<b>0.48</b>	BETL
RS Bt 3075	0.00	0.17	1.22	0.33	1.17	<b>0.58</b>	BETL
FBt 5018	0.00	0.33	0.67	0.33	1.08	<b>0.48</b>	BETL
CICRS 55 Bt II	0.00	0.50	0.44	0.42	1.22	<b>0.52</b>	BETL
RS Bt 3074	0.00	0.33	1.22	0.50	0.42	<b>0.49</b>	BETL
HAU Bt 15	0.00	0.33	0.89	0.33	1.17	<b>0.54</b>	BETL
PAU Bt3 (Bt ZC-2)	0.13	0.33	0.78	0.33	0.08	<b>0.33</b>	BETL
PBH Bt 133	0.00	0.50	0.78	0.42	0.58	<b>0.46</b>	BETL
FBt 5023	0.25	0.50	0.89	0.33	0.42	<b>0.48</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Protected Conditions – Green Boll Damag due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 103	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5035	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 25	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 58-2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3067	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 5	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 84	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 63	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 88 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3075	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5018	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 55 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3074	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 15	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt3 (Bt ZC-2)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 133	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5023	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Protected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	6.67	10.00	7.50	1.67	5.17	BETL
PBH Bt 103	0.00	6.67	16.67	6.67	2.50	6.50	BETL
FBt 5035	2.50	5.00	11.11	8.33	4.58	6.30	BETL
HAU Bt 25	2.50	6.67	7.78	8.33	10.42	7.14	BETL
PAU Bt2 (Bt ZC-1)	0.00	6.67	15.56	7.50	0.00	5.94	BETL
CICRS Bt 58-2	3.75	3.33	20.00	9.17	4.17	8.08	BETL
RS Bt 3067	6.25	10.00	16.67	8.33	0.83	8.42	BETL
HAU Bt 5	1.25	5.00	11.11	7.50	12.64	7.50	BETL
CICRS Bt 84	0.00	6.67	16.67	8.33	10.69	8.47	BETL
CICRS Bt 63	0.00	3.33	17.78	9.17	12.08	8.47	BETL
CICRS 88 Bt II	0.00	11.67	10.00	8.33	14.58	8.92	BETL
RS Bt 3075	1.25	6.67	16.67	7.50	0.00	6.42	BETL
FBt 5018	0.00	8.33	10.00	8.33	12.08	7.75	BETL
CICRS 55 Bt II	1.25	8.33	10.00	10.00	4.17	6.75	BETL
RS Bt 3074	1.25	5.00	13.33	11.67	4.17	7.08	BETL
HAU Bt 15	1.25	8.33	15.56	9.17	0.00	6.86	BETL
PAU Bt3 (Bt ZC-2)	5.00	8.33	14.44	8.33	4.17	8.05	BETL
PBH Bt 133	0.00	6.67	15.56	7.50	0.83	6.11	BETL
FBt 5023	2.50	8.33	11.11	9.17	1.67	6.56	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Protected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	7.31	5.00	11.67	17.24	9.67	<b>10.18</b>	
PBH Bt 103	3.27	2.50	7.33	18.22	5.33	<b>7.33</b>	
FBt 5035	4.11	2.50	9.08	17.74	12.00	<b>9.09</b>	
HAU Bt 25	3.70	2.50	9.50	17.82	11.67	<b>9.04</b>	
PAU Bt2 (Bt ZC-1)	2.90	2.50	8.39	16.77	5.58	<b>7.23</b>	
CICRS Bt 58-2	7.59	2.50	14.12	19.07	16.67	<b>11.99</b>	
RS Bt 3067	8.27	5.00	10.27	18.01	5.00	<b>9.31</b>	
HAU Bt 5	3.96	2.50	8.99	19.96	6.67	<b>8.41</b>	
CICRS Bt 84	4.67	2.50	11.27	18.36	11.50	<b>9.66</b>	
CICRS Bt 63	7.30	2.50	11.07	20.29	15.33	<b>11.30</b>	
CICRS 88 Bt II	7.75	5.00	15.06	18.45	3.60	<b>9.97</b>	
RS Bt 3075	2.65	2.50	9.00	18.45	5.00	<b>7.52</b>	
FBt 5018	9.54	2.50	9.48	17.66	10.00	<b>9.84</b>	
CICRS 55 Bt II	6.54	2.50	12.82	17.88	10.00	<b>9.95</b>	
RS Bt 3074	4.83	0.00	9.27	19.11	5.00	<b>7.64</b>	
HAU Bt 15	3.17	2.50	10.87	18.69	8.33	<b>8.71</b>	
PAU Bt3 (Bt ZC-2)	15.26	5.00	12.32	16.88	11.33	<b>12.16</b>	
PBH Bt 133	12.67	2.50	11.08	17.53	9.67	<b>10.69</b>	
FBt 5023	6.01	5.00	8.13	18.60	13.33	<b>10.21</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Protected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	3.94	2.20	4.04	8.70	8.89	<b>5.55</b>	
PBH Bt 103	1.62	1.22	4.10	8.43	4.83	<b>4.04</b>	
FBt 5035	2.24	0.98	3.88	8.93	6.77	<b>4.56</b>	
HAU Bt 25	1.95	1.18	5.02	8.35	5.17	<b>4.33</b>	
PAU Bt2 (Bt ZC-1)	1.90	1.34	4.06	8.12	4.69	<b>4.02</b>	
CICRS Bt 58-2	4.44	1.17	5.13	8.89	8.47	<b>5.62</b>	
RS Bt 3067	5.13	2.87	3.70	8.43	3.81	<b>4.79</b>	
HAU Bt 5	1.93	1.06	3.63	9.87	4.83	<b>4.26</b>	
CICRS Bt 84	2.35	1.27	4.99	9.81	9.86	<b>5.66</b>	
CICRS Bt 63	3.69	1.19	3.98	8.05	12.46	<b>5.87</b>	
CICRS 88 Bt II	3.71	1.59	5.36	8.41	2.09	<b>4.23</b>	
RS Bt 3075	1.05	0.67	2.97	8.10	4.87	<b>3.53</b>	
FBt 5018	4.39	1.40	3.71	8.57	9.38	<b>5.49</b>	
CICRS 55 Bt II	2.76	0.90	5.03	7.62	5.19	<b>4.30</b>	
RS Bt 3074	2.18	0.00	4.00	6.90	4.70	<b>3.56</b>	
HAU Bt 15	1.59	1.16	3.35	8.24	6.96	<b>4.26</b>	
PAU Bt3 (Bt ZC-2)	7.36	2.87	5.10	7.61	10.53	<b>6.69</b>	
PBH Bt 133	5.35	1.18	3.80	9.47	8.09	<b>5.58</b>	
FBt 5023	3.17	2.05	3.41	6.03	9.02	<b>4.74</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Protected Conditions – Number of sprays for Insect-pest**

Name of Entry	Number of sprays for Insect-pest						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PBH Bt 103	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 5035	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
HAU Bt 25	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PAU Bt2 (Bt ZC-1)	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
CICRS Bt 58-2	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
RS Bt 3067	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
HAU Bt 5	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
CICRS Bt 84	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
CICRS Bt 63	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
CICRS 88 Bt II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
RS Bt 3075	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 5018	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
CICRS 55 Bt II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
RS Bt 3074	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
HAU Bt 15	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PAU Bt3 (Bt ZC-2)	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PBH Bt 133	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 5023	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	

**FA- Faridkot, BT- Bathinda, HI- Hisar, SI- Sirsa & SG- Sriganganagar**



## Reaction to Diseases

### H. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



Table: Initial Evaluation Trial of Bt Cotton Varieties - under protected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		SriGanganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
589	50081	PBH Bt 109	5.8	HR	0.8	HR	3.3	HR	20.8	MR	8.4	HR	14.6	R	5.8	HR	8.0	HR
585	50082	PBH Bt 103	9.2	HR	12.3	R	10.8	R	25.8	MR	42.3	S	34.1	MS	20.6	MR	22.0	MR
595	50083	FBt 5035	2.5	HR	1.0	HR	1.8	HR	22.5	MR	4.5	HR	13.5	R	5.7	HR	7.0	HR
592	50084	HAU Bt 25	7.5	HR	22.3	MR	14.9	R	26.7	MR	46.4	S	36.6	MA	42.1	S	31.0	MS
581	50085	<b>PAU Bt2 (Bt ZC-1)</b>	8.3	HR	26.6	MR	17.5	R	25.0	MR	57.6	HS	41.3	S	45.7	S	35.0	MS
597	50086	CICRS Bt 58-2	15.8	R	9.5	HR	12.7	R	26.7	MR	18.5	R	22.6	MR	10.7	R	15.0	R
587	50087	RS Bt 3067	13.3	R	19.1	R	16.2	R	25.8	MR	46.1	S	36.0	MS	41.2	S	31.0	MS
583	50088	HAU Bt 5	19.2	R	21.0	MR	20.1	MR	27.5	MR	48.2	S	37.9	MS	19.4	R	26.0	MR
594	50089	CICRS Bt 84	9.2	HR	1.7	HR	5.5	HR	24.2	MR	10.6	R	17.4	R	3.1	HR	9.0	HR
590	50090	CICRS Bt 63	11.7	R	18.7	R	15.2	R	22.5	MR	40.5	S	31.5	MS	45.5	S	31.0	MS
586	50091	CICRS 88 Bt II	3.3	HR	2.9	HR	3.1	HR	16.7	R	13.1	R	14.9	R	15.6	R	11.0	R
582	50092	RS Bt 3075	10.8	R	21.1	MR	16.0	R	21.7	MR	38.2	MS	30.0	MR	29.2	MR	25.0	MR
584	50093	FBt 5018	18.3	R	15.9	R	17.1	R	22.5	MR	31.9	MS	27.2	MR	25.3	MR	23.0	MR
599	50094	CICRS 55 Bt II	13.3	R	18.5	R	15.9	R	28.3	MR	48.1	S	38.2	MS	27.4	MR	27.0	MR
591	50095	RS Bt 3074	10.8	R	14.4	R	12.6	R	25.0	MR	42.2	S	33.6	MS	45.1	S	30.0	MR
588	50096	HAU Bt 15	15.8	R	12.5	R	14.2	R	23.3	MR	49.6	S	36.5	MS	33.6	MS	28.0	MR
598	50097	<b>PAU Bt3 (Bt ZC-2)</b>	14.2	R	0.0	DF	7.1	HR	19.2	R	4.6	HR	11.9	R	12.6	R	11.0	R
593	50098	PBH Bt 133	15.0	R	3.1	HR	9.1	HR	18.3	R	5.9	HR	12.1	R	3.7	HR	8.0	HR
596	50099	FBt 5023	7.5	HR	1.7	HR	4.6	HR	19.2	R	9.6	HR	14.4	R	7.4	HR	9.0	HR



**Table: Initial Evaluation Trial of Bt Cotton Varieties - under protected conditions and under unprotected conditions**

Code-I	Code-II	Entries	Average FFLS, BLB PDI & Disease Reaction (DR) under protected conditions			Average FFLS, BLB PDI & Disease Reaction (DR) under unprotected conditions		
			Bathinda					
			FFLS	BLB	FFLS &BLB	FFLS	BLB	FFLS &BLB
			PDI	PDI	DR	PDI	PDI	DR
589	50081	PBH Bt 109	7.3	1.8	R	9.0	2.3	R
585	50082	PBH Bt 103	8.0	2.3	R	9.8	2.8	R
595	50083	FBt 5035	7.8	2.3	R	10.0	2.8	R
592	50084	HAU Bt 25	7.5	2.3	R	10.3	2.8	R
581	50085	<b>PAU Bt2(Bt ZC-1)</b>	6.8	2.0	R	9.3	2.8	R
597	50086	CICRS Bt 58-2	6.8	2.0	R	8.8	2.5	R
587	50087	RS Bt 3067	8.3	2.0	R	10.0	2.5	R
583	50088	HAU Bt 5	8.0	2.8	R	9.8	3.3	R
594	50089	CICRS Bt 84	7.5	1.8	R	9.5	2.3	R
590	50090	CICRS Bt 63	7.0	1.8	R	9.3	2.3	R
586	50091	CICRS 88 Bt II	7.5	3.3	R	9.8	3.5	R
582	50092	RS Bt 3075	7.3	3.0	R	9.3	3.5	R
584	50093	FBt 5018	6.3	1.8	R	7.8	2.3	R
599	50094	CICRS 55 Bt II	7.3	2.3	R	8.8	2.8	R
591	50095	RS Bt 3074	8.0	1.0	R	9.5	1.5	R
588	50096	HAU Bt 15	8.3	2.0	R	9.8	2.5	R
598	50097	<b>PAU Bt3(Bt ZC-2)</b>	7.3	2.5	R	9.5	3.3	R
593	50098	PBH Bt 133	7.3	2.5	R	9.0	3.3	R
596	50099	FBt 5023	7.5	2.3	R	8.8	3.3	R



## Evaluation under Unprotected Condition for Insect pests & Disease Incidence Reaction to Insect Pest

**Table: Initial Variety trial in North Zone under Unprotected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	2.92	2.53	3.98	8.90	1.79	<b>4.02</b>	<b>BETL</b>
PBH Bt 103	3.92	2.03	3.93	8.70	1.24	<b>3.97</b>	<b>BETL</b>
FBt 5035	4.75	2.00	3.20	8.80	2.17	<b>4.18</b>	<b>BETL</b>
HAU Bt 25	2.50	1.87	4.01	10.30	2.18	<b>4.17</b>	<b>BETL</b>
PAU Bt2 (Bt ZC-1)	3.58	2.50	3.82	8.80	2.31	<b>4.20</b>	<b>BETL</b>
CICRS Bt 58-2	4.00	2.17	3.13	9.70	1.98	<b>4.20</b>	<b>BETL</b>
RS Bt 3067	3.08	1.70	3.60	8.85	1.82	<b>3.81</b>	<b>BETL</b>
HAU Bt 5	3.33	2.10	3.71	10.95	1.41	<b>4.30</b>	<b>BETL</b>
CICRS Bt 84	3.50	1.80	3.07	8.10	2.18	<b>3.73</b>	<b>BETL</b>
CICRS Bt 63	3.75	1.93	3.20	9.40	1.43	<b>3.94</b>	<b>BETL</b>
CICRS 88 Bt II	4.33	1.97	4.02	10.30	2.00	<b>4.52</b>	<b>BETL</b>
RS Bt 3075	4.50	1.47	2.96	10.20	1.88	<b>4.20</b>	<b>BETL</b>
FBt 5018	4.25	1.40	3.42	8.70	2.02	<b>3.96</b>	<b>BETL</b>
CICRS 55 Bt II	3.17	1.27	2.47	11.50	1.73	<b>4.03</b>	<b>BETL</b>
RS Bt 3074	4.50	2.47	2.93	11.35	1.94	<b>4.64</b>	<b>BETL</b>
HAU Bt 15	4.75	1.70	3.80	11.60	2.10	<b>4.79</b>	<b>BETL</b>
PAU Bt3 (Bt ZC-2)	5.75	1.83	3.33	9.85	1.71	<b>4.50</b>	<b>BETL</b>
PBH Bt 133	4.83	2.17	4.60	11.25	1.73	<b>4.92</b>	<b>BETL</b>
FBt 5023	2.67	2.17	3.04	10.40	2.02	<b>4.06</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Unprotected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	III	II	III	II	I	II	
PBH Bt 103	IV	II	III	II	I	II	
FbT 5035	III	II	II	II	I	II	
HAU Bt 25	III	I	III	II	I	II	
PAU Bt2 (Bt ZC-1)	IV	II	II	II	I	II	
CICRS Bt 58-2	IV	II	II	II	I	II	
RS Bt 3067	III	I	III	II	I	II	
HAU Bt 5	III	II	II	II	I	II	
CICRS Bt 84	III	I	II	II	I	II	
CICRS Bt 63	IV	I	III	II	I	II	
CICRS 88 Bt II	IV	I	II	II	I	II	
RS Bt 3075	III	I	III	II	I	II	
FbT 5018	III	I	III	II	I	II	
CICRS 55 Bt II	III	I	II	II	I	II	
RS Bt 3074	III	II	II	II	I	II	
HAU Bt 15	III	I	II	II	I	II	
PAU Bt3 (Bt ZC-2)	II	I	II	II	I	II	
PBH Bt 133	III	II	II	II	I	II	
FbT 5023	III	II	II	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Unprotected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	19.83	59.80	19.22	20.95	6.33	<b>25.23</b>	<b>BETL</b>
PBH Bt 103	16.83	53.93	19.36	22.80	6.44	<b>23.87</b>	<b>BETL</b>
FbT 5035	15.58	62.77	16.64	22.30	6.71	<b>24.80</b>	<b>BETL</b>
HAU Bt 25	15.08	56.93	20.02	24.20	6.10	<b>24.47</b>	<b>BETL</b>
PAU Bt2 (Bt ZC-1)	17.25	58.43	20.18	22.50	6.57	<b>24.99</b>	<b>BETL</b>
CICRS Bt 58-2	19.00	59.50	16.98	23.50	6.55	<b>25.11</b>	<b>BETL</b>
RS Bt 3067	10.75	56.47	19.64	22.00	6.93	<b>23.16</b>	<b>BETL</b>
HAU Bt 5	15.33	60.37	18.01	22.35	6.93	<b>24.60</b>	<b>BETL</b>
CICRS Bt 84	21.25	60.60	15.67	23.70	6.17	<b>25.48</b>	<b>BETL</b>
CICRS Bt 63	15.58	55.63	19.24	22.90	6.42	<b>23.96</b>	<b>BETL</b>
CICRS 88 Bt II	19.50	60.53	18.20	22.50	6.24	<b>25.39</b>	<b>BETL</b>
RS Bt 3075	13.92	48.23	16.42	22.55	5.37	<b>21.30</b>	<b>BETL</b>
FbT 5018	15.92	57.40	18.56	23.05	6.15	<b>24.21</b>	<b>BETL</b>
CICRS 55 Bt II	17.83	57.67	17.40	24.45	6.50	<b>24.77</b>	<b>BETL</b>
RS Bt 3074	15.25	53.00	16.47	23.60	6.42	<b>22.95</b>	<b>BETL</b>
HAU Bt 15	14.17	57.47	21.47	23.35	5.68	<b>24.43</b>	<b>BETL</b>
PAU Bt3 (Bt ZC-2)	20.00	58.17	20.36	24.20	6.33	<b>25.81</b>	<b>BETL</b>
PBH Bt 133	17.58	55.33	23.09	23.75	6.02	<b>25.15</b>	<b>BETL</b>
FbT 5023	21.58	60.23	17.13	23.80	6.08	<b>25.77</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Unprotected Conditions – Whitefly**

Name of Entry	Whitefly (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	25.25	10.63	6.40	17.80	17.19	<b>15.46</b>	BETL
PBH Bt 103	24.08	10.37	6.02	18.15	15.35	<b>14.79</b>	BETL
FBt 5035	23.83	10.47	6.16	20.20	17.60	<b>15.65</b>	BETL
HAU Bt 25	22.83	10.00	6.11	20.45	15.68	<b>15.02</b>	BETL
PAU Bt2 (Bt ZC-1)	24.00	9.80	4.91	19.15	14.73	<b>14.52</b>	BETL
CICRS Bt 58-2	25.58	9.57	5.62	20.05	15.71	<b>15.31</b>	BETL
RS Bt 3067	21.75	10.30	7.49	19.30	16.73	<b>15.11</b>	BETL
HAU Bt 5	23.50	10.80	6.69	21.35	16.08	<b>15.68</b>	BETL
CICRS Bt 84	26.67	9.93	5.93	19.50	15.82	<b>15.57</b>	BETL
CICRS Bt 63	25.50	9.93	5.71	19.70	15.16	<b>15.20</b>	BETL
CICRS 88 Bt II	25.75	10.13	5.71	21.05	16.55	<b>15.84</b>	BETL
RS Bt 3075	29.00	10.40	5.91	21.05	16.24	<b>16.52</b>	BETL
FBt 5018	26.50	10.70	5.33	18.20	16.44	<b>15.43</b>	BETL
CICRS 55 Bt II	23.42	10.97	5.09	22.45	17.86	<b>15.96</b>	BETL
RS Bt 3074	26.92	11.03	5.69	21.15	17.50	<b>16.46</b>	BETL
HAU Bt 15	20.25	10.43	6.64	22.45	17.44	<b>15.44</b>	BETL
PAU Bt3 (Bt ZC-2)	26.08	9.97	5.84	21.95	16.99	<b>16.17</b>	BETL
PBH Bt 133	26.50	10.17	6.82	20.60	15.64	<b>15.95</b>	BETL
FBt 5023	30.50	10.80	5.69	20.95	15.75	<b>16.74</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Unprotected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	1.38	1.77	0.36	2.13	0.84	<b>1.29</b>	
PBH Bt 103	1.04	1.77	0.38	2.10	0.63	<b>1.18</b>	
FBt 5035	1.74	1.53	0.38	1.67	0.66	<b>1.19</b>	
HAU Bt 25	1.51	1.70	0.29	1.73	0.96	<b>1.24</b>	
PAU Bt2 (Bt ZC-1)	1.21	1.70	0.31	1.83	0.95	<b>1.20</b>	
CICRS Bt 58-2	2.11	1.70	0.36	2.00	0.76	<b>1.38</b>	
RS Bt 3067	1.17	1.77	0.33	1.90	0.80	<b>1.19</b>	
HAU Bt 5	1.39	1.80	0.31	2.27	0.63	<b>1.28</b>	
CICRS Bt 84	1.60	1.80	0.42	1.43	0.67	<b>1.18</b>	
CICRS Bt 63	2.00	1.80	0.33	1.60	0.96	<b>1.34</b>	
CICRS 88 Bt II	2.22	1.87	0.33	1.53	0.95	<b>1.38</b>	
RS Bt 3075	1.85	1.70	0.42	1.50	0.76	<b>1.24</b>	
FBt 5018	1.93	1.73	0.36	1.80	0.69	<b>1.30</b>	
CICRS 55 Bt II	1.54	1.77	0.36	1.87	0.66	<b>1.24</b>	
RS Bt 3074	1.49	1.77	0.31	1.50	0.61	<b>1.14</b>	
HAU Bt 15	2.13	1.80	0.44	1.50	1.13	<b>1.40</b>	
PAU Bt3 (Bt ZC-2)	1.89	1.60	0.36	1.37	0.80	<b>1.20</b>	
PBH Bt 133	2.03	1.67	0.38	1.30	0.82	<b>1.24</b>	
FBt 5023	1.58	1.73	0.38	1.93	0.71	<b>1.27</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Unprotected Conditions – *Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 103	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5035	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 25	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 58-2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3067	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 5	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 84	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 63	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 88 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3075	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5018	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 55 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3074	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 15	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt3 (Bt ZC-2)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 133	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5023	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Unprotected Conditions – Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	2.50	0.00	0.00	0.00	0.50	BETL
PBH Bt 103	0.00	1.50	0.00	0.00	0.00	0.30	BETL
FBt 5035	0.00	2.50	0.00	0.00	0.00	0.50	BETL
HAU Bt 25	0.00	2.00	0.00	0.00	0.00	0.40	BETL
PAU Bt2 (Bt ZC-1)	0.00	1.50	0.00	0.00	0.00	0.30	BETL
CICRS Bt 58-2	0.00	1.00	0.00	0.00	0.00	0.20	BETL
RS Bt 3067	0.75	2.50	0.00	0.00	0.00	0.65	BETL
HAU Bt 5	0.00	2.50	0.00	0.00	0.00	0.50	BETL
CICRS Bt 84	0.00	1.00	0.00	0.00	0.00	0.20	BETL
CICRS Bt 63	0.00	2.50	0.00	0.00	0.00	0.50	BETL
CICRS 88 Bt II	0.00	1.50	0.00	0.00	0.00	0.30	BETL
RS Bt 3075	0.00	1.50	0.00	0.00	0.00	0.30	BETL
FBt 5018	0.00	1.50	0.00	0.00	0.00	0.30	BETL
CICRS 55 Bt II	0.00	2.50	0.00	0.00	0.00	0.50	BETL
RS Bt 3074	0.00	2.50	0.11	0.00	0.00	0.52	BETL
HAU Bt 15	0.25	1.00	0.00	0.00	0.00	0.25	BETL
PAU Bt3 (Bt ZC-2)	0.00	2.50	0.00	0.00	0.00	0.50	BETL
PBH Bt 133	0.00	1.50	0.00	0.00	0.00	0.30	BETL
FBt 5023	0.00	2.50	0.00	0.00	0.00	0.50	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Unprotected Conditions – *Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.00	0.00	0.00	0.11	<b>0.03</b>	BETL
PBH Bt 103	0.00	0.00	0.00	0.00	0.32	<b>0.08</b>	BETL
FBt 5035	0.00	0.00	0.00	0.00	0.23	<b>0.06</b>	BETL
HAU Bt 25	0.00	0.00	0.00	0.00	0.44	<b>0.11</b>	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.00	0.00	0.00	0.17	<b>0.04</b>	BETL
CICRS Bt 58-2	0.00	0.00	0.00	0.00	0.07	<b>0.02</b>	BETL
RS Bt 3067	0.00	0.00	0.00	0.00	0.32	<b>0.08</b>	BETL
HAU Bt 5	0.00	0.00	0.00	0.00	0.07	<b>0.02</b>	BETL
CICRS Bt 84	0.00	0.00	0.00	0.00	0.13	<b>0.03</b>	BETL
CICRS Bt 63	0.00	0.00	0.00	0.00	0.44	<b>0.11</b>	BETL
CICRS 88 Bt II	0.00	0.00	0.00	0.00	0.44	<b>0.11</b>	BETL
RS Bt 3075	0.00	0.00	0.00	0.00	0.07	<b>0.02</b>	BETL
FBt 5018	0.00	0.00	0.00	0.00	0.05	<b>0.01</b>	BETL
CICRS 55 Bt II	0.00	0.00	0.00	0.00	0.07	<b>0.02</b>	BETL
RS Bt 3074	0.00	0.00	0.00	0.00	0.07	<b>0.02</b>	BETL
HAU Bt 15	0.00	0.00	0.00	0.00	0.32	<b>0.08</b>	BETL
PAU Bt3 (Bt ZC-2)	0.00	0.00	0.00	0.00	0.32	<b>0.08</b>	BETL
PBH Bt 133	0.00	0.00	0.00	0.00	0.07	<b>0.02</b>	BETL
FBt 5023	0.00	0.00	0.00	0.00	0.32	<b>0.08</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Unprotected Conditions- Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.38	2.50	1.11	0.13	1.25	<b>1.07</b>	AETL
PBH Bt 103	0.13	1.50	1.22	0.13	1.75	<b>0.94</b>	BETL
FBt 5035	0.00	1.50	1.00	0.50	0.75	<b>0.75</b>	BETL
HAU Bt 25	0.00	2.00	1.56	0.38	2.75	<b>1.34</b>	AETL
PAU Bt2 (Bt ZC-1)	0.25	2.00	1.67	0.63	1.75	<b>1.26</b>	AETL
CICRS Bt 58-2	0.00	2.00	1.33	0.50	1.75	<b>1.12</b>	AETL
RS Bt 3067	0.00	1.00	1.33	1.25	4.50	<b>1.62</b>	AETL
HAU Bt 5	0.00	2.00	1.33	0.13	1.50	<b>0.99</b>	BETL
CICRS Bt 84	0.38	2.50	1.11	0.88	3.25	<b>1.62</b>	AETL
CICRS Bt 63	0.13	2.50	1.22	0.50	1.75	<b>1.22</b>	AETL
CICRS 88 Bt II	0.25	1.50	1.33	0.63	1.75	<b>1.09</b>	AETL
RS Bt 3075	0.50	2.00	1.78	0.38	3.25	<b>1.58</b>	AETL
FBt 5018	0.50	2.00	1.67	0.25	2.75	<b>1.43</b>	AETL
CICRS 55 Bt II	0.00	2.00	1.22	0.25	2.25	<b>1.14</b>	AETL
RS Bt 3074	0.00	2.00	1.78	0.75	1.25	<b>1.16</b>	AETL
HAU Bt 15	0.00	1.50	1.56	0.25	1.75	<b>1.01</b>	AETL
PAU Bt3 (Bt ZC-2)	0.38	2.00	1.00	1.00	3.00	<b>1.48</b>	AETL
PBH Bt 133	0.50	1.50	0.89	0.50	2.00	<b>1.08</b>	AETL
FBt 5023	1.13	2.50	1.44	0.13	1.50	<b>1.34</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa &amp; SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Unprotected Conditions – Green Boll  
Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 103	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5035	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 25	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt2 (Bt ZC-1)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 58-2	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3067	0.00	0.00	0.00	0.00	0.00	0.00	BETL
HAU Bt 5	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 84	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS Bt 63	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 88 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3075	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5018	0.00	0.00	0.00	0.00	0.00	0.00	BETL
CICRS 55 Bt II	0.00	0.00	0.00	0.00	0.00	0.00	BETL
RS Bt 3074	0.00	0.00	1.11	0.00	0.00	0.28	BETL
HAU Bt 15	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PAU Bt3 (Bt ZC-2)	0.00	0.00	0.00	0.00	0.00	0.00	BETL
PBH Bt 133	0.00	0.00	0.00	0.00	0.00	0.00	BETL
FBt 5023	0.00	0.00	0.00	0.00	0.00	0.00	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Initial Variety trial in North Zone under Unprotected Conditions – Green Boll  
Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	5.83	27.50	15.56	8.75	3.93	12.31	AETL
PBH Bt 103	4.17	15.00	26.67	10.00	5.66	12.30	AETL
FBt 5035	5.83	15.00	22.22	11.25	7.68	12.40	AETL
HAU Bt 25	7.50	25.00	18.89	10.00	12.13	14.70	AETL
PAU Bt2 (Bt ZC-1)	2.08	25.00	23.33	12.50	0.98	12.78	AETL
CICRS Bt 58-2	4.17	15.00	17.78	10.00	9.78	11.34	AETL
RS Bt 3067	7.08	15.00	27.78	17.50	2.29	13.93	AETL
HAU Bt 5	4.17	15.00	14.44	8.75	14.97	11.47	AETL
CICRS Bt 84	6.67	25.00	11.11	18.75	12.63	14.83	AETL
CICRS Bt 63	5.42	25.00	14.44	12.50	13.54	14.18	AETL
CICRS 88 Bt II	5.00	15.00	22.22	11.25	15.16	13.73	AETL
RS Bt 3075	8.75	25.00	20.00	8.75	0.98	12.70	AETL
FBt 5018	9.17	15.00	17.78	8.75	15.18	13.18	AETL
CICRS 55 Bt II	4.17	25.00	20.00	11.25	7.27	13.54	AETL
RS Bt 3074	9.58	25.00	27.78	10.00	7.16	15.90	AETL
HAU Bt 15	7.08	15.00	25.56	13.75	0.96	12.47	AETL
PAU Bt3 (Bt ZC-2)	4.17	25.00	11.11	17.50	7.29	13.01	AETL
PBH Bt 133	7.08	15.00	17.78	13.75	2.27	11.18	AETL
FBt 5023	7.50	25.00	18.89	15.00	3.98	14.07	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Initial Variety trial in North Zone under Unprotected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	9.85	17.50	12.09	21.76	46.67	<b>21.57</b>	
PBH Bt 103	7.58	12.50	11.12	23.37	38.33	<b>18.58</b>	
FBt 5035	24.29	22.50	11.76	23.52	50.00	<b>26.42</b>	
HAU Bt 25	8.09	27.50	6.70	22.68	46.67	<b>22.33</b>	
PAU Bt2 (Bt ZC-1)	8.79	25.00	11.59	14.88	5.00	<b>13.05</b>	
CICRS Bt 58-2	17.51	15.00	11.44	18.73	61.67	<b>24.87</b>	
RS Bt 3067	11.55	17.50	11.96	18.65	35.00	<b>18.93</b>	
HAU Bt 5	7.90	20.00	12.17	19.93	41.67	<b>20.33</b>	
CICRS Bt 84	10.53	15.00	15.04	21.67	50.00	<b>22.45</b>	
CICRS Bt 63	7.90	17.50	14.80	28.09	63.33	<b>26.32</b>	
CICRS 88 Bt II	9.50	22.50	13.33	26.50	35.00	<b>21.37</b>	
RS Bt 3075	6.91	27.50	13.43	28.50	40.00	<b>23.27</b>	
FBt 5018	13.49	25.00	17.26	22.77	55.00	<b>26.70</b>	
CICRS 55 Bt II	6.00	17.50	11.16	27.12	55.00	<b>23.36</b>	
RS Bt 3074	8.16	25.00	15.20	23.26	28.33	<b>19.99</b>	
HAU Bt 15	8.22	20.00	10.16	20.50	43.33	<b>20.44</b>	
PAU Bt3 (Bt ZC-2)	12.13	25.00	16.34	21.97	58.33	<b>26.76</b>	
PBH Bt 133	19.11	17.50	12.70	24.16	46.67	<b>24.03</b>	
FBt 5023	9.51	22.50	7.35	22.11	48.33	<b>21.96</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Initial Variety trial in North Zone under Unprotected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
PBH Bt 109	5.95	2.85	4.20	9.38	22.68	<b>9.01</b>	
PBH Bt 103	5.03	3.70	4.37	8.66	10.50	<b>6.45</b>	
FBt 5035	18.78	1.70	4.61	9.84	16.56	<b>10.30</b>	
HAU Bt 25	5.23	1.70	3.23	7.60	14.96	<b>6.54</b>	
PAU Bt2 (Bt ZC-1)	5.73	3.40	4.10	7.98	5.00	<b>5.24</b>	
CICRS Bt 58-2	12.09	2.45	4.09	8.53	28.26	<b>11.08</b>	
RS Bt 3067	7.68	3.70	4.96	7.93	13.60	<b>7.57</b>	
HAU Bt 5	3.43	4.85	5.02	8.16	14.62	<b>7.22</b>	
CICRS Bt 84	5.32	5.10	4.13	8.57	19.65	<b>8.56</b>	
CICRS Bt 63	3.43	2.70	4.20	11.20	25.25	<b>9.36</b>	
CICRS 88 Bt II	6.34	2.90	5.13	9.52	15.88	<b>7.96</b>	
RS Bt 3075	3.70	1.70	5.83	12.55	9.61	<b>6.68</b>	
FBt 5018	9.70	1.70	5.00	9.18	23.17	<b>9.75</b>	
CICRS 55 Bt II	4.09	2.70	3.90	13.62	14.98	<b>7.86</b>	
RS Bt 3074	4.85	3.65	5.32	7.65	12.49	<b>6.79</b>	
HAU Bt 15	3.81	3.85	3.72	7.99	13.75	<b>6.62</b>	
PAU Bt3 (Bt ZC-2)	8.87	2.90	5.62	8.70	32.32	<b>11.68</b>	
PBH Bt 133	12.83	5.05	4.59	8.94	17.88	<b>9.86</b>	
FBt 5023	4.23	3.50	4.62	9.21	22.81	<b>8.87</b>	



FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa&SG- Sriganganagar

**Table 5 (b) Initial Evaluation Trial of Bt Cotton Varieties - under unprotected conditions**

Code-I	Code-II	Entries	Average FFLS, BLB PDI & Disease Reaction (DR) under unprotected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
589	50081	PBH Bt 109	9.0	2.3	R
585	50082	PBH Bt 103	9.8	2.8	R
595	50083	FBt 5035	10.0	2.8	R
592	50084	HAU Bt 25	10.3	2.8	R
581	50085	<b>PAU Bt2(Bt ZC-1)</b>	9.3	2.8	R
597	50086	CICRS Bt 58-2	8.8	2.5	R
587	50087	RS Bt 3067	10.0	2.5	R
583	50088	HAU Bt 5	9.8	3.3	R
594	50089	CICRS Bt 84	9.5	2.3	R
590	50090	CICRS Bt 63	9.3	2.3	R
586	50091	CICRS 88 Bt II	9.8	3.5	R
582	50092	RS Bt 3075	9.3	3.5	R
584	50093	FBt 5018	7.8	2.3	R
599	50094	CICRS 55 Bt II	8.8	2.8	R
591	50095	RS Bt 3074	9.5	1.5	R
588	50096	HAU Bt 15	9.8	2.5	R
598	50097	<b>PAU Bt3(Bt ZC-2)</b>	9.5	3.3	R
593	50098	PBH Bt 133	9.0	3.3	R
596	50099	FBt 5023	8.8	3.3	R



## Reaction to Diseases

### I. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



Table: Initial Evaluation Trial of Bt Cotton Varieties - under unprotected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		Sri Ganganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
589	50081	PBH Bt 109	8.3	HR	4.2	HR	6.3	HR	21.7	MR	35.5	MS	28.6	MR	5.2	HR	13.4	R
585	50082	PBH Bt 103	13.3	R	26.2	MR	19.7	R	27.5	MR	40.3	S	33.9	MS	10.3	R	21.3	MR
595	50083	FBt 5035	4.2	HR	1.4	HR	2.8	HR	25.0	MR	8.2	HR	16.6	R	8.3	HR	9.2	HR
592	50084	HAU Bt 25	9.2	HR	34.9	MS	22.1	MR	29.2	MR	57.5	HS	43.4	S	38.3	MS	34.6	MS
581	50085	PAU Bt2(Bt ZC-1)	11.7	R	31.5	MS	21.6	MR	27.5	MR	42.5	S	35.0	MS	25.0	MR	27.2	MR
597	50086	CICRS Bt 58-2	19.2	R	7.9	HR	13.5	R	29.2	MR	19.4	R	24.3	MR	2.7	HR	13.5	R
587	50087	RS Bt 3067	17.5	R	25.5	MR	21.5	MR	30.0	MR	53.0	HS	41.5	S	37.0	MS	33.3	MS
583	50088	HAU Bt 5	24.2	MR	26.4	MR	25.3	MR	28.3	MR	51.0	HS	39.7	MS	32.2	MS	32.4	MS
594	50089	CICRS Bt 84	11.7	R	1.5	HR	6.6	HR	25.0	MR	11.5	R	18.3	R	2.0	HR	9.0	HR
590	50090	CICRS Bt 63	14.2	R	19.8	R	17.0	R	25.8	MR	54.6	HS	40.2	S	32.0	MS	29.7	MR
586	50091	CICRS 88 Bt II	5.0	HR	8.4	HR	6.7	HR	17.5	R	16.7	R	17.1	R	11.0	R	11.6	R
582	50092	RS Bt 3075	13.3	R	29.1	MR	21.2	MR	24.2	MR	49.1	S	36.7	MS	36.8	MS	31.6	MS
584	50093	FBt 5018	20.8	MR	14.8	R	17.8	R	25.0	MR	38.0	MS	31.5	MS	15.0	R	21.4	MR
599	50094	CICRS 55 Bt II	16.7	R	22.7	MR	19.7	R	30.0	MR	22.7	MR	26.4	MR	17.8	R	21.3	MR
591	50095	RS Bt 3074	14.2	R	24.0	MR	19.1	R	27.5	MR	47.6	S	37.6	MS	35.5	MS	30.7	MS
588	50096	HAU Bt 15	19.2	R	34.4	MS	26.8	MR	24.2	MR	47.3	S	35.8	MS	26.0	MR	29.5	MR
598	50097	PAU Bt3(Bt ZC-2)	18.3	R	2.8	HR	10.5	R	21.7	MR	8.3	HR	15.0	R	8.7	HR	11.4	R
593	50098	PBH Bt 133	17.5	R	0.9	HR	9.2	HR	20.0	R	27.1	MR	23.6	MR	3.0	HR	11.9	R
596	50099	FBt 5023	8.3	HR	7.9	HR	8.1	HR	22.5	MR	16.7	R	19.6	R	0.7	HR	9.5	HR



## Advanced Evaluation Trial – I of Hirsutum Varieties in North Zone

### Constitution of Trial

The trial was constituted with 12 Bt cotton varieties containing deregulated event sponsored by both Public and Private sector companies along with three different check varieties as furnished below.

S. No.	Code-I	Code-II	Entries	Sponsored by
1	605	50101	RASI 33 BG II	Rasi Seeds
2	608	50102	HAU Bt-13	Hisar
3	611	50103	FBt 112	Faridkot
4	602	50104	FBt 101	Faridkot
5	613	50105	FBt 5006 Bg II	Faridkot
6	607	50106	FBt 5014 Bg II	Faridkot
7	604	50107	FBt 104	Faridkot
8	601	50108	<b>Local Check Non-Bt</b>	
9	615	50109	FBt 5002 Bg II	Faridkot
10	610	50110	FBt 118	Faridkot
11	606	50111	PBH Bt II- 142	Bathinda
12	603	50112	HAU Bt-12	Hisar
13	614	50113	FBt 5001 Bg II	Faridkot
14	612	50114	<b>F 2228 (Non-Bt ZC)</b>	
15	609	50115	<b>PAU Bt3 (Bt ZC)</b>	

The trial was conducted in five different locations and detail is furnished below.

Name of the trial location	PAU, Faridkot	PAU, Bathinda	CCSHAU, Hisar	ICAR-CICR, Sirsa	SKRAU, Sriganganagar
Local check Non Bt Variety	LH 2108	LH 2108	H 1098-i	CSH 3129	RS 2013

As per the recommendation of the Monitoring Committee, the trial conducted at CCSHAU, Hisar was treated as “**Vitiated**” and hence the data was not included.

**Spacing:** One trial with recommended spacing of 67.5 x 30 cm for the variety has been followed uniformly.

**Number of rows:** 4 rows of 6 meters per entry with three replications



**Data recorded:****Biometric evaluation****Table: Plant height (cm) at harvest in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	267.0	152.2	160.7	169.6	<b>187.4</b>
2	HAU Bt-13	239.0	137.8	196.2	174.3	<b>186.8</b>
3	FBt 112	205.0	157.2	187.4	202.4	<b>188.0</b>
4	FBt 101	223.0	136.1	172.6	196.3	<b>182.0</b>
5	FBt 5006 Bg II	262.0	147.8	191.2	172.7	<b>193.4</b>
6	FBt 5014 Bg II	249.0	153.3	213.9	205.5	<b>205.4</b>
7	FBt 104	199.0	155.0	194.6	199.3	<b>187.0</b>
8	<b>Local Check Non-Bt</b>	174.0	138.3	184.2	197.5	<b>173.5</b>
9	FBt 5002 Bg II	248.0	149.4	187.0	195.6	<b>195.0</b>
10	FBt 118	233.0	157.2	188.3	200.2	<b>194.7</b>
11	PBH Bt II- 142	209.0	132.8	186.7	180.3	<b>177.2</b>
12	HAU Bt-12	215.0	131.1	147.0	162.0	<b>163.8</b>
13	FBt 5001 Bg II	256.0	140.0	173.4	197.6	<b>191.8</b>
14	<b>F 2228 (Non-Bt ZC)</b>	260.0	148.9	188.8	201.5	<b>199.8</b>
15	<b>PAU Bt3 (Bt ZC)</b>	229.0	137.8	188.3	195.0	<b>187.5</b>
CD@5%			12.0	26.9	13.9	
CV %			4.9	8.8	4.4	

**Table: Number of monopodia in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	1.0	0.4	1.9	1.1	<b>1.1</b>
2	HAU Bt-13	4.0	0.2	2.8	0.7	<b>1.9</b>
3	FBt 112	2.0	0.0	0.9	1.1	<b>1.0</b>
4	FBt 101	5.0	0.1	1.9	1.3	<b>2.1</b>
5	FBt 5006 Bg II	2.0	0.0	0.9	1.2	<b>1.0</b>
6	FBt 5014 Bg II	3.0	0.2	2.6	1.1	<b>1.7</b>
7	FBt 104	2.0	0.1	1.4	0.7	<b>1.1</b>
8	<b>Local Check Non-Bt</b>	4.0	0.3	2.0	1.1	<b>1.9</b>
9	FBt 5002 Bg II	3.0	0.3	1.6	1.1	<b>1.5</b>
10	FBt 118	3.0	0.2	1.7	1.5	<b>1.6</b>
11	PBH Bt II- 142	3.0	0.3	1.3	0.7	<b>1.3</b>
12	HAU Bt-12	3.0	0.1	1.6	1.1	<b>1.5</b>
13	FBt 5001 Bg II	3.0	0.0	1.9	0.5	<b>1.4</b>
14	<b>F 2228 (Non-Bt ZC)</b>	3.0	0.0	1.6	1.0	<b>1.4</b>
15	<b>PAU Bt3 (Bt ZC)</b>	3.0	0.8	1.4	1.5	<b>1.7</b>
CD@5%			0.4	0.1	0.2	
CV %			121.5	4.1	10.1	



**Table: Number of sympodia in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	17.0	19.1	16.8	19.1	<b>18.0</b>
2	HAU Bt-13	13.0	18.9	25.0	19.1	<b>19.0</b>
3	FBt 112	10.0	18.8	18.0	20.5	<b>16.8</b>
4	FBt 101	1.0	18.1	15.6	17.4	<b>13.0</b>
5	FBt 5006 Bg II	21.0	21.2	20.1	18.7	<b>20.3</b>
6	FBt 5014 Bg II	13.0	23.3	23.4	21.4	<b>20.3</b>
7	FBt 104	9.0	19.2	16.7	22.5	<b>16.9</b>
8	<b>Local Check Non-Bt</b>	13.0	20.8	19.0	17.3	<b>17.5</b>
9	FBt 5002 Bg II	16.0	20.0	20.7	20.2	<b>19.2</b>
10	FBt 118	15.0	21.9	19.4	20.8	<b>19.3</b>
11	PBH Bt II- 142	15.0	19.0	21.2	17.4	<b>18.2</b>
12	HAU Bt-12	17.0	17.9	14.1	16.1	<b>16.3</b>
13	FBt 5001 Bg II	17.0	21.6	18.9	17.3	<b>18.7</b>
14	<b>F 2228 (Non-Bt ZC)</b>	21.0	17.4	15.4	20.4	<b>18.6</b>
15	<b>PAU Bt3 (Bt ZC)</b>	13.0	19.0	20.4	19.0	<b>17.9</b>
CD@5%			1.9	3.0	2.2	
CV %			5.8	9.5	6.9	

**Table: Boll weight (g) in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	3.1	4.3	4.1	3.9	<b>3.9</b>
2	HAU Bt-13	2.8	3.8	3.9	3.4	<b>3.5</b>
3	FBt 112	3.2	4.2	4.1	3.5	<b>3.8</b>
4	FBt 101	2.6	3.8	3.5	3.8	<b>3.4</b>
5	FBt 5006 Bg II	2.8	4.1	4.0	3.5	<b>3.6</b>
6	FBt 5014 Bg II	2.7	4.1	4.1	3.8	<b>3.7</b>
7	FBt 104	2.8	4.0	4.0	3.8	<b>3.7</b>
8	<b>Local Check Non-Bt</b>	2.2	3.5	4.1	3.5	<b>3.3</b>
9	FBt 5002 Bg II	2.6	4.2	4.0	3.8	<b>3.7</b>
10	FBt 118	2.6	4.1	3.9	3.7	<b>3.6</b>
11	PBH Bt II- 142	2.5	3.6	4.5	3.0	<b>3.4</b>
12	HAU Bt-12	3.1	3.9	3.8	2.9	<b>3.4</b>
13	FBt 5001 Bg II	2.2	3.8	3.9	3.1	<b>3.3</b>
14	<b>F 2228 (Non-Bt ZC)</b>	2.3	3.6	3.7	3.4	<b>3.3</b>
15	<b>PAU Bt3 (Bt ZC)</b>	2.6	4.0	3.5	3.4	<b>3.4</b>
CD@5%			0.3	0.5	0.2	
CV %			4.8	7.2	4.2	



**Table: Number of bolls / plant in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	33.0	39.9	34.0	26.8	<b>33.4</b>
2	HAU Bt-13	30.0	36.2	47.6	26.3	<b>35.0</b>
3	FBt 112	32.0	34.8	39.4	30.1	<b>34.1</b>
4	FBt 101	40.0	34.3	35.4	23.5	<b>33.3</b>
5	FBt 5006 Bg II	37.0	38.0	42.3	26.3	<b>35.9</b>
6	FBt 5014 Bg II	22.0	41.3	55.4	31.4	<b>37.5</b>
7	FBt 104	24.0	36.4	35.0	32.8	<b>32.1</b>
8	<b>Local Check Non-Bt</b>	41.0	33.4	42.7	24.7	<b>35.5</b>
9	FBt 5002 Bg II	28.0	36.4	43.2	28.9	<b>34.1</b>
10	FBt 118	27.0	37.4	41.8	31.6	<b>34.5</b>
11	PBH Bt II- 142	38.0	35.6	62.0	25.3	<b>40.2</b>
12	HAU Bt-12	28.0	31.2	33.1	25.7	<b>29.5</b>
13	FBt 5001 Bg II	38.0	38.6	43.3	25.7	<b>36.4</b>
14	<b>F 2228 (Non-Bt ZC)</b>	34.0	29.1	35.4	30.5	<b>32.3</b>
15	<b>PAU Bt3 (Bt ZC)</b>	32.0	32.0	45.8	28.3	<b>34.5</b>
CD@5%			4.2	7.4	2.6	
CV %			7.0	10.4	5.6	

**Table: Number of bolls / sq.m. in Advanced varietal trial**

S. No.	Entries	SGNR	Bathinda	Sirsa	Mean
1	RASI 33 BG II	157.5	97.3	151.0	<b>135.3</b>
2	HAU Bt-13	132.0	124.3	149.4	<b>135.2</b>
3	FBt 112	142.2	119.7	169.9	<b>143.9</b>
4	FBt 101	182.7	77.0	136.6	<b>132.1</b>
5	FBt 5006 Bg II	169.7	128.3	151.1	<b>149.7</b>
6	FBt 5014 Bg II	98.7	146.3	185.4	<b>143.5</b>
7	FBt 104	115.6	112.3	188.3	<b>138.7</b>
8	<b>Local Check Non-Bt</b>	189.1	125.3	142.7	<b>152.4</b>
9	FBt 5002 Bg II	131.9	127.7	164.8	<b>141.5</b>
10	FBt 118	124.5	121.0	181.0	<b>142.2</b>
11	PBH Bt II- 142	171.9	147.3	150.9	<b>156.7</b>
12	HAU Bt-12	129.1	84.3	138.8	<b>117.4</b>
13	FBt 5001 Bg II	164.2	122.3	147.9	<b>144.8</b>
14	<b>F 2228 (Non-Bt ZC)</b>	160.1	102.3	182.2	<b>148.2</b>
15	<b>PAU Bt3 (Bt ZC)</b>	143.6	130.7	166.5	<b>146.9</b>
CD@5%			12.5		
CV %			6.4		



**Table: Lint Index (g) in Advanced varietal trial**

S. No.	Entries	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	5.0	4.1	5.7	<b>4.9</b>
2	HAU Bt-13	5.2	3.8	4.8	<b>4.6</b>
3	FBt 112	5.3	4.4	5.0	<b>4.9</b>
4	FBt 101	5.0	4.3	4.7	<b>4.7</b>
5	FBt 5006 Bg II	5.3	4.3	5.4	<b>5.0</b>
6	FBt 5014 Bg II	4.9	4.6	5.4	<b>5.0</b>
7	FBt 104	5.1	4.5	5.3	<b>5.0</b>
8	<b>Local Check Non-Bt</b>	4.6	4.4	5.2	<b>4.7</b>
9	FBt 5002 Bg II	5.5	4.0	5.1	<b>4.9</b>
10	FBt 118	5.2	4.2	5.8	<b>5.1</b>
11	PBH Bt II- 142	4.7	4.9	5.0	<b>4.9</b>
12	HAU Bt-12	4.9	4.1	5.0	<b>4.7</b>
13	FBt 5001 Bg II	4.7	4.3	5.4	<b>4.8</b>
14	<b>F 2228 (Non-Bt ZC)</b>	4.9	4.1	5.5	<b>4.8</b>
15	<b>PAU Bt3 (Bt ZC)</b>	5.1	3.8	4.9	<b>4.6</b>
CD@5%		0.3	0.5		
CV %		3.5	7.5		

**Table: Seed Index (g) in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	9.3	8.9	9.8	9.7	<b>9.4</b>
2	HAU Bt-13	7.6	9.0	8.7	8.0	<b>8.3</b>
3	FBt 112	8.5	9.7	9.7	8.6	<b>9.1</b>
4	FBt 101	7.6	9.2	9.4	8.2	<b>8.6</b>
5	FBt 5006 Bg II	7.0	9.5	9.0	9.3	<b>8.7</b>
6	FBt 5014 Bg II	7.0	8.8	9.6	9.1	<b>8.6</b>
7	FBt 104	7.8	9.3	9.4	8.9	<b>8.9</b>
8	<b>Local Check Non-Bt</b>	7.7	8.4	8.8	9.0	<b>8.5</b>
9	FBt 5002 Bg II	8.5	10.1	9.8	9.9	<b>9.6</b>
10	FBt 118	8.5	9.7	9.7	9.8	<b>9.4</b>
11	PBH Bt II- 142	7.5	8.9	9.5	8.9	<b>8.7</b>
12	HAU Bt-12	7.0	9.0	8.8	8.9	<b>8.4</b>
13	FBt 5001 Bg II	7.4	8.5	9.6	9.6	<b>8.8</b>
14	<b>F 2228 (Non-Bt ZC)</b>	8.1	9.0	9.3	8.9	<b>8.8</b>
15	<b>PAU Bt3 (Bt ZC)</b>	7.2	9.3	8.9	8.4	<b>8.5</b>
CD@5%			0.6	0.7	0.2	
CV %			3.7	4.3	1.4	



**Table: Ginning outturn (%)in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	37.0	36.0	30.8	37.1	<b>35.2</b>
2	HAU Bt-13	38.8	36.6	32.0	37.5	<b>36.2</b>
3	FBt 112	36.1	35.4	32.9	37.0	<b>35.4</b>
4	FBt 101	37.4	35.3	33.0	36.3	<b>35.5</b>
5	FBt 5006 Bg II	35.5	35.9	33.6	36.7	<b>35.4</b>
6	FBt 5014 Bg II	35.3	35.6	34.0	37.1	<b>35.5</b>
7	FBt 104	36.6	35.6	34.0	37.5	<b>35.9</b>
8	<b>Local Check Non-Bt</b>	34.1	35.6	34.7	36.6	<b>35.3</b>
9	FBt 5002 Bg II	35.1	35.2	30.6	33.9	<b>33.7</b>
10	FBt 118	34.7	35.0	31.6	37.2	<b>34.6</b>
11	PBH Bt II- 142	36.8	34.8	35.5	35.9	<b>35.8</b>
12	HAU Bt-12	39.3	35.2	33.0	36.0	<b>35.9</b>
13	FBt 5001 Bg II	35.5	35.4	32.1	35.9	<b>34.7</b>
14	<b>F 2228 (Non-Bt ZC)</b>	35.5	35.2	32.1	38.1	<b>35.2</b>
15	<b>PAU Bt3 (Bt ZC)</b>	35.6	35.2	31.5	36.7	<b>34.8</b>
CD@5%			0.9	2.0		
CV %			1.6	3.8		

**Table : Upper Half Mean Length (mm) under HVI Mode in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	29.5	26.0	28.3	26.2	<b>27.5</b>
2	HAU Bt-13	25.8	25.9	27.8	24.8	<b>26.1</b>
3	FBt 112	27.1	27.4	28.0	25.2	<b>26.9</b>
4	FBt 101	26.6	25.9	25.9	25.1	<b>25.9</b>
5	FBt 5006 Bg II	26.8	26.9	28.9	27.0	<b>27.4</b>
6	FBt 5014 Bg II	28.4	28.8	29.3	28.0	<b>28.6</b>
7	FBt 104	27.0	25.7	29.3	26.4	<b>27.1</b>
8	<b>Local Check Non-Bt</b>	20.7	27.7	28.1	27.2	<b>25.9</b>
9	FBt 5002 Bg II	28.5	28.5	29.2	29.2	<b>28.9</b>
10	FBt 118	28.0	26.7	28.9	26.2	<b>27.5</b>
11	PBH Bt II- 142	26.3	25.3	28.2	25.6	<b>26.4</b>
12	HAU Bt-12	26.1	26.5	25.7	25.2	<b>25.9</b>
13	FBt 5001 Bg II	28.8	28.8	29.2	27.7	<b>28.6</b>
14	<b>F 2228 (Non-Bt ZC)</b>	26.6	28.0	29.3	26.4	<b>27.6</b>
15	<b>PAU Bt3 (Bt ZC)</b>	27.0	26.8	29.1	27.3	<b>27.6</b>



**Table : Uniformity index under HVI Mode in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	86.0	81.0	86.0	83.0	<b>84.0</b>
2	HAU Bt-13	83.0	84.0	82.0	82.0	<b>82.8</b>
3	FBt 112	83.0	85.0	81.0	82.0	<b>82.8</b>
4	FBt 101	83.0	84.0	82.0	83.0	<b>83.0</b>
5	FBt 5006 Bg II	83.0	82.0	84.0	84.0	<b>83.3</b>
6	FBt 5014 Bg II	84.0	85.0	86.0	84.0	<b>84.8</b>
7	FBt 104	84.0	82.0	83.0	84.0	<b>83.3</b>
8	<b>Local Check Non-Bt</b>	77.0	83.0	83.0	84.0	<b>81.8</b>
9	FBt 5002 Bg II	85.0	83.0	84.0	85.0	<b>84.3</b>
10	FBt 118	83.0	85.0	84.0	83.0	<b>83.8</b>
11	PBH Bt II- 142	83.0	82.0	83.0	82.0	<b>82.5</b>
12	HAU Bt-12	81.0	84.0	82.0	83.0	<b>82.5</b>
13	FBt 5001 Bg II	83.0	85.0	83.0	84.0	<b>83.8</b>
14	<b>F 2228 (Non-Bt ZC)</b>	83.0	84.0	83.0	84.0	<b>83.5</b>
15	<b>PAU Bt3 (Bt ZC)</b>	83.0	82.0	83.0	84.0	<b>83.0</b>

**Table : Micronaire under HVI Mode in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	5.0	5.3	4.6	4.8	<b>4.9</b>
2	HAU Bt-13	5.1	4.8	4.1	5.3	<b>4.8</b>
3	FBt 112	4.6	4.8	4.6	5.1	<b>4.8</b>
4	FBt 101	4.7	5.5	4.5	5.0	<b>4.9</b>
5	FBt 5006 Bg II	4.3	5.3	4.4	5.1	<b>4.8</b>
6	FBt 5014 Bg II	3.8	4.7	4.0	4.6	<b>4.3</b>
7	FBt 104	4.4	5.1	4.7	4.4	<b>4.7</b>
8	<b>Local Check Non-Bt</b>	6.8	5.0	4.5	4.6	<b>5.2</b>
9	FBt 5002 Bg II	5.0	4.9	4.7	4.6	<b>4.8</b>
10	FBt 118	4.6	4.9	5.0	4.6	<b>4.8</b>
11	PBH Bt II- 142	4.3	5.1	4.3	4.3	<b>4.5</b>
12	HAU Bt-12	4.8	5.0	4.7	4.7	<b>4.8</b>
13	FBt 5001 Bg II	4.5	4.5	3.9	4.4	<b>4.3</b>
14	<b>F 2228 (Non-Bt ZC)</b>	4.5	4.7	5.0	5.1	<b>4.8</b>
15	<b>PAU Bt3 (Bt ZC)</b>	4.8	4.6	4.3	4.3	<b>4.5</b>



**Table : Tenacity under HVI Mode in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	29.2	27.3	29.6	28.9	<b>28.8</b>
2	HAU Bt-13	26.9	26.9	29.9	25.8	<b>27.4</b>
3	FBt 112	28.8	29.4	29.9	27.6	<b>28.9</b>
4	FBt 101	28.8	27.5	27.5	26.9	<b>27.7</b>
5	FBt 5006 Bg II	28.3	29.0	30.3	27.8	<b>28.9</b>
6	FBt 5014 Bg II	30.6	31.0	30.8	30.9	<b>30.8</b>
7	FBt 104	28.6	27.3	30.4	28.2	<b>28.6</b>
8	<b>Local Check Non-Bt</b>	21.7	29.3	29.2	29.6	<b>27.5</b>
9	FBt 5002 Bg II	30.0	31.0	30.1	30.7	<b>30.5</b>
10	FBt 118	29.8	28.9	29.7	28.3	<b>29.2</b>
11	PBH Bt II- 142	28.5	26.8	29.6	28.3	<b>28.3</b>
12	HAU Bt-12	27.9	28.3	27.6	27.6	<b>27.9</b>
13	FBt 5001 Bg II	29.2	30.0	29.6	28.8	<b>29.4</b>
14	<b>F 2228 (Non-Bt ZC)</b>	28.1	29.3	29.7	28.4	<b>28.9</b>
15	<b>PAU Bt3 (Bt ZC)</b>	28.1	28.6	30.8	29.2	<b>29.2</b>

**Table: Seed Cotton Yield at 140 DAS (q/ha) in Advanced varietal trial**

S. No.	Entries	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	19.03	12.17	10.83	<b>14.01</b>
2	HAU Bt-13	12.58	13.88	8.07	<b>11.51</b>
3	FBt 112	13.50	10.26	11.17	<b>11.64</b>
4	FBt 101	12.15	6.04	6.58	<b>8.26</b>
5	FBt 5006 Bg II	12.30	17.84	7.38	<b>12.51</b>
6	FBt 5014 Bg II	15.68	21.07	9.94	<b>15.56</b>
7	FBt 104	14.85	17.30	11.33	<b>14.49</b>
8	<b>Local Check Non-Bt</b>	11.73	8.33	6.71	<b>8.92</b>
9	FBt 5002 Bg II	9.64	15.61	6.56	<b>10.60</b>
10	FBt 118	13.07	14.18	7.72	<b>11.66</b>
11	PBH Bt II- 142	8.82	23.39	4.88	<b>12.36</b>
12	HAU Bt-12	9.57	5.81	4.53	<b>6.64</b>
13	FBt 5001 Bg II	11.69	10.29	4.66	<b>8.88</b>
14	<b>F 2228 (Non-Bt ZC)</b>	9.80	12.54	8.18	<b>10.17</b>
15	<b>PAU Bt3 (Bt ZC)</b>	9.59	14.21	7.56	<b>10.45</b>
CD@5%			1.96	1.30	
CV %			8.66	9.97	



**Table: Seed Cotton Yield at 165 DAS (q/ha) in Advanced varietal trial**

S. No.	Entries	Faridkot	Bathinda	Sirsa	Mean
1	RASI 33 BG II	3.33	4.65	12.78	<b>6.92</b>
2	HAU Bt-13	7.88	5.86	14.12	<b>9.29</b>
3	FBt 112	9.09	4.59	14.22	<b>9.30</b>
4	FBt 101	8.48	2.79	12.37	<b>7.88</b>
5	FBt 5006 Bg II	13.03	7.51	14.53	<b>11.69</b>
6	FBt 5014 Bg II	10.91	6.35	15.13	<b>10.80</b>
7	FBt 104	6.36	6.71	13.09	<b>8.72</b>
8	<b>Local Check Non-Bt</b>	6.06	4.42	11.44	<b>7.31</b>
9	FBt 5002 Bg II	14.85	5.94	13.50	<b>11.43</b>
10	FBt 118	10.91	6.05	15.10	<b>10.69</b>
11	PBH Bt II- 142	5.15	7.36	11.44	<b>7.98</b>
12	HAU Bt-12	4.55	2.96	11.34	<b>6.28</b>
13	FBt 5001 Bg II	10.61	3.99	11.75	<b>8.78</b>
14	<b>F 2228 (Non-Bt ZC)</b>	6.06	6.38	13.05	<b>8.50</b>
15	<b>PAU Bt3 (Bt ZC)</b>	7.27	5.58	11.77	<b>8.21</b>
CD@5%			0.77	2.23	
CV %			8.53	10.15	

**Table: Total Seed Cotton Yield (q/ha) in Advanced varietal trial**

S. No.	Entries	SGNR	Faridkot	Bathinda	Sirsa	Mean	Rank	% Inc over best check
1	RASI 33 BG II	29.10	22.37	16.82	23.60	<b>22.97</b>	4	22.1
2	HAU Bt-13	19.79	20.46	19.74	22.19	<b>20.55</b>	7	9.2
3	FBt 112	25.36	22.59	14.85	25.40	<b>22.05</b>	5	17.2
4	FBt 101	20.91	20.64	8.83	18.95	<b>17.33</b>	13	-7.9
5	FBt 5006 Bg II	24.62	25.33	25.35	21.91	<b>24.30</b>	2	29.1
6	FBt 5014 Bg II	18.29	26.59	27.43	25.06	<b>24.34</b>	1	29.3
7	FBt 104	23.96	21.21	24.02	24.42	<b>23.40</b>	3	24.3
8	<b>Local Check Non-Bt</b>	26.57	17.79	12.76	18.15	<b>18.82</b>	10	0.0
9	FBt 5002 Bg II	12.74	24.49	21.54	20.06	<b>19.71</b>	9	4.7
10	FBt 118	16.95	23.98	20.23	22.82	<b>21.00</b>	6	11.6
11	PBH Bt II- 142	20.97	13.97	30.75	16.32	<b>20.50</b>	8	8.9
12	HAU Bt-12	16.77	14.11	8.77	15.87	<b>13.88</b>	15	-26.2
13	FBt 5001 Bg II	12.75	22.30	14.28	16.41	<b>16.44</b>	14	-12.7
14	<b>F 2228 (Non-Bt ZC)</b>	16.28	15.86	18.92	21.23	<b>18.07</b>	12	-4.0
15	<b>PAU Bt3 (Bt ZC)</b>	18.89	16.87	19.79	19.33	<b>18.72</b>	11	-0.5
CD@5%		2.98	3.28	2.51	2.86			
CV %		8.84	9.50	7.95	8.19			



## Evaluation under Protected Conditions for Insect pests & Diseases incidences

### Reaction to Insect Pests

**Table: Advanced Variety trial in North Zone under Protected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	1.75	0.70	2.91	5.11	1.60	<b>2.41</b>	<b>BETL</b>
HAU Bt-13	0.75	0.67	2.53	4.51	2.18	<b>2.13</b>	<b>BETL</b>
FBt 112	1.25	0.67	2.96	4.04	1.11	<b>2.00</b>	<b>BETL</b>
FBt 101	1.08	0.73	2.24	4.44	1.61	<b>2.02</b>	<b>BETL</b>
FBt 5006 Bg II	1.58	0.80	2.96	4.31	1.69	<b>2.27</b>	<b>BETL</b>
FBt 5014 Bg II	1.25	0.87	3.29	4.64	1.93	<b>2.40</b>	<b>BETL</b>
FBt 104	1.42	0.83	3.42	4.31	1.80	<b>2.36</b>	<b>BETL</b>
Local Check Non-Bt	0.75	0.80	2.76	4.67	2.38	<b>2.27</b>	<b>BETL</b>
FBt 5002 Bg II	0.92	0.93	2.53	4.98	2.48	<b>2.37</b>	<b>BETL</b>
FBt 118	1.00	0.80	2.58	5.18	1.71	<b>2.25</b>	<b>BETL</b>
PBH Bt II- 142	0.75	0.93	2.33	5.18	1.49	<b>2.14</b>	<b>BETL</b>
HAU Bt-12	0.83	0.67	3.00	5.07	1.49	<b>2.21</b>	<b>BETL</b>
FBt 5001 Bg II	0.75	0.83	2.49	4.91	1.77	<b>2.15</b>	<b>BETL</b>
F 2228 (Non-Bt ZC)	0.42	1.13	2.60	4.76	1.42	<b>2.07</b>	<b>BETL</b>
PAU Bt3 (Bt ZC)	0.42	0.73	2.64	5.20	1.36	<b>2.07</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Protected Conditions – JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	III	I	II	II	I	II	
HAU Bt-13	III	I	II	II	I	II	
FBt 112	III	I	II	II	I	II	
FBt 101	III	I	III	II	I	II	
FBt 5006 Bg II	IV	I	II	II	I	II	
FBt 5014 Bg II	IV	I	II	II	I	II	
FBt 104	IV	I	II	II	I	II	
Local Check Non-Bt	III	I	II	II	I	II	
FBt 5002 Bg II	III	I	II	II	I	II	
FBt 118	III	I	II	II	I	II	
PBH Bt II- 142	III	I	II	II	I	II	
HAU Bt-12	III	I	II	II	I	II	
FBt 5001 Bg II	IV	I	II	II	I	II	
F 2228 (Non-Bt ZC)	III	I	II	II	I	II	
PAU Bt3 (Bt ZC)	III	I	II	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Protected Conditions – Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	8.00	18.57	6.20	20.09	5.36	<b>11.64</b>	BETL
HAU Bt-13	6.75	18.08	8.56	18.78	7.76	<b>11.98</b>	BETL
FBt 112	11.08	20.43	5.82	17.82	5.51	<b>12.13</b>	BETL
FBt 101	8.50	29.15	6.73	19.58	4.69	<b>13.73</b>	BETL
FBt 5006 Bg II	9.50	29.08	7.20	19.73	4.80	<b>14.06</b>	BETL
FBt 5014 Bg II	9.08	30.00	5.73	20.07	5.04	<b>13.99</b>	BETL
FBt 104	7.00	30.70	8.71	18.09	7.69	<b>14.44</b>	BETL
Local Check Non-Bt	9.33	28.95	7.71	20.62	5.22	<b>14.37</b>	BETL
FBt 5002 Bg II	9.17	27.65	6.04	19.33	7.16	<b>13.87</b>	BETL
FBt 118	10.00	27.73	6.64	20.02	4.89	<b>13.86</b>	BETL
PBH Bt II- 142	7.33	28.70	5.49	19.22	5.24	<b>13.20</b>	BETL
HAU Bt-12	10.17	32.20	6.27	19.11	7.49	<b>15.05</b>	BETL
FBt 5001 Bg II	12.08	29.57	5.67	19.73	6.07	<b>14.62</b>	BETL
F 2228 (Non-Bt ZC)	8.42	28.82	7.58	19.87	5.49	<b>14.03</b>	BETL
PAU Bt3 (Bt ZC)	10.92	26.33	7.64	19.40	5.04	<b>13.87</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Protected Conditions –Whitefly**

Name of Entry	Whitefly(Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	3.25	5.27	3.13	15.53	8.77	<b>7.19</b>	BETL
HAU Bt-13	4.67	4.60	3.62	14.07	8.46	<b>7.08</b>	BETL
FBt 112	3.50	5.07	3.04	14.51	8.72	<b>6.97</b>	BETL
FBt 101	5.42	5.30	3.04	14.18	8.67	<b>7.32</b>	BETL
FBt 5006 Bg II	4.17	5.50	3.69	13.36	8.33	<b>7.01</b>	BETL
FBt 5014 Bg II	4.92	6.30	2.62	14.71	8.93	<b>7.50</b>	BETL
FBt 104	3.33	5.87	3.89	14.73	9.27	<b>7.42</b>	BETL
Local Check Non-Bt	3.50	5.37	3.27	15.89	9.89	<b>7.58</b>	BETL
FBt 5002 Bg II	6.17	5.83	3.04	15.98	8.27	<b>7.86</b>	BETL
FBt 118	4.58	5.77	2.91	15.80	9.07	<b>7.63</b>	BETL
PBH Bt II- 142	5.58	5.30	3.36	15.76	8.91	<b>7.78</b>	BETL
HAU Bt-12	6.17	5.80	3.38	14.98	10.26	<b>8.12</b>	BETL
FBt 5001 Bg II	5.92	5.53	2.53	16.31	9.41	<b>7.94</b>	BETL
F 2228 (Non-Bt ZC)	5.25	5.93	3.20	14.96	10.20	<b>7.91</b>	BETL
PAU Bt3 (Bt ZC)	5.42	5.63	3.22	14.73	11.03	<b>8.01</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Protected Conditions – Natural Enemies**

Name of Entry	Natural Enemies (No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	–	1.55	0.22	0.49	0.52	<b>0.70</b>	
HAU Bt-13	–	2.00	0.27	0.56	0.35	<b>0.79</b>	
FBt 112	–	1.57	0.22	0.56	0.67	<b>0.75</b>	
FBt 101	–	1.65	0.22	0.67	0.49	<b>0.76</b>	
FBt 5006 Bg II	–	1.65	0.22	0.40	0.63	<b>0.72</b>	
FBt 5014 Bg II	–	1.73	0.16	0.64	0.45	<b>0.74</b>	
FBt 104	–	1.70	0.29	0.58	0.49	<b>0.76</b>	
Local Check Non-Bt	–	1.57	0.27	0.44	0.38	<b>0.66</b>	
FBt 5002 Bg II	–	1.68	0.27	0.56	0.35	<b>0.72</b>	
FBt 118	–	1.68	0.20	0.51	0.33	<b>0.68</b>	
PBH Bt II- 142	–	1.88	0.24	0.73	0.82	<b>0.92</b>	
HAU Bt-12	–	1.68	0.22	0.62	0.45	<b>0.74</b>	
FBt 5001 Bg II	–	1.48	0.27	0.84	0.41	<b>0.75</b>	
F 2228 (Non-Bt ZC)	–	1.80	0.22	0.98	0.34	<b>0.84</b>	
PAU Bt3 (Bt ZC)	–	1.62	0.24	0.71	0.33	<b>0.72</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Protected Conditions –*Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
HAU Bt-13	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 112	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 101	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 5006 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 5014 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 104	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
Local Check Non-Bt	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 5002 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 118	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PBH Bt II- 142	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
HAU Bt-12	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
FBt 5001 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
F 2228 (Non-Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>
PAU Bt3 (Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	<b>BETL</b>

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Protected Conditions – Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-13	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 112	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 101	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5006 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5014 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 104	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Local Check Non-Bt	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5002 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 118	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PBH Bt II- 142	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-12	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5001 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
F 2228 (Non-Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PAU Bt3 (Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Protected Conditions – *Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	0.00	0.00	0.02	<b>0.00</b>	BETL
HAU Bt-13	0.00	0.00	0.00	0.00	0.08	<b>0.02</b>	BETL
FBt 112	0.00	0.00	0.00	0.00	0.14	<b>0.03</b>	BETL
FBt 101	0.00	0.00	0.00	0.00	0.35	<b>0.07</b>	BETL
FBt 5006 Bg II	0.00	0.00	0.00	0.00	0.23	<b>0.05</b>	BETL
FBt 5014 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 104	0.00	0.00	0.00	0.00	0.23	<b>0.05</b>	BETL
Local Check Non-Bt	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5002 Bg II	0.00	0.00	0.00	0.00	0.04	<b>0.01</b>	BETL
FBt 118	0.00	0.00	0.00	0.00	0.35	<b>0.07</b>	BETL
PBH Bt II- 142	0.00	0.00	0.00	0.00	0.23	<b>0.05</b>	BETL
HAU Bt-12	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5001 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
F 2228 (Non-Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PAU Bt3 (Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Protected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	1.22	0.42	1.91	<b>0.71</b>	BETL
HAU Bt-13	0.13	0.00	0.89	0.33	2.13	<b>0.69</b>	BETL
FBt 112	0.25	0.00	0.67	0.42	2.35	<b>0.74</b>	BETL
FBt 101	0.38	0.00	0.78	0.50	2.13	<b>0.76</b>	BETL
FBt 5006 Bg II	0.38	0.00	0.89	0.42	1.91	<b>0.72</b>	BETL
FBt 5014 Bg II	0.38	0.00	1.22	0.42	2.68	<b>0.94</b>	BETL
FBt 104	1.13	0.00	1.11	0.33	1.46	<b>0.81</b>	BETL
Local Check Non-Bt	0.38	0.00	0.89	0.25	2.13	<b>0.73</b>	BETL
FBt 5002 Bg II	1.63	0.00	1.00	0.33	2.35	<b>1.06</b>	AETL
FBt 118	1.00	0.00	1.11	0.42	3.24	<b>1.15</b>	AETL
PBH Bt II- 142	0.63	0.00	1.11	0.42	1.68	<b>0.77</b>	BETL
HAU Bt-12	0.25	0.00	0.78	0.25	1.91	<b>0.64</b>	BETL
FBt 5001 Bg II	0.25	0.00	0.33	0.33	2.57	<b>0.70</b>	BETL
F 2228 (Non-Bt ZC)	0.00	0.00	1.00	0.33	2.35	<b>0.74</b>	BETL
PAU Bt3 (Bt ZC)	0.13	0.00	1.22	0.25	3.24	<b>0.97</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar

**Table: Advanced Variety trial in North Zone under Protected Conditions - Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-13	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 112	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 101	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5006 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5014 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 104	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Local Check Non-Bt	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5002 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 118	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PBH Bt II- 142	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-12	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5001 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
F 2228 (Non-Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PAU Bt3 (Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganaganagar



**Table: Advanced Variety trial in North Zone under Protected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	6.25	6.67	17.78	10.00	11.67	<b>10.47</b>	AETL
HAU Bt-13	7.50	6.67	11.11	10.83	3.75	<b>7.97</b>	BETL
FBt 112	7.50	3.33	14.44	8.33	6.67	<b>8.05</b>	BETL
FBt 101	6.25	8.33	12.22	7.50	11.25	<b>9.11</b>	BETL
FBt 5006 Bg II	10.00	5.00	15.56	8.33	3.75	<b>8.53</b>	BETL
FBt 5014 Bg II	5.00	5.00	15.55	9.17	14.58	<b>9.86</b>	BETL
FBt 104	8.75	8.33	15.56	7.50	17.92	<b>11.61</b>	AETL
Local Check Non-Bt	10.00	11.67	14.44	9.17	3.75	<b>9.81</b>	BETL
FBt 5002 Bg II	12.50	11.67	15.56	7.50	8.89	<b>11.22</b>	AETL
FBt 118	13.75	6.67	12.22	8.33	20.89	<b>12.37</b>	AETL
PBH Bt II- 142	7.50	6.67	13.33	10.83	3.75	<b>8.42</b>	BETL
HAU Bt-12	3.75	5.00	11.11	8.33	4.86	<b>6.61</b>	BETL
FBt 5001 Bg II	5.00	6.67	14.44	10.00	25.17	<b>12.26</b>	AETL
F 2228 (Non-Bt ZC)	5.00	6.67	17.78	10.83	3.75	<b>8.80</b>	BETL
PAU Bt3 (Bt ZC)	5.00	6.67	14.44	9.17	14.58	<b>9.97</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar

**Table: Advanced Variety trial in North Zone under Protected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	3.75	5.00	8.82	14.67	13.60	<b>9.17</b>	
HAU Bt-13	9.32	2.50	6.68	20.21	5.26	<b>8.79</b>	
FBt 112	6.48	2.50	7.54	19.93	9.26	<b>9.14</b>	
FBt 101	7.11	2.50	7.52	15.31	13.93	<b>9.27</b>	
FBt 5006 Bg II	6.67	2.50	9.10	15.41	5.60	<b>7.86</b>	
FBt 5014 Bg II	4.87	2.50	4.67	16.10	12.95	<b>8.22</b>	
FBt 104	10.34	5.00	9.72	15.41	13.60	<b>10.81</b>	
Local Check Non-Bt	8.65	2.50	12.21	14.38	5.93	<b>8.73</b>	
FBt 5002 Bg II	10.64	5.00	7.49	16.28	6.26	<b>9.13</b>	
FBt 118	9.85	2.50	8.35	13.45	5.26	<b>7.88</b>	
PBH Bt II- 142	4.99	2.50	6.99	14.74	2.93	<b>6.43</b>	
HAU Bt-12	6.99	5.00	4.42	13.45	8.26	<b>7.63</b>	
FBt 5001 Bg II	6.77	2.50	10.76	13.86	14.93	<b>9.77</b>	
F 2228 (Non-Bt ZC)	4.95	2.50	9.30	18.84	5.93	<b>8.30</b>	
PAU Bt3 (Bt ZC)	5.98	2.50	9.58	12.40	11.93	<b>8.48</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganagar



**Table: Advanced Variety trial in North Zone under Protected Conditions – Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	1.64	2.00	3.78	7.72	5.60	<b>4.15</b>	
HAU Bt-13	4.13	1.60	3.27	9.94	4.74	<b>4.74</b>	
FBt 112	3.19	1.17	2.81	7.64	2.26	<b>3.41</b>	
FBt 101	3.92	1.08	3.42	6.92	11.93	<b>5.45</b>	
FBt 5006 Bg II	3.68	1.56	3.34	7.31	4.60	<b>4.10</b>	
FBt 5014 Bg II	2.30	0.94	2.43	8.21	4.95	<b>3.77</b>	
FBt 104	3.13	1.61	2.94	6.61	12.60	<b>5.38</b>	
Local Check Non-Bt	4.26	0.99	4.62	7.56	4.93	<b>4.47</b>	
FBt 5002 Bg II	4.95	2.79	3.17	7.80	5.26	<b>4.79</b>	
FBt 118	4.65	1.77	3.63	7.02	4.74	<b>4.36</b>	
PBH Bt II- 142	2.47	1.34	2.59	6.28	2.07	<b>2.95</b>	
HAU Bt-12	3.23	2.31	3.78	5.85	2.26	<b>3.49</b>	
FBt 5001 Bg II	2.63	1.63	4.32	6.26	11.93	<b>5.35</b>	
F 2228 (Non-Bt ZC)	2.85	1.19	4.07	8.36	4.93	<b>4.28</b>	
PAU Bt3 (Bt ZC)	3.50	1.31	4.24	5.33	10.93	<b>5.06</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Protected Conditions - Number of sprays for Insect-pest**

Name of Entry	Number of sprays for Insect-pest						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
HAU Bt-13	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 112	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 101	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 5006 Bg II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 5014 Bg II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 104	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
Local Check Non-Bt	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 5002 Bg II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 118	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PBH Bt II- 142	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
HAU Bt-12	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
FBt 5001 Bg II	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
F 2228 (Non-Bt ZC)	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	
PAU Bt3 (Bt ZC)	9.00	9.00	7.00	9.00	8.00	<b>8.40</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



## Reaction to Diseases

### J. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



**Table: Advanced Evaluation Trial of Bt Cotton Varieties- under protected conditions**

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under protected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		SriGanganagar		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
605	50101	RASI 33 BG II	35.8	MS	0.0	DF	17.9	R	17.5	R	0.4	HR	9.0	HR	0.5	HR	9.1	HR
608	50102	HAU Bt-13	36.7	MS	36.5	MS	36.6	MS	16.7	R	56.9	HS	36.8	MS	45.2	S	39.5	MS
611	50103	FBt 112	32.5	MS	29.2	MR	30.9	MS	25.8	MR	44.9	S	35.4	MS	17.7	R	28.0	MR
602	50104	FBt 101	13.3	R	24.7	MR	19.0	R	27.5	MR	46.4	S	37.0	MS	26.6	MR	27.5	MR
613	50105	FBt 5006 Bg II	21.7	MR	17.4	R	19.6	R	23.3	MR	34.9	MS	29.1	MR	9.1	HR	19.3	R
607	50106	FBt 5014 Bg II	18.3	R	10.2	R	14.3	R	24.2	MR	15.5	R	19.9	R	5.4	HR	13.2	R
604	50107	FBt 104	12.5	R	25.6	MR	19.1	R	28.3	MR	46.5	S	37.4	MS	22.0	MR	26.2	MR
601	50108	<b>Local Check Non-Bt</b>	7.5	HR	29.6	MR	18.6	R	29.2	MR	54.4	HS	41.8	S	0.0	DF	20.1	MR
615	50109	FBt 5002 Bg II	24.2	MR	3.8	HR	14.0	R	19.2	R	15.6	R	17.4	R	3.9	HR	11.8	R
610	50110	FBt 118	17.5	R	15.3	R	16.4	R	25.0	MR	26.1	MR	25.6	MR	14.2	R	18.7	R
606	50111	PBH Bt II- 142	30.0	MR	30.5	MS	30.3	MS	27.5	MR	53.3	HS	40.4	S	21.6	MR	30.8	MS
603	50112	HAU Bt-12	16.7	R	37.0	MS	26.9	MR	15.8	R	54.6	HS	35.2	MS	27.4	MR	29.8	MR
614	50113	FBt 5001 Bg II	9.2	HR	7.8	HR	8.5	HR	23.3	MR	27.0	MR	25.2	MR	6.4	HR	13.4	R
612	50114	<b>F 2228 (Non-Bt ZC)</b>	20.0	R	36.6	MS	28.3	MR	26.7	MR	56.4	HS	41.6	S	33.1	MS	34.3	MS
609	50115	<b>PAU Bt3 (Bt ZC)</b>	20.0	R	30.3	MS	25.2	MR	24.2	MR	54.8	HS	39.5	MS	23.5	MR	29.4	MR



**Table: Advanced Evaluation Trial of Bt Cotton Varieties- under protected conditions**

Code-I	Code-II	Entries	Average FFLS , BLB PDI & Disease Reaction (DR) under protected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
605	50101	RASI 33 BG II	18.5	2.5	R
608	50102	HAU Bt-13	17.0	3.3	R
611	50103	FBt 112	16.5	3.3	R
602	50104	FBt 101	17.3	3.3	R
613	50105	FBt 5006 Bg II	16.3	3.3	R
607	50106	FBt 5014 Bg II	16.8	2.5	R
604	50107	FBt 104	16.8	2.3	R
601	50108	<b>Local Check Non-Bt</b>	17.3	3.3	R
615	50109	FBt 5002 Bg II	16.8	2.0	R
610	50110	FBt 118	17.8	2.5	R
606	50111	PBH Bt II- 142	17.3	4.0	R
603	50112	HAU Bt-12	18.5	3.8	R
614	50113	FBt 5001 Bg II	15.8	2.3	R
612	50114	<b>F 2228 (Non-Bt ZC)</b>	17.5	2.8	R
609	50115	<b>PAU Bt3 (Bt ZC)</b>	15.3	1.5	R



## Evaluation under Unprotected Condition for Insect pests & Disease Incidence Reaction to Insect Pest

**Table: Advanced Variety trial in North Zone under Unprotected Conditions – Leafhopper**

Name of Entry	Leafhopper (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	5.17	1.87	3.09	9.20	1.88	<b>4.24</b>	BETL
HAU Bt-13	4.67	2.10	3.91	10.15	2.65	<b>4.70</b>	BETL
FBt 112	6.17	2.03	3.09	9.15	1.38	<b>4.36</b>	BETL
FBt 101	5.17	2.03	3.16	9.05	1.90	<b>4.26</b>	BETL
FBt 5006 Bg II	5.08	1.57	3.09	9.80	1.97	<b>4.30</b>	BETL
FBt 5014 Bg II	7.50	1.80	2.38	11.20	2.21	<b>5.02</b>	BETL
FBt 104	4.33	2.50	3.67	10.15	2.08	<b>4.55</b>	BETL
Local Check Non-Bt	4.58	2.27	3.96	9.60	2.45	<b>4.57</b>	BETL
FBt 5002 Bg II	6.67	2.37	3.22	9.10	2.75	<b>4.82</b>	BETL
FBt 118	5.33	1.90	2.53	9.85	1.99	<b>4.32</b>	BETL
PBH Bt II- 142	7.33	2.07	3.31	9.20	1.77	<b>4.74</b>	BETL
HAU Bt-12	6.00	1.87	2.96	9.85	1.78	<b>4.49</b>	BETL
FBt 5001 Bg II	5.67	1.83	3.09	11.20	2.02	<b>4.76</b>	BETL
F 2228 (Non-Bt ZC)	5.58	1.90	3.51	11.10	1.70	<b>4.76</b>	BETL
PAU Bt3 (Bt ZC)	5.83	2.13	4.20	12.65	1.63	<b>5.29</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Unprotected Conditions –JIG**

Name of Entry	JIG/plant						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	IV	I	III	II	I	II	
HAU Bt-13	III	II	III	II	I	II	
FBt 112	III	II	III	II	I	II	
FBt 101	III	II	III	II	I	II	
FBt 5006 Bg II	III	I	III	II	I	II	
FBt 5014 Bg II	IV	I	II	II	I	II	
FBt 104	IV	II	III	II	I	II	
Local Check Non-Bt	IV	II	III	II	I	II	
FBt 5002 Bg II	III	II	III	II	I	II	
FBt 118	III	I	II	II	I	II	
PBH Bt II- 142	III	II	III	II	I	II	
HAU Bt-12	III	I	III	II	I	II	
FBt 5001 Bg II	IV	I	III	II	I	II	
F 2228 (Non-Bt ZC)	III	I	III	II	I	II	
PAU Bt3 (Bt ZC)	III	II	III	II	I	II	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Unprotected Conditions –Thrips**

Name of Entry	Thrips (Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	15.83	57.97	18.07	27.20	11.54	<b>26.12</b>	BETL
HAU Bt-13	12.42	63.27	19.33	29.30	13.94	<b>27.65</b>	BETL
FBt 112	13.33	60.60	16.87	31.45	11.69	<b>26.79</b>	BETL
FBt 101	16.58	63.10	15.91	28.90	10.87	<b>27.07</b>	BETL
FBt 5006 Bg II	12.67	51.57	18.20	30.20	10.98	<b>24.72</b>	BETL
FBt 5014 Bg II	16.83	60.53	15.58	30.45	11.22	<b>26.92</b>	BETL
FBt 104	16.25	60.33	20.78	21.95	13.87	<b>26.64</b>	BETL
Local Check Non-Bt	14.25	61.43	21.86	30.65	11.40	<b>27.92</b>	BETL
FBt 5002 Bg II	11.00	61.27	17.98	29.10	13.34	<b>26.54</b>	BETL
FBt 118	13.25	55.13	16.40	30.35	11.07	<b>25.24</b>	BETL
PBH Bt II- 142	14.00	58.70	16.31	29.90	11.42	<b>26.07</b>	BETL
HAU Bt-12	14.17	60.17	17.42	31.45	13.67	<b>27.37</b>	BETL
FBt 5001 Bg II	14.50	59.97	16.33	31.50	12.25	<b>26.91</b>	BETL
F 2228 (Non-Bt ZC)	15.33	59.50	14.91	31.15	11.67	<b>26.51</b>	BETL
PAU Bt3 (Bt ZC)	15.92	55.10	19.07	28.30	11.22	<b>25.92</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Unprotected Conditions –Whitefly**

Name of Entry	Whitefly(Average of 3 leaves/plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	19.33	10.53	4.53	21.00	15.57	<b>14.19</b>	BETL
HAU Bt-13	23.08	10.83	5.49	23.65	15.26	<b>15.66</b>	BETL
FBt 112	20.83	12.40	4.51	20.85	15.52	<b>14.82</b>	BETL
FBt 101	26.00	12.17	5.62	21.65	15.47	<b>16.18</b>	BETL
FBt 5006 Bg II	25.75	10.20	5.93	23.95	15.13	<b>16.19</b>	BETL
FBt 5014 Bg II	23.42	9.73	5.38	23.85	15.73	<b>15.62</b>	BETL
FBt 104	23.58	10.77	5.04	21.40	16.07	<b>15.37</b>	BETL
Local Check Non-Bt	23.33	12.77	4.98	24.65	16.69	<b>16.48</b>	BETL
FBt 5002 Bg II	25.58	9.77	4.73	22.35	15.07	<b>15.50</b>	BETL
FBt 118	21.92	10.80	6.02	22.05	15.87	<b>15.33</b>	BETL
PBH Bt II- 142	24.33	9.90	5.64	22.40	15.71	<b>15.60</b>	BETL
HAU Bt-12	23.83	9.57	4.98	19.80	17.06	<b>15.05</b>	BETL
FBt 5001 Bg II	21.83	9.83	4.38	24.05	16.21	<b>15.26</b>	BETL
F 2228 (Non-Bt ZC)	23.00	9.23	4.53	22.25	17.00	<b>15.20</b>	BETL
PAU Bt3 (Bt ZC)	25.08	9.67	4.56	23.45	17.83	<b>16.12</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Unprotected Conditions –Natural Enemies**

Name of Entry	Natural Enemies(No./plant)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	1.06	1.63	0.31	1.53	0.77	<b>1.06</b>	
HAU Bt-13	1.12	1.70	0.29	1.13	0.59	<b>0.97</b>	
FBt 112	1.26	1.43	0.31	1.23	0.92	<b>1.03</b>	
FBt 101	1.08	1.67	0.40	1.67	0.73	<b>1.11</b>	
FBt 5006 Bg II	1.13	1.60	0.33	1.67	0.87	<b>1.12</b>	
FBt 5014 Bg II	1.56	1.63	0.29	1.30	0.70	<b>1.10</b>	
FBt 104	0.92	1.70	0.36	1.13	0.73	<b>0.97</b>	
Local Check Non-Bt	1.54	1.70	0.31	1.50	0.61	<b>1.13</b>	
FBt 5002 Bg II	1.67	1.67	0.36	1.93	0.60	<b>1.24</b>	
FBt 118	1.39	1.67	0.31	1.37	0.58	<b>1.06</b>	
PBH Bt II- 142	1.14	1.73	0.38	1.40	1.06	<b>1.14</b>	
HAU Bt-12	1.33	1.77	0.31	1.27	0.69	<b>1.07</b>	
FBt 5001 Bg II	1.66	1.67	0.38	1.50	0.65	<b>1.17</b>	
F 2228 (Non-Bt ZC)	1.15	1.63	0.27	1.77	0.59	<b>1.08</b>	
PAU Bt3 (Bt ZC)	1.31	1.57	0.33	1.70	0.57	<b>1.10</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Unprotected Conditions –*Helicoverpa armigera***

Name of Entry	<i>Helicoverpa armigera</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-13	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 112	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 101	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5006 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5014 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 104	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Local Check Non-Bt	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5002 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 118	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PBH Bt II- 142	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-12	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5001 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
F 2228 (Non-Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PAU Bt3 (Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Unprotected Conditions –Spotted/Spiny Bollworms**

Name of Entry	Spotted Bollworms (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
HAU Bt-13	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
FBt 112	0.00	1.00	0.00	0.00	0.00	<b>0.20</b>	BETL
FBt 101	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
FBt 5006 Bg II	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
FBt 5014 Bg II	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
FBt 104	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
Local Check Non-Bt	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
FBt 5002 Bg II	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
FBt 118	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
PBH Bt II- 142	0.00	1.50	0.00	0.00	0.00	<b>0.30</b>	BETL
HAU Bt-12	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
FBt 5001 Bg II	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
F 2228 (Non-Bt ZC)	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL
PAU Bt3 (Bt ZC)	0.00	2.50	0.00	0.00	0.00	<b>0.50</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Unprotected Conditions –*Spodoptera litura***

Name of Entry	<i>Spodoptera litura</i> (No./5Plants)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-13	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 112	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 101	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5006 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5014 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 104	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Local Check Non-Bt	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5002 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 118	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PBH Bt II- 142	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-12	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5001 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
F 2228 (Non-Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PAU Bt3 (Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Unprotected Conditions – Pink Bollworm**

Name of Entry	Pink Bollworm Larva (No./10 bolls destructive sampling)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.38	2.50	1.22	0.38	2.59	<b>1.41</b>	AETL
HAU Bt-13	0.38	2.50	1.11	0.50	2.81	<b>1.46</b>	AETL
FBt 112	0.25	1.50	1.22	0.50	3.27	<b>1.35</b>	AETL
FBt 101	0.25	1.50	1.56	0.38	2.88	<b>1.31</b>	AETL
FBt 5006 Bg II	0.38	2.00	1.11	0.13	2.59	<b>1.24</b>	AETL
FBt 5014 Bg II	0.38	2.50	1.33	0.75	3.43	<b>1.68</b>	AETL
FBt 104	0.00	1.00	1.44	0.63	2.15	<b>1.04</b>	AETL
Local Check Non-Bt	0.38	1.50	1.56	0.88	2.88	<b>1.44</b>	AETL
FBt 5002 Bg II	0.13	2.50	1.78	0.38	3.04	<b>1.56</b>	AETL
FBt 118	0.38	1.50	1.00	0.38	3.99	<b>1.45</b>	AETL
PBH Bt II- 142	0.25	2.50	1.22	0.38	2.37	<b>1.34</b>	AETL
HAU Bt-12	0.25	2.00	1.22	0.38	2.59	<b>1.29</b>	AETL
FBt 5001 Bg II	0.38	2.00	1.44	0.13	3.32	<b>1.45</b>	AETL
F 2228 (Non-Bt ZC)	0.38	3.00	1.00	0.25	3.04	<b>1.53</b>	AETL
PAU Bt3 (Bt ZC)	0.63	2.50	0.89	0.38	3.70	<b>1.62</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Unprotected Conditions – Green Boll Damage due to ABW/SBW/TC**

Name of Entry	Green Boll Damage (%) due to ABW/SBW/TC						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-13	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 112	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 101	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5006 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5014 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 104	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
Local Check Non-Bt	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5002 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 118	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PBH Bt II- 142	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
HAU Bt-12	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
FBt 5001 Bg II	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
F 2228 (Non-Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL
PAU Bt3 (Bt ZC)	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>	BETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Unprotected Conditions – Green Boll Damage (Pink Bollworm)**

Name of Entry	Green Boll Damage (%) / 10 bolls destructive sampling						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	5.83	15.00	22.22	10.00	25.21	<b>15.65</b>	AETL
HAU Bt-13	5.00	25.00	23.33	11.25	14.79	<b>15.88</b>	AETL
FBt 112	4.17	15.00	20.00	7.50	21.87	<b>13.71</b>	AETL
FBt 101	0.83	25.00	23.33	11.25	16.46	<b>15.38</b>	AETL
FBt 5006 Bg II	7.08	15.00	17.78	5.00	14.79	<b>11.93</b>	AETL
FBt 5014 Bg II	4.17	25.00	26.67	10.00	23.96	<b>17.96</b>	AETL
FBt 104	7.08	15.00	24.44	12.50	26.46	<b>17.10</b>	AETL
Local Check Non-Bt	7.08	15.00	25.56	10.00	18.13	<b>15.15</b>	AETL
FBt 5002 Bg II	3.75	25.00	25.56	6.25	20.77	<b>16.26</b>	AETL
FBt 118	4.17	25.00	15.56	5.00	31.10	<b>16.16</b>	AETL
PBH Bt II- 142	2.50	15.00	14.44	11.25	20.63	<b>12.76</b>	AETL
HAU Bt-12	4.17	15.00	24.44	10.00	19.24	<b>14.57</b>	AETL
FBt 5001 Bg II	3.33	25.00	24.44	6.25	33.71	<b>18.55</b>	AETL
F 2228 (Non-Bt ZC)	5.83	25.00	20.00	7.50	14.79	<b>14.63</b>	AETL
PAU Bt3 (Bt ZC)	5.83	25.00	12.22	8.75	26.46	<b>15.65</b>	AETL

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar

**Table: Advanced Variety trial in North Zone under Unprotected Conditions – Open Boll Damage**

Name of Entry	Open Boll Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	15.21	17.50	10.29	18.86	31.67	<b>18.71</b>	
HAU Bt-13	12.37	17.50	7.20	20.53	23.33	<b>16.19</b>	
FBt 112	12.44	17.50	9.02	19.98	28.33	<b>17.45</b>	
FBt 101	10.43	17.50	17.99	20.49	70.00	<b>27.28</b>	
FBt 5006 Bg II	13.21	25.00	9.48	20.08	36.67	<b>20.89</b>	
FBt 5014 Bg II	15.22	20.00	14.35	18.26	30.00	<b>19.57</b>	
FBt 104	13.33	30.00	10.24	19.35	51.67	<b>24.92</b>	
Local Check Non-Bt	8.07	22.50	16.22	20.93	35.00	<b>20.54</b>	
FBt 5002 Bg II	16.91	17.50	12.97	18.98	43.33	<b>21.94</b>	
FBt 118	10.79	20.00	13.23	18.95	23.33	<b>17.26</b>	
PBH Bt II- 142	10.21	17.50	7.06	19.03	20.00	<b>14.76</b>	
HAU Bt-12	9.98	22.50	8.47	18.53	28.33	<b>17.56</b>	
FBt 5001 Bg II	11.87	17.50	16.15	20.35	60.00	<b>25.18</b>	
F 2228 (Non-Bt ZC)	6.78	22.50	14.46	20.43	35.00	<b>19.83</b>	
PAU Bt3 (Bt ZC)	11.21	22.50	14.24	21.82	40.00	<b>21.95</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



**Table: Advanced Variety trial in North Zone under Unprotected Conditions –Locule Damage**

Name of Entry	Locule Damage (%)						Remark
	FA	BT	HI	SI	SG	Mean	
RASI 33 BG II	5.40	2.70	4.64	9.20	16.76	<b>7.74</b>	
HAU Bt-13	6.78	3.60	3.44	9.99	14.40	<b>7.64</b>	
FBt 112	7.39	2.20	2.64	11.22	14.47	<b>7.59</b>	
FBt 101	6.16	1.50	6.34	9.93	27.20	<b>10.23</b>	
FBt 5006 Bg II	6.50	2.10	4.98	8.88	23.36	<b>9.16</b>	
FBt 5014 Bg II	6.91	2.70	5.76	10.25	15.05	<b>8.14</b>	
FBt 104	6.57	3.90	3.89	9.43	24.10	<b>9.58</b>	
Local Check Non-Bt	4.04	4.00	4.24	9.53	15.53	<b>7.47</b>	
FBt 5002 Bg II	10.54	5.35	4.37	8.11	15.04	<b>8.68</b>	
FBt 118	6.17	3.70	4.14	9.97	14.02	<b>7.60</b>	
PBH Bt II- 142	5.03	2.70	3.62	8.61	11.17	<b>6.23</b>	
HAU Bt-12	4.55	1.70	3.61	9.20	13.19	<b>6.45</b>	
FBt 5001 Bg II	5.35	3.00	4.18	9.95	29.86	<b>10.47</b>	
F 2228 (Non-Bt ZC)	3.57	2.00	4.53	10.21	18.64	<b>7.79</b>	
PAU Bt3 (Bt ZC)	5.51	3.60	4.26	10.72	20.90	<b>9.00</b>	

FA- Faridkot, BT- Bathinda, HI-Hisar, SI- Sirsa & SG- Sriganganagar



## Reaction to Diseases

### K. Criteria used for Evaluation against Cotton leaf curl virus disease:

Percent Disease index (PDI)	Disease reaction (DR)
0	Immune/disease free
0.1-10	Highly Resistant
10.1-20	Resistant
20.1-30	Moderately Resistant
30.1-40	Moderately Susceptible
40.1-50	Susceptible
>50	Highly Susceptible

**Note: The hybrids/varieties up to moderately susceptible disease reaction are permissible.**

### B. Criteria used for Evaluation against Fungal foliar diseases, bacterial leaf blight, grey mildew, TSV and boll rot

Percent Disease index (PDI)	Disease Reaction (DR)
0	Immune/disease free
0.1-25	Resistant
25.1-50	Moderately Resistant
50.1-75	Moderately Susceptible
>75	Susceptible

**Note: The disease reaction (DR) less than the local/Zonal check will be permissible.**

### C. Criteria used for Evaluation against root rot

Percent Disease index (PDI)/ Mortality (%)	Disease Reaction (DR)
0	Immune/disease free
0.1-5	Highly Resistant
6-15	Resistant
16-25	Moderately Susceptible
>26	Susceptible

#### Abbreviations:

ALB=Alternaria leaf blight

BLB= Bacterial leaf blight

CLCuD= Cotton leaf curl virus disease

CLS= Cercospora leaf spot

CoLS= Corynespora leaf spot

FFS= fungal foliar spots (Alternaria/Myrothecium/Cercospora)

DR= Disease reaction

GM= Grey mildew

MLS= Myrothecium leaf spot

PDI= percent disease index (%)

TSV= Tobacco streak virus



**Table: Advanced Evaluation Trial of Bt Cotton Varieties- under unprotected conditions**

Code-I	Code-II	Entries	Average FFLS , BLB PDI & Disease Reaction (DR) under unprotected conditions		
			Bathinda		
			FFLS	BLB	FFLS & BLB
			PDI	PDI	DR
605	50101	RASI 33 Bg II	21.8	4.0	R
608	50102	HAU Bt-13	19.8	4.5	R
611	50103	FBt 112	19.3	4.5	R
602	50104	FBt 101	19.8	4.5	R
613	50105	FBt 5006 Bg II	18.8	4.5	R
607	50106	FBt 5014 Bg II	19.3	4.3	R
604	50107	FBt 104	19.3	4.3	R
601	50108	<b>Local Check Non-Bt</b>	19.8	5.0	R
615	50109	FBt 5002 Bg II	19.3	4.0	R
610	50110	FBt 118	20.3	4.0	R
606	50111	PBH Bt II- 142	19.8	5.3	R
603	50112	HAU Bt-12	21.3	5.3	R
614	50113	FBt 5001 Bg II	18.3	4.0	R
612	50114	<b>F 2228 (Non-Bt ZC)</b>	19.8	4.5	R
609	50115	<b>PAU Bt3 (Bt ZC)</b>	17.8	3.3	R



Table 6 (c) Advanced Evaluation Trial of Bt Cotton Varieties- under unprotected conditions

Code-I	Code-II	Entries	Average CLCuD PDI & Disease Reaction (DR) under unprotected conditions															
			Bathinda		Faridkot		Mean		Hisar		CICR RS, Sirsa		Mean		Sri Ganganagr		Overall Mean	
			PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR	PDI	DR
605	50101	RASI 33 BG II	46.7	S	0.0	DF	23.4	MR	20.0	R	0.0	DF	10.0	HR	0.0	DF	11.1	R
608	50102	HAU Bt-13	44.2	S	31.3	MS	37.7	MS	20.8	MR	41.8	S	31.3	MS	46.2	S	38.4	MS
611	50103	FBt 112	37.5	MS	29.1	MR	33.3	MS	26.7	MR	31.2	MS	29.0	MR	13.7	R	25.3	MR
602	50104	FBt 101	15.8	R	33.9	MS	24.8	MR	30.0	MR	45.8	S	37.9	MS	23.7	MR	28.8	MR
613	50105	FBt 5006 Bg II	25.8	MR	20.4	MR	23.1	MR	25.8	MR	32.3	MS	29.1	MR	15.5	R	22.6	MR
607	50106	FBt 5014 Bg II	20.8	MR	10.4	R	15.6	R	27.5	MR	16.5	R	22.0	MR	11.3	R	16.3	R
604	50107	FBt 104	14.2	R	28.7	MR	21.5	MR	30.0	MR	40.6	S	35.3	MS	11.3	R	22.7	MR
601	50108	<b>Local Check Non-Bt</b>	10.0	HR	30.1	MR	20.0	R	31.7	MS	44.8	S	38.3	MS	0.0	DF	19.4	R
615	50109	FBt 5002 Bg II	29.2	MR	10.1	HR	19.6	R	20.8	MR	12.5	R	16.7	R	6.8	HR	14.4	R
610	50110	FBt 118	21.7	MR	19.9	R	20.8	MR	28.3	MR	19.4	R	23.9	MR	4.5	HR	16.4	R
606	50111	PBH Bt II-142	39.2	MS	34.7	MS	36.9	MS	29.2	MR	42.3	S	35.8	MS	27.3	MR	33.3	MS
603	50112	HAU Bt-12	20.8	MR	36.9	MS	28.9	MR	19.2	R	48.8	S	34.0	MS	25.0	MR	29.3	MR
614	50113	FBt 5001 Bg II	13.3	R	11.6	R	12.4	R	25.8	MR	17.5	R	21.7	MR	4.3	HR	12.8	R
612	50114	<b>F 2228 (Non-Bt ZC)</b>	25.0	MR	36.1	MS	30.6	MS	28.3	MR	45.9	S	37.1	MS	27.7	MR	31.8	MS
609	50115	<b>PAU Bt3 (Bt ZC)</b>	26.7	MR	24.7	MR	25.7	MR	31.7	MS	51.7	HS	41.7	S	28.8	MR	32.1	MS



### Agronomic evaluation

Agronomic requirement studies are conducted to determine the specific environment includes, geometry, nutrient, and management conditions necessary for optimal crop growth, maximizing yield, and enhancing quality. These studies are essential for developing sustainable agricultural practices, such as precise fertilization and plant population management

#### Agronomy : Agronomic requirements of promising pre-release Bt Variety /Bt hybrids

##### HISAR (FBt 101)

The study was conducted to find out the geometry and nitrogen requirement of Bt variety (FBt 101) at Hisar. The results revealed that there is no significant difference with respect to spacing and nitrogen levels. (Table 5)

**Table 5. Seed cotton yield (kg/ha) as influenced by spacing levels and nutrient levels at Hisar**

Treatments	S <sub>1</sub> - 100x45 cm	S <sub>2</sub> - 100x30 cm	S <sub>3</sub> - 100x60 cm	Mean (Nitrogen)	ANOVA	SE d	CD (5%)
N <sub>1</sub> - 75% RDN	933	911	944	929	Spacing	139	NS
N <sub>2</sub> - 100% RDN	1141	1163	1141	1148	Nitrogen	139	NS
N <sub>3</sub> - 125% RDN	1218	1021	1174	1138	S X N	240	NS
Mean (spacing)	1098	1032	1086				
Control (PAU Bt 3)	1481						

Basic parameters: pH: 7.8, EC: 1.29 dSm<sup>-1</sup>, OC (%): 0.51, Available N: 245 kg/ha, Available P<sub>2</sub>O<sub>5</sub>: 23 kg/ha, Available K<sub>2</sub>O: 400.5 kg/ha, Recommended nutrients: 90:30:0:25 kg N:P:K:ZnSO<sub>4</sub>/ha, Genotype: FBt 101, Environment: Irrigated, Total rainfall during cropping period: 892.7 mm



## Cry Protein Expression

### Cry1Ac Protein Quantity (ppm or µg/g dwt) in AET-II HXH trial at Sirsa (2025-26)

Code-II	Entry	Leaf				Square			Bolls	
		30D	60D	90D	120D	60D	90D	120D	90D	120D
50051	ACH 905-2 BGII	2.86	7.11	5.06	4.40	3.00	3.16	2.96	6.48	4.43
50052	ACH 333-2 BG II	2.52	6.69	8.78	5.01	3.32	2.24	3.24	3.56	4.10
50053	KCH 9390 BG II	3.12	5.78	7.51	5.34	2.76	3.68	2.66	4.33	5.17
50054	KCH 9389 BG II	3.50	5.37	6.55	2.59	4.68	4.58	2.94	5.63	5.74
50055	US 716 BGII	2.52	4.74	8.93	2.25	4.84	6.62	4.12	6.96	7.23
50056	RCH 1001 BG II	2.44	7.36	6.19	2.09	2.84	3.66	2.57	5.17	5.13
50057	<b>ACH 177-2 BGII</b>	1.82	7.32	8.83	4.69	6.22	2.62	3.37	3.91	3.75
50058	<b>ACH 945-2 BGII</b>	1.88	6.13	7.51	2.94	4.52	3.54	3.47	3.98	3.62
50059	ARCH 1111 BG II	4.26	8.98	7.82	3.95	5.54	3.44	4.43	5.63	5.05
50060	DACH 48N48 BG II	5.22	8.14	9.98	4.09	6.70	3.32	4.73	4.51	5.89
50061	DACH 49N49 BG II	3.88	8.70	8.26	5.92	4.48	4.22	4.49	4.45	5.03
50062	C 9318 BG II	2.16	4.52	5.78	5.89	4.06	2.26	4.21	6.12	5.43

### Cry2Ab Protein Quantity (ppm or µg/g dwt) in AET-II HXH trial at Sirsa (2025-26)

Code-II	Entry	Leaf				Square			Bolls	
		30D	60D	90D	120D	60D	90D	120D	90D	120D
50051	ACH 905-2 BGII	293.6	497.9	244.5	202.3	328.2	237.0	523.2	262.9	152.2
50052	ACH 333-2 BG II	305.3	568.2	299.6	202.1	330.6	206.3	440.2	241.9	164.1
50053	KCH 9390 BG II	724.6	632.0	745.4	636.5	741.7	660.4	973.6	691.2	436.1
50054	KCH 9389 BG II	257.3	507.8	372.3	301.4	339.0	284.6	405.8	160.8	196.2
50055	US 716 BGII	218.7	383.2	300.9	271.6	311.3	379.9	466.1	298.1	229.1
50056	RCH 1001 BG II	715.9	683.4	551.6	523.4	575.3	730.8	760.4	509.2	381.1
50057	<b>ACH 177-2 BGII</b>	394.3	642.2	656.9	558.9	745.3	672.3	888.3	383.4	327.2
50058	<b>ACH 945-2 BGII</b>	481.7	662.3	498.7	368.5	733.4	663.1	700.7	471.0	249.5
50059	ARCH 1111 BG II	712.0	742.3	705.1	665.8	788.6	766.1	690.0	654.6	340.8
50060	DACH 48N48 BG II	653.6	724.7	675.5	536.7	869.2	664.8	871.9	662.8	359.1
50061	DACH 49N49 BG II	347.8	535.0	299.3	220.6	228.0	288.8	475.4	232.1	290.7
50062	C 9318 BG II	199.5	571.3	240.3	379.1	301.3	303.8	610.7	250.0	251.9

### Cry1Ac Protein Quantity (ppm or µg/g dwt) in AET-II Hirsutum trial at Sirsa (2025-26)

Entry	Leaf				Square			Bolls	
	30D	60D	90D	120D	60D	90D	120D	90D	120D
FBt 101	4.09	5.30	5.96	1.79	2.12	3.58	4.40	6.98	5.73
Check 1 PAU Bt-3	1.85	5.64	2.80	5.46	2.05	3.86	4.49	5.30	6.18
Check 2 CICR Bt-6	3.62	4.09	5.45	4.48	2.35	3.43	3.11	1.35	4.53

### Cry2Ab Protein Quantity (ppm or µg/g dwt) in AET-II Hirsutum trial at Sirsa (2025-26)

Entry	Leaf				Square			Bolls	
	30D	60D	90D	120D	60D	90D	120D	90D	120D
FBt 101	--	--	--	--	--	--	--	--	--
Check 1 PAU Bt-3	--	--	--	--	--	--	--	--	--
Check 2 CICR Bt-6	--	--	--	--	--	--	--	--	--



## Cry Protein Expression

### Cry1Ac Protein Quantity (ppm or µg/g dwt) in AET-II HXH trial at Faridkot (2025-26)

Code-II	Entry	Leaf				Square			Bolls	
		30D	60D	90D	120D	60D	90D	120D	90D	120D
50051	ACH 905-2 BGII	3.78	5.56	6.16	3.08	3.09	3.06	2.01	3.38	1.59
50052	ACH 333-2 BG II	5.94	4.58	6.66	3.26	3.77	3.36	1.92	3.93	0.27
50053	KCH 9390 BG II	3.51	6.34	5.80	3.34	3.00	3.15	1.59	4.31	1.82
50054	KCH 9389 BG II	4.84	6.35	4.86	2.02	2.69	2.64	1.23	3.38	2.55
50055	US 716 BGII	4.63	5.29	5.14	2.82	3.88	3.54	3.87	7.49	2.87
50056	RCH 1001 BG II	2.82	7.03	4.82	3.34	1.46	3.33	2.46	4.92	1.77
50057	<b>ACH 177-2 BGII</b>	5.45	5.35	3.48	1.37	2.35	2.82	1.74	3.51	2.42
50058	<b>ACH 945-2 BGII</b>	5.16	7.01	2.96	3.26	1.89	4.38	1.20	2.48	2.51
50059	ARCH 1111 BG II	4.68	8.26	5.64	2.95	4.06	4.80	1.77	3.71	5.66
50060	DACH 48N48 BG II	6.93	6.97	7.66	3.69	2.63	4.11	1.44	8.01	8.52
50061	DACH 49N49 BG II	4.75	5.02	6.36	2.83	2.46	3.93	1.62	5.99	4.23
50062	C 9318 BG II	4.88	1.73	5.06	1.72	2.31	4.05	2.52	5.07	1.37

### Cry2Ab Protein Quantity (ppm or µg/g dwt) in AET-II HXH trial at Faridkot (2025-26)

Code-II	Entry	Leaf				Square			Bolls	
		30D	60D	90D	120D	60D	90D	120D	90D	120D
<b>50051</b>	ACH 905-2 BGII	568.1	483.8	294.6	280.6	490.4	432.2	324.4	173.1	223.5
<b>50052</b>	ACH 333-2 BG II	687.5	457.5	210.3	296.1	484.5	439.7	294.9	187.4	321.8
<b>50053</b>	KCH 9390 BG II	772.4	852.0	483.8	734.6	746.9	619.2	464.8	333.6	331.6
<b>50054</b>	KCH 9389 BG II	457.8	424.7	222.9	124.3	360.7	307.9	140.9	174.5	92.0
<b>50055</b>	US 716 BGII	490.8	580.8	332.0	241.6	635.8	507.2	347.8	242.7	173.7
<b>50056</b>	RCH 1001 BG II	516.1	837.2	436.5	359.2	479.6	845.4	426.4	403.5	279.3
<b>50057</b>	<b>ACH 177-2 BGII</b>	668.5	801.4	366.1	162.8	563.4	684.2	485.7	304.0	187.1
<b>50058</b>	<b>ACH 945-2 BGII</b>	572.2	867.0	377.4	332.1	416.2	632.8	440.4	319.9	155.3
<b>50059</b>	ARCH 1111 BG II	488.9	856.0	463.5	293.6	618.8	791.2	466.3	495.1	200.6
<b>50060</b>	DACH 48N48 BG II	894.1	819.2	543.3	316.9	654.4	811.5	399.1	575.5	351.0
<b>50061</b>	DACH 49N49 BG II	446.7	516.2	328.0	250.5	505.8	422.6	371.5	254.3	156.7
<b>50062</b>	C 9318 BG II	378.0	401.4	241.2	192.0	545.2	549.7	433.6	326.4	228.7



***Helicoverpa armigera* Bioassay**  
**Laboratory Bioassay of *Helicoverpa armigera***  
**Sirsa Center 2025-26**

**Table.1 *Helicoverpa armigera* bioassay on leaf in Advance HxH hybrid trial (AET-II) on leaf in laboratory condition at Sirsa 2025-26.**

Name of Entry	Leaf Mortality (%)						Mean
	30 DAS	60 DAS	80 DAS	100 DAS	120 DAS	140 DAS	
ACH 905-2 BGII	100.00	97.33	100.00	97.33	93.33	93.33	<b>96.89</b>
ACH 333-2 BG II	98.67	97.33	100.00	97.33	92.00	92.00	<b>96.22</b>
KCH 9390 BG II	100.00	100.00	98.67	98.67	94.67	94.67	<b>97.78</b>
KCH 9389 BG II	97.33	98.67	98.67	98.67	90.67	94.67	<b>96.44</b>
US 716 BGII	98.67	97.33	98.67	97.33	89.33	92.00	<b>95.56</b>
RCH 1001 BG II	98.67	93.33	100.00	98.67	92.00	89.33	<b>95.33</b>
<b>ACH 177-2 BGII</b>	100.00	97.33	98.67	97.33	89.33	93.33	<b>96.00</b>
<b>ACH 945-2 BGII</b>	100.00	97.33	100.00	97.33	88.00	90.67	<b>95.56</b>
ARCH 1111 BG II	98.67	98.67	97.33	96.00	90.67	89.33	<b>95.11</b>
DACH 48N48 BG II	100.00	96.00	100.00	96.00	92.00	94.67	<b>96.44</b>
DACH 49N49 BG II	98.67	97.33	98.67	97.33	94.67	89.33	<b>96.00</b>
C 9318 BG II	97.33	98.67	98.67	100.00	92.00	90.67	<b>96.22</b>

**Table.2 *Helicoverpa armigera* bioassay on Square, flower and bolls in Advance HxH hybrid trial (AET-II) in laboratory condition at Sirsa 2025-26.**

Name of Entry	Mortality (%)			Mean
	Square(70 DAS)	Flower(80DAS)	Bolls(100DAS)	
ACH 905-2 BGII	93.33	97.33	98.67	<b>96.44</b>
ACH 333-2 BG II	96.00	94.67	100.00	<b>96.89</b>
KCH 9390 BG II	93.33	93.33	96.00	<b>94.22</b>
KCH 9389 BG II	94.67	96.00	100.00	<b>96.89</b>
US 716 BGII	94.67	92.00	98.67	<b>95.11</b>
RCH 1001 BG II	96.00	94.67	96.00	<b>95.56</b>
<b>ACH 177-2 BGII</b>	94.67	94.67	98.67	<b>96.00</b>
<b>ACH 945-2 BGII</b>	97.33	98.67	100.00	<b>98.67</b>
ARCH 1111 BG II	96.00	93.33	97.33	<b>95.56</b>
DACH 48N48 BG II	92.00	94.67	100.00	<b>95.56</b>
DACH 49N49 BG II	93.33	96.00	98.67	<b>96.00</b>
C 9318 BG II	92.00	98.67	98.67	<b>96.44</b>





हर कदम, हर डगर  
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