

**Spot Examination of BT & Non BT Cotton Candidate lines Kharif-2020 at
Punjab Seed Corporation Farms, Khannewal on 23.10.2020.
Micronaire (Microgram/inch)**

Sr. No.	Genotype Name	CRI Multan	CCRI Multan	APTMA Lahore	NIBGE Faisalabad	Average
1.	NIAB-135	5.3	4.9	4.6	5.41	5.05
2.	Weal AG 201 (II)	5.8	5.8	5.4	6.03	5.75
3.	NIAB-898	4.9	4.5	4.4	5.06	4.71
4.	SAHARA Klean-5	5.2	4.6	4.4	5.06	4.81
5.	YBG-2222	4.6	4.4	4.2	5.04	4.56
6.	YAQUEEN-7	5.2	4.9	4.5	5.32	4.98
7.	Rohi-2	5.3	4.5	4.3	5.25	4.83
8.	CII Suncrop	4.4	4.1	4.1	4.76	4.34
9.	CEMB-100	4.6	4.6	4.4	4.91	4.63
10.	Rohi-1	4.3	3.8	3.6	4.54	4.06
11.	CIM-663	4.7	4.0	3.8	4.64	4.28
12.	Eagle-4	4.5	4.5	4.5	5.12	4.65
13.	Suncrop-3	4.7	4.6	4.5	4.70	4.62
14.	ASPL-709	4.5	4.6	4.1	4.73	4.48
15.	MNH-1050	5.3	4.4	3.9	4.74	4.58
16.	BH-221	5.0	4.4	4.2	4.90	4.62
17.	GS ALI-II (Non BT)	4.3	3.6	3.6	4.53	4.00
18.	Rustum-II	5.4	5.1	4.8	5.46	5.19
19.	RH AFNAN-II	5.9	4.3	5.1	5.14	5.11
20.	CIM-343	5.8	5.5	5.3	5.71	5.58
21.	CKC Thakar-76	4.9	4.7	4.5	5.02	4.78
22.	IR NIBGE-15	4.8	4.9	4.5	5.28	4.87
23.	NIAB SANAB-M	5.0	4.7	4.5	5.14	4.83
24.	WEAL AG-10	5.3	4.5	4.2	4.61	4.62
25.	CKC-6	4.5	4.1	3.9	4.52	4.25
26.	CYTO-226 (Non BT)	5.5	4.4	4.2	5.46	4.89
27.	EYE-20	5.2	4.4	4.6	5.60	4.95
28.	YBG-2323	4.7	4.4	3.8	4.89	4.45

29.	FH-492	5.2	4.6	4.5	4.87	4.79
30.	WEAL AG CKC-301	5.5	4.8	4.7	5.38	5.09
31.	CIM-303	5.2	4.8	4.5	5.0	4.87
32.	DIAMOND-2	5.0	4.3	4.4	4.82	4.63
33.	TAHAFUZ-15	3.8	3.2	2.9	3.51	3.35
34.	CIM-775	5.2	4.7	4.4	5.07	4.84
35.	CYTO-533	4.3	3.7	3.6	4.31	3.98
36.	SAYBAN-209	4.5	4.3	4.3	4.32	4.36
37.	BS-J5	4.5	4.0	3.8	4.40	4.18
38.	NS-211	4.6	4.4	4.5	5.06	4.64
39.	WEAL AG-9	4.8	4.3	4.1	4.37	4.39
40.	CYTO-535	4.0	4.1	3.8	3.97	3.97
41.	GHAURI-2	5.5	4.6	4.6	5.11	4.95
42.	FH-ANMOL	4.9	4.8	4.4	4.90	4.75
43.	CKC-5	5.0	4.6	4.3	5.16	4.76
44.	ICI-2121	5.1	4.7	4.3	5.18	4.82
45.	BH-224	5.2	5.1	4.7	5.09	5.02
46.	MNH-1086	5.2	5.0	4.5	5.35	5.01
47.	SAHARA-300	4.6	4.6	4.7	4.77	4.67
48.	TAHAFUZ-10	3.6	3.6	3.4	3.98	3.64
49.	IR NIBGE-14	3.9	3.6	3.7	4.25	3.86
50.	CII TAHAFUZ-12	4.5	4.3	3.7	4.40	4.22
51.	BAKHTAWER-I	4.3	4.0	4.1	4.64	4.26
52.	CIM-785	5.0	4.5	4.5	4.83	4.71
53.	SAIM-102	4.5	4.0	4.0	4.87	4.34
54.	ASPL-710	5.0	4.8	4.7	5.14	4.91
55.	CYTO-511	5.3	4.6	4.3	4.84	4.76
56.	CIM-678	4.7	4.2	3.7	4.15	4.19
57.	NIAB-512	5.0	4.3	4.5	4.95	4.69
58.	THAKAR-22	4.5	4.2	4.0	4.52	4.30

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Staple Length (mm)**

Sr. No.	Genotype Name	CRI Multan	CCRI Multan	APTMA Lahore	NIBGE Faisalabad	Average
1.	NIAB-135	26.4	27.7	26.42	27.37	26.97
2.	Weal AG 201 (II)	25.8	27.1	26.16	26.96	26.51
3.	NIAB-898	28.8	28.6	28.96	29.01	28.84
4.	SAHARA Klean-5	27.4	28.6	26.67	27.16	27.46
5.	YBG-2222	28.5	27.7	27.18	27.82	27.8
6.	YAQUEEN-7	26.2	26.9	24.38	26.51	26.0
7.	Rohi-2	30.0	29.2	29.21	29.13	29.39
8.	CII Suncrop	27.8	27.1	25.91	26.79	26.9
9.	CEMB-100	30.0	27.6	28.19	28.58	28.59
10.	Rohi-1	28.4	28.8	26.16	28.78	28.04
11.	CIM-663	29.1	27.5	28.45	28.67	28.43
12.	Eagle-4	28.2	26.0	25.65	26.79	26.67
13.	Suncrop-3	27.0	28.7	26.92	28.76	27.85
14.	ASPL-709	28.2	27.8	26.42	26.84	27.32
15.	MNH-1050	28.0	28.6	25.91	28.46	27.74
16.	BH-221	26.6	27.2	26.67	27.16	26.91
17.	GS ALI-II (Non BT)	27.6	28.9	27.18	28.66	28.09
18.	Rustum-II	24.7	24.3	25.65	24.96	24.90
19.	RH AFNAN-II	25.3	24.3	25.91	25.80	25.33
20.	CIM-343	27.8	28.7	26.67	28.74	27.98
21.	CKC Thakar-76	30.0	29.5	28.45	29.73	29.28
22.	IR NIBGE-15	27.5	28.7	27.94	28.73	28.22
23.	NIAB SANAB-M	28.7	28.5	27.94	29.89	28.76
24.	WEAL AG-10	26.0	28.9	25.91	26.15	26.74
25.	CKC-6	28.2	28.7	26.16	27.36	27.61
26.	CYTO-226 (Non BT)	30.1	29.0	29.72	29.57	29.60
27.	EYE-20	25.1	27.1	24.89	25.22	25.58
28.	YBG-2323	27.7	26.9	26.16	27.29	27.01

29.	FH-492	30.0	29.2	29.97	30.01	29.80
30.	WEAL AG CKC-301	26.6	27.0	25.65	26.78	26.51
31.	CIM-303	26.9	26.3	26.16	26.84	26.55
32.	DIAMOND-2	27.7	26.0	24.89	25.93	26.13
33.	TAHAFUZ-15	26.6	26.6	25.91	26.46	26.44
34.	CIM-775	27.8	26.5	26.67	27.33	27.08
35.	CYTO-533	27.5	28.3	27.69	28.65	28.04
36.	SAYBAN-209	27.1	26.6	25.15	27.81	26.67
37.	BS-J5	26.3	24.4	24.89	25.75	25.34
38.	NS-211	25.8	28.9	26.16	26.79	26.91
39.	WEAL AG-9	27.2	29.1	23.88	29.20	27.35
40.	CYTO-535	28.9	29.4	27.18	28.17	28.41
41.	GHAURI-2	28.7	27.6	28.45	29.14	28.47
42.	FH-ANMOL	31.2	29.8	27.94	29.82	29.69
43.	CKC-5	27.0	26.0	26.16	27.68	26.71
44.	ICI-2121	26.5	27.4	26.42	26.89	26.80
45.	BH-224	27.6	27.6	28.96	28.16	28.08
46.	MNH-1086	27.2	27.8	26.92	28.40	27.36
47.	SAHARA-300	26.7	26.8	26.92	27.51	26.98
48.	TAHAFUZ-10	27.4	28.8	28.19	28.57	28.24
49.	IR NIBGE-14	28.6	28.1	26.92	27.80	27.86
50.	CII TAHAFUZ-12	27.0	26.7	26.67	27.08	26.86
51.	BAKHTAWER-I	26.8	27.5	27.94	27.74	27.50
52.	CIM-785	29.2	28.9	27.94	28.94	28.76
53.	SAIM-102	27.1	27.4	26.67	27.12	27.07
54.	ASPL-710	25.8	25.5	24.13	25.10	25.13
55.	CYTO-511	27.5	26.9	27.94	28.17	27.63
56.	CIM-678	28.2	29.0	27.43	28.70	28.33
57.	NIAB-512	28.5	30.0	27.69	28.51	28.68
58.	THAKAR-22	26.4	25.7	25.65	26.54	26.07

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Fibre Uniformity Index(%)**

Sr. No.	Genotype Name	CRI Multan	CCRI Multan	APTMA Lahore	NIBGE Faisalabad	Average
1.	NIAB-135	80.2	81.2	80.1	81.77	80.82
2.	Weal AG 201 (II)	80.5	84.2	80.0	83.43	82.03
3.	NIAB-898	84.6	85.0	81.1	84.50	83.80
4.	SAHARA Klean-5	79.6	84.0	80.2	82.73	81.63
5.	YBG-2222	81.8	83.2	80.4	82.03	81.86
6.	YAQUEEN-7	79.9	85.8	79.3	83.20	82.05
7.	Rohi-2	81.9	84.7	81.2	83.50	82.82
8.	CII Suncrop	80.0	83.5	79.9	82.73	81.53
9.	CEMB-100	79.0	83.1	80.8	82.47	81.34
10.	Rohi-1	80.2	84.8	80.0	84.90	82.47
11.	CIM-663	80.1	82.1	80.9	83.47	81.64
12.	Eagle-4	82.5	82.1	79.8	83.57	81.99
13.	Suncrop-3	80.3	79.7	80.3	83.03	80.83
14.	ASPL-709	80.0	84.2	80.1	83.23	81.88
15.	MNH-1050	81.2	85.9	79.9	85.50	83.12
16.	BH-221	78.8	83.5	80.3	83.47	81.52
17.	GS ALI-II (Non BT)	81.4	85.0	80.4	84.77	82.89
18.	Rustum-II	80.4	81.6	79.7	80.47	80.54
19.	RH AFNAN-II	80.0	80.5	80.0	81.27	80.44
20.	CIM-343	84.2	87.2	80.2	84.43	84.01
21.	CKC Thakar-76	78.5	85.3	80.9	84.30	82.25
22.	IR NIBGE-15	78.3	84.4	80.7	83.33	81.68
23.	NIAB SANAB-M	79.4	86.2	80.7	84.37	82.67
24.	WEAL AG-10	79.6	80.8	79.9	79.27	79.89
25.	CKC-6	80.1	80.8	80.1	82.27	80.82
26.	CYTO-226 (Non BT)	82.5	82.3	81.3	85.23	82.83
27.	EYE-20	82.2	83.1	79.4	82.23	81.73
28.	YBG-2323	73.7	80.0	80.0	81.53	78.81

29.	FH-492	80.4	83.3	81.4	85.03	82.53
30.	WEAL AG CKC-301	81.0	83.7	79.8	82.23	81.68
31.	CIM-303	79.8	83.0	80.0	83.40	81.55
32.	DIAMOND-2	80.5	80.6	79.4	80.90	80.35
33.	TAHAFUZ-15	75.8	81.6	80.0	80.83	79.55
34.	CIM-775	79.8	83.0	80.3	83.60	81.67
35.	CYTO-533	81.0	86.3	80.6	85.50	83.35
36.	SAYBAN-209	79.0	83.5	79.6	83.83	81.48
37.	BS-J5	77.0	79.7	79.4	80.90	79.25
38.	NS-211	80.4	83.9	80.1	82.60	81.75
39.	WEAL AG-9	77.5	85.0	78.9	83.27	81.17
40.	CYTO-535	80.2	85.2	80.5	84.33	82.31
41.	GHAURI-2	80.0	82.2	80.9	83.07	81.54
42.	FH-ANMOL	80.5	83.8	80.7	84.23	82.06
43.	CKC-5	81.0	79.9	80.1	83.63	81.16
44.	ICI-2121	81.4	84.5	80.2	83.20	82.33
45.	BH-224	80.5	85.3	81.1	83.33	82.56
46.	MNH-1086	78.6	83.3	80.3	83.13	81.33
47.	SAHARA-300	80.9	81.4	80.3	83.60	81.55
48.	TAHAFUZ-10	78.4	81.4	80.8	82.47	80.72
49.	IR NIBGE-14	79.6	80.5	80.4	82.97	80.87
50.	CII TAHAFUZ-12	80.2	81.8	80.2	83.27	81.37
51.	BAKHTAWER-I	80.1	82.7	80.7	82.50	81.50
52.	CIM-785	82.0	86.1	80.7	84.27	83.27
53.	SAIM-102	79.5	83.1	80.3	82.70	81.40
54.	ASPL-710	78.1	83.2	79.1	82.23	80.66
55.	CYTO-511	80.7	82.7	80.7	84.57	82.17
56.	CIM-678	80.0	83.3	80.6	83.47	81.84
57.	NIAB-512	82.4	85.0	80.7	82.90	82.75
58.	THAKAR-22	79.0	81.5	79.8	83.67	80.99

**Spot Examination of BT & Non BT Cotton Candidate lines Kharif-2020 at
Punjab Seed Corporation Farms, Khannewal on 23.10.2020.
Fibre Strength (G/Tex)**

Sr. No.	Genotype Name	CRI Multan	CCRI Multan	APTMA Lahore	NIBGE Faisalabad	Average
1.	NIAB-135	31.8	28.9	28.1	33.40	30.55
2.	Weal AG 201 (II)	28.9	26.3	33.1	33.60	30.48
3.	NIAB-898	26.7	27.8	28.9	30.83	28.56
4.	SAHARA Klean-5	24.9	27.6	23.8	31.87	27.04
5.	YBG-2222	27.9	28.3	36.9	32.60	31.43
6.	YAQEEN-7	30.2	27.1	27.7	31.90	29.23
7.	Rohi-2	29.4	29.6	27.8	30.70	29.38
8.	CII Suncrop	29.5	28.5	26.9	34.47	29.84
9.	CEMB-100	30.7	28.9	26.5	30.67	29.19
10.	Rohi-1	28.9	29.6	29.6	32.73	30.21
11.	CIM-663	27.6	28.3	29.6	31.17	29.17
12.	Eagle-4	27.0	27.1	26.8	32.17	28.27
13.	Suncrop-3	31.0	27.3	32.9	30.93	30.53
14.	ASPL-709	27.4	28.9	26.3	32.27	28.72
15.	MNH-1050	26.1	29.0	30.3	31.03	29.11
16.	BH-221	28.9	28.6	25.3	33.00	28.95
17.	GS ALI-II (Non BT)	27.4	29.4	35.7	31.97	31.12
18.	Rustum-II	25.7	22.9	26.3	34.43	27.33
19.	RH AFNAN-II	28.4	24.1	22.7	33.73	27.23
20.	CIM-343	27.1	26.0	29.5	31.17	28.44
21.	CKC Thakar-76	29.0	29.9	31.7	33.03	30.91
22.	IR NIBGE-15	29.4	29.6	36.7	31.50	31.8
23.	NIAB SANAB-M	27.0	29.6	25.0	31.50	28.28
24.	WEAL AG-10	29.0	27.2	36.6	35.20	32.0
25.	CKC-6	31.1	27.8	26.8	35.03	30.33
26.	CYTO-226 (Non BT)	26.0	30.9	27.7	29.17	28.44
27.	EYE-20	31.6	28.6	25.6	32.97	29.69
28.	YBG-2323	30.1	27.7	32.4	32.13	30.58

29.	FH-492	28.5	30.6	34.3	30.80	31.05
30.	WEAL AG CKC-301	26.3	28.8	30.2	32.33	29.41
31.	CIM-303	30.9	27.2	31.7	32.13	30.48
32.	DIAMOND-2	27.8	27.8	31.7	34.63	30.48
33.	TAHAFUZ-15	29.4	27.6	28.3	33.20	29.63
34.	CIM-775	28.0	27.6	26.3	32.40	28.58
35.	CYTO-533	27.3	28.8	25.2	28.50	27.45
36.	SAYBAN-209	27.9	27.9	25.3	33.07	28.54
37.	BS-J5	30.8	25.0	29.9	34.20	29.98
38.	NS-211	29.5	27.4	24.6	33.37	28.72
39.	WEAL AG-9	29.0	26.3	34.2	33.37	30.72
40.	CYTO-535	26.9	30.5	25.6	32.40	28.85
41.	GHAURI-2	28.8	28.7	30.6	30.97	29.77
42.	FH-ANMOL	27.4	29.9	34.2	32.00	30.88
43.	CKC-5	27.3	25.1	22.5	32.97	26.97
44.	ICI-2121	33.2	27.2	31.6	32.70	31.18
45.	BH-224	28.7	26.8	28.5	31.93	28.98
46.	MNH-1086	28.9	26.8	29.0	32.87	29.39
47.	SAHARA-300	28.4	27.5	28.5	31.83	29.06
48.	TAHAFUZ-10	26.8	29.0	28.2	30.83	28.71
49.	IR NIBGE-14	33.0	29.8	35.9	35.27	33.49
50.	CII TAHAFUZ-12	29.2	26.2	28.8	32.47	29.17
51.	BAKHTAWER-I	29.7	28.8	24.1	32.37	28.74
52.	CIM-785	28.8	29.8	34.0	32.10	31.17
53.	SAIM-102	28.3	28.6	28.0	32.07	29.24
54.	ASPL-710	28.9	26.4	26.1	32.43	28.46
55.	CYTO-511	26.7	26.3	34.5	32.30	29.95
56.	CIM-678	27.9	29.5	30.4	31.80	29.90
57.	NIAB-512	26.4	29.6	26.7	31.73	28.61
58.	THAKAR-22	28.4	26.7	34.9	32.70	30.68

Government of Pakistan
Ministry of National Food Security & Research
Pakistan Central Cotton Committee (PCCC)
Directorate of Agricultural Research (DAR)
2020 NCVT - BCT Test Results from ABRI

Annexure-VII: Test-1: Summary of Testing Results for **Cry1ac** Gene (Event **MON-531**) **Bollgard-I** Technology

Sr.	Codes	Denomination	Bt/Non-Bt	Claim (Gene/Event/Technology)	1- NIBGE-Faisalabad			2- ABRI-Faisalabad			Average of 2 Labs			Remarks
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA n (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA n (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA n (µg/g)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	PC-2001	Cyto-124*	Non-Bt	NIL	-	0	*NT	-	0	0.00	-	0	0.00	Non-Bt Standard (Set-A)
2	PC-2002	PC-2002												
3	PC-2003	Cyto-227	Non-Bt	NIL	+	20	NT	-	0	0.00	(+/-)	10	0.00	Retest required
4	PC-2004	Cyto-226	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	Non-Bt
5	PC-2005	CRIS-644	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	Non-Bt
6	PC-2006	PC-2006												
7	PC-2007	CRIS-665	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	Non-Bt
8	PC-2008	NIA-88	Non-Bt	NIL	-	0	NT	+	40	0.20	(+/-)	20	0.20	Retest required
9	PC-2009	SLH-33	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.00	+	100	2.00	Confirmed
10	PC-2010	Eye-22	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	4.22	+	100	4.22	Confirmed
11	PC-2011	CKC-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	2.80	+	100	2.80	Confirmed
12	PC-2012	CIM-875	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.24	+	100	1.24	Confirmed
13	PC-2013	ASLP-709	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.00	+	100	2.00	Confirmed
14	PC-2014	IR-NIBGE-14	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.42	+	100	1.42	Confirmed
15	PC-2015	YBG-2222	Bt	Cry1Ac+Cry2A/C-II	+	100	NT	+	100	0.86	+	100	0.86	Confirmed
16	PC-2016	Diamond-2	Bt	Cry1Ac+Cry2A/C-II	+	100	NT	+	100	5.68	+	100	5.68	Confirmed
17	PC-2017	FH-494	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.39	+	100	1.39	Confirmed
18	PC-2018	WEAL-AG-CKC-301	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	0.92	+	100	0.92	Confirmed
19	PC-2019	FH-498	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.24	+	100	3.24	Confirmed
20	PC-2020	BS-J5	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.64	+	100	1.64	Confirmed
21	PC-2021	NIAB-484	Bt	Cry1Ac/MON-531/BG-I	+	20	NT	+	80	1.12	+	50	1.12	Poor TP&E
22	PC-2022	NS-211	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.31	+	100	2.31	Confirmed
23	PC-2023	CIM-602	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.54	+	100	1.54	Bt-Standard (Set-B)
24	PC-2024	Rawal-111	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	0.00	-	0	0.00	Non-Bt
25	PC-2025	CIM-785	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.08	+	100	1.08	Confirmed
26	PC-2026	NIA-89	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.25	+	100	1.25	Confirmed
27	PC-2027	WEAL-AG-9	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.26	+	100	1.26	Confirmed
28	PC-2028	VH-418	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.32	+	100	2.32	Confirmed
29	PC-2029	Sayban-209	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.00	+	100	3.00	Confirmed
30	PC-2030	Cyto-537	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.12	+	100	2.12	Confirmed
31	PC-2031	PC-2031												Results With-held
32	PC-2032	RH-King-20	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	4.32	+	100	4.32	Confirmed
33	PC-2033	Eagle-4	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	1.36	+	100	1.36	Confirmed
34	PC-2034	BH-225	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.21	+	100	2.21	Confirmed
35	PC-2035	Rustam-SP	Bt	Cry1Ac+Cry2A/C-II	+	100	NT	+	100	1.63	+	100	1.63	Confirmed
36	PC-2036	BH-224	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.24	+	100	3.24	Confirmed
37	PC-2037	Saim-102	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.34	+	100	1.34	Confirmed
38	PC-2038	NIAB-SANAB-M	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.81	+	100	2.81	Confirmed
39	PC-2039	Sahara-300	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.80	+	100	3.80	Confirmed
40	PC-2040	IR-NIBGE-15	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.45	+	100	2.45	Confirmed
41	PC-2041	PC-2041												Results With-held
42	PC-2042	Sahara-Klean-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	2.45	+	100	2.45	Confirmed
43	PC-2043	NIAB-989	Bt	Cry1Ac/MON-531/BG-I	+	90	NT	+	100	1.52	+	95	1.52	Poor TP
44	PC-2044	Ghauri-2	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	3.96	+	100	3.96	Confirmed

Sr.	Codes	Denomination	Bt/Non-Bt	Claim (Gene/Event/Technology)	1- NIBGE-Faisalabad			2- ABRI-Faisalabad			Average of 2 Labs			Remarks
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	
1	2	3	4	5	6	7	8	12	13	14	15	16	17	18
45	PC-2045	IR-NIBGE-16	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.48	+	100	1.48	Confirmed
46	PC-2046	Tara-CII-222	Bt	Cry1Ac+Cry2A/C-II	+	100	NT	+	100	2.60	+	100	2.60	Confirmed
47	PC-2047	Cyto-536	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.34	+	100	3.34	Confirmed
48	PC-2048	ASPL-710	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.52	+	100	2.52	Confirmed
49	PC-2049	FH-492	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.87	+	100	2.87	Confirmed
50	PC-2050	MNH-1050	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.72	+	100	1.72	Confirmed
51	PC-2051	PC-2051												Results With-held
52	PC-2052	GH-Sultan	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	80	2.62	+	90	2.62	Poor TP
53	PC-2053	Tahafuz-15	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	3.44	+	100	3.44	Confirmed
54	PC-2054	Tara-CKC-333	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	2.30	+	100	2.30	Confirmed
55	PC-2055	PB-93	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.76	+	100	1.76	Confirmed
56	PC-2056	Rawal-222	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	40	1.55	+	70	1.55	Poor TP
57	PC-2057	MNH-1086	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	0.39	+	100	0.39	Poor TE
58	PC-2058	Ghauri-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	5.30	+	100	5.30	Confirmed
59	PC-2059	SLH-Chandi	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	5.79	+	100	5.79	Confirmed
60	PC-2060	WEAL-AG-10	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.68	+	100	1.68	Confirmed
61	PC-2061	CIM-602	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.08	+	100	1.08	Bt-Standard (Set-C)
62	PC-2062	CKC-6	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	90	*NT	+	100	2.88	+	95	2.88	Poor TP
63	PC-2063	Suncrop-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	1.38	+	100	1.38	Confirmed
64	PC-2064	SLH-55	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.18	+	100	3.18	Confirmed
65	PC-2065	PC-2065												Results With-held
66	PC-2066	RH-Afnan-II	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.16	+	100	3.16	Confirmed
67	PC-2067	WEAL-AG-201	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	5.96	+	100	5.96	Confirmed
68	PC-2068	CIM-775	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	3.11	+	100	3.11	Confirmed
69	PC-2069	PC-2069												
70	PC-2070	CIM-602	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	1.65	+	100	1.65	Bt-Standard (Set-D)
71	PC-2071	YBG-2525	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	4.76	+	100	4.76	Confirmed
72	PC-2072	WEAL-AG-11	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.69	+	100	2.69	Confirmed
73	PC-2073	Cyto-533	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.81	+	100	2.81	Confirmed
74	PC-2074	FH-414	Bt	Cry1Ac/MON-531/BG-I	+	100	NT	+	100	2.83	+	100	2.83	Confirmed
75	PC-2075	Diamond-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	1.42	+	100	1.42	Confirmed
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2020 NCVT - BCT Test Results from Reference Labs

Annexure-VII: Test-2: Testing Results for **Cry1Ac+Cry2Ab** Genes (Event **MON-15985**) **Bollgard-II** Technology

Sr.	Codes	Denomination	Bt/Non-Bt	Claim (Gene/Event/Technology)	1- NIBGE-Faisalabad			3- ABRI-Faisalabad			Average of 3 Labs			Remarks
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	
1	2	3	4	5	6	7	8	12	13	14	15	16	17	18
1	PC-2001	Cyto-124*	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0	
2	PC-2002	PC-2002												
3	PC-2003	Cyto-227	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0	
4	PC-2004	Cyto-226	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0	
5	PC-2005	CRIS-644	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0	
6	PC-2006	PC-2006												
7	PC-2007	CRIS-665	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0	
8	PC-2008	NIA-88	Non-Bt	NIL	-	0	NT	-	0	0.20	-	0	0.2	
9	PC-2009	SLH-33	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.00	-	0	2	
10	PC-2010	Eye-22	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	4.22	-	0	4.22	
11	PC-2011	CKC-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	100	2.80	-	50	2.8	
12	PC-2012	CIM-875	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	80	1.24	-	40	1.24	
13	PC-2013	ASLP-709	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.00	-	0	2	
14	PC-2014	IR-NIBGE-14	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.42	-	0	1.42	
15	PC-2015	YBG-2222	Bt	Cry1Ac+Cry2A/C-II	-	0	NT	-	0	0.86	-	0	0.86	
16	PC-2016	Diamond-2	Bt	Cry1Ac+Cry2A/C-II	-	0	NT	-	40	5.68	-	20	5.68	
17	PC-2017	FH-494	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	80	1.39	-	40	1.39	????
18	PC-2018	WEAL-AG-CKC-301	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	0.92	-	0	0.92	
19	PC-2019	FH-498	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.24	-	0	3.24	
20	PC-2020	BS-J5	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.64	-	0	1.64	
21	PC-2021	NIAB-484	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.12	-	0	1.12	
22	PC-2022	NS-211	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.31	-	0	2.31	
23	PC-2023	CIM-602	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.54	-	0	1.54	
24	PC-2024	Rawal-111	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	0.00	-	0	0.00	
25	PC-2025	CIM-785	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	+	60	1.08	(+/-)	30	1.08	
26	PC-2026	NIA-89	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.25	-	0	1.25	
27	PC-2027	WEAL-AG-9	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.26	-	0	1.26	
28	PC-2028	VH-418	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.32	-	0	2.32	
29	PC-2029	Sayban-209	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.00	-	0	3.00	
30	PC-2030	Cyto-537	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.12	-	0	2.12	
31	PC-2031	PC-2031												
32	PC-2032	RH-King-20	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	4.32	-	0	4.32	
33	PC-2033	Eagle-4	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	100	1.36	-	50	1.36	
34	PC-2034	BH-225	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.21	-	0	2.21	
35	PC-2035	Rustam-SP	Bt	Cry1Ac+Cry2A/C-II	-	0	NT	-	0	1.63	-	0	1.63	
36	PC-2036	BH-224	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.24	-	0	3.24	
37	PC-2037	Saim-102	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.34	-	0	1.34	
38	PC-2038	NIAB-SANAB-M	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.81	-	0	2.81	
39	PC-2039	Sahara-300	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.80	-	0	3.8	
40	PC-2040	IR-NIBGE-15	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.45	-	0	2.45	
41	PC-2041	PC-2041												
42	PC-2042	Sahara-Klean-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	2.45	-	0	2.45	
43	PC-2043	NIAB-989	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.52	-	0	1.52	
44	PC-2044	Ghuri-2	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	3.96	-	0	3.96	

2020 NCVT - BCT Test Results from Reference Labs

Annexure-VII: Test-2: Testing Results for **Cry1Ac+Cry2Ab** Genes (Event **MON-15985**) **Bollgard-II** Technology

Sr.	Codes	Denomination	Bt/Non-Bt	Claim (Gene/Event/Technology)	1- NIBGE-Faisalabad			3- ABRI-Faisalabad			Average of 3 Labs			Remarks
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	
1	2	3	4	5	6	7	8	12	13	14	15	16	17	18
45	PC-2045	IR-NIBGE-16	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.48	-	0	1.48	
46	PC-2046	Tara-CII-222	Bt	Cry1Ac+Cry2A/C-II	-	0	NT	-	0	2.60	-	0	2.60	
47	PC-2047	Cyto-536	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.34	-	0	3.34	
48	PC-2048	ASPL-710	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.52	-	0	2.52	
49	PC-2049	FH-492	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.87	-	0	2.87	
50	PC-2050	MNH-1050	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.72	-	0	1.72	
51	PC-2051	PC-2051												
52	PC-2052	GH-Sultan	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.62	-	0	2.62	
53	PC-2053	Tahafuz-15	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	3.44	-	0	3.44	
54	PC-2054	Tara-CKC-333	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	90	NT	+	100	2.30	+	95	2.30	
55	PC-2055	PB-93	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.76	-	0	1.76	
56	PC-2056	Rawal-222	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.55	-	0	1.55	
57	PC-2057	MNH-1086	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	0.39	-	0	0.39	
58	PC-2058	Ghuri-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	5.30	-	0	5.30	
59	PC-2059	SLH-Chandi	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	5.79	-	0	5.79	
60	PC-2060	WEAL-AG-10	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.68	-	0	1.68	
61	PC-2061	CIM-602	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.08	-	0	1.08	
62	PC-2062	CKC-6	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	2.88	-	0	2.88	
63	PC-2063	Suncrop-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	1.38	-	0	1.38	
64	PC-2064	SLH-55	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.18	-	0	3.18	
65	PC-2065	PC-2065												
66	PC-2066	RH-Afnan-II	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.16	-	0	3.16	
67	PC-2067	WEAL-AG-201	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	5.96	-	0	5.96	
68	PC-2068	CIM-775	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.11	-	0	3.11	
69	PC-2069													
70	PC-2070	CIM-602	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.65	-	0	1.65	
71	PC-2071	YBG-2525	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	4.76	-	0	4.76	
72	PC-2072	WEAL-AG-11	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.69	-	0	2.69	
73	PC-2073	Cyto-533	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.81	-	0	2.81	
74	PC-2074	FH-414	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.83	-	0	2.83	
75	PC-2075	Diamond-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	1.42	-	0	1.42	
76	PC-2076	GH-Himalaya	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.02	-	0	2.02	
77	PC-2077	BF-11	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.64	-	0	3.64	
78	PC-2078	FH-Anmol	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.23	-	0	1.23	
79	PC-2079	Rohi-2	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.63	-	0	2.63	
80	PC-2080	NIAB-512	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.33	-	0	1.33	Retest-Recommended
81	PC-2081	YBG-2323	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	3.84	-	0	3.84	
82	PC-2082	GH-Sanabal	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.03	-	0	1.03	
83	PC-2083	Cyto-535	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.56	-	0	1.56	
84	PC-2084	Rustam-11	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.51	-	0	2.51	
85	PC-2085	CRIS-638	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.23	-	0	3.23	
86	PC-2086	Rustam-GSP	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	-	0	NT	-	0	2.73	-	0	2.73	
87	PC-2087	CRIS-674	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	0.00	-	0	0	
				Average										
Note: ABRI should define, explain and should finally decide about these results and fate of varieties.														

2020 NCVT - BCT Test Results from Reference Labs

Annexure-VII: Test-3: Testing Results for CP4-EPSPS Gene (Event **MON-1445**) **RR** Technology

Sr.	Codes	Denomination	Bt/Non-Bt	Claim (Gene/Event/Technology)	1- NIBGE-Faisalabad			3- ABRI-Faisalabad			Average of 3 Labs			Remarks
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	
1	2	3	4	5	6	7	8	12	13	14	15	16	17	18
1	PC-2001	Cyto-124*	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	
2	PC-2002	PC-2002												
3	PC-2003	Cyto-227	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	
4	PC-2004	Cyto-226	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	
5	PC-2005	CRIS-644	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	
6	PC-2006	PC-2006												
7	PC-2007	CRIS-665	Non-Bt	NIL	-	0	NT	-	0	0.00	-	0	0.00	
8	PC-2008	NIA-88	Non-Bt	NIL	-	0	NT	-	0	0.20	-	0	0.20	
9	PC-2009	SLH-33	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.00	-	0	2.00	
10	PC-2010	Eye-22	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	4.22	-	0	4.22	
11	PC-2011	CKC-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	2.80	+	100	2.80	????
12	PC-2012	CIM-875	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	+	80	1.24	(+/-)	40	1.24	
13	PC-2013	ASLP-709	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.00	-	0	2.00	
14	PC-2014	IR-NIBGE-14	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.42	-	0	1.42	
15	PC-2015	YBG-2222	Bt	Cry1Ac+Cry2A/C-II	-	0	NT	-	0	0.86	-	0	0.86	
16	PC-2016	Diamond-2	Bt	Cry1Ac+Cry2A/C-II	-	0	NT	-	40	5.68	-	20	5.68	
17	PC-2017	FH-494	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	+	80	1.39	(+/-)	40	1.39	
18	PC-2018	WEAL-AG-CKC-301	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	-	0	0.92	(+/-)	50	0.92	????
19	PC-2019	FH-498	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.24	-	0	3.24	
20	PC-2020	BS-J5	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.64	-	0	1.64	
21	PC-2021	NIAB-484	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.12	-	0	1.12	
22	PC-2022	NS-211	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.31	-	0	2.31	
23	PC-2023	CIM-602	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.54	-	0	1.54	
24	PC-2024	Rawal-111	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	0.00	-	0	0.00	
25	PC-2025	CIM-785	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	+	60	1.08	(+/-)	30	1.08	
26	PC-2026	NIA-89	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.25	-	0	1.25	
27	PC-2027	WEAL-AG-9	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.26	-	0	1.26	
28	PC-2028	VH-418	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.32	-	0	2.32	
29	PC-2029	Sayban-209	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.00	-	0	3.00	
30	PC-2030	Cyto-537	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.12	-	0	2.12	
31	PC-2031	PC-2031												
32	PC-2032	RH-King-20	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	4.32	-	0	4.32	
33	PC-2033	Eagle-4	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	1.36	+	100	1.36	????
34	PC-2034	BH-225	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.21	-	0	2.21	
35	PC-2035	Rustam-SP	Bt	Cry1Ac+Cry2A/C-II	-	0	NT	-	0	1.63	-	0	1.63	
36	PC-2036	BH-224	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.24	-	0	3.24	
37	PC-2037	Saim-102	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.34	-	0	1.34	
38	PC-2038	NIAB-SANAB-M	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.81	-	0	2.81	
39	PC-2039	Sahara-300	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	3.80	-	0	3.80	
40	PC-2040	IR-NIBGE-15	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	2.45	-	0	2.45	
41	PC-2041	PC-2041												
42	PC-2042	Sahara-Klean-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	2.45	+	100	2.45	????
43	PC-2043	NIAB-989	Bt	Cry1Ac/MON-531/BG-I	-	0	NT	-	0	1.52	-	0	1.52	
44	PC-2044	Ghuri-2	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	NT	+	100	3.96	+	100	3.96	????

Annexure-VII: Test-3: Testing Results for CP4-EPSPS Gene (Event MON-1445) RR Technology



(Dr.Tassawar Hussain Malik)

Director Research Headquarters

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Government of Pakistan
Ministry of National Food Security & Research
Pakistan Central Cotton Committee (PCCC), Multan
Directorate of Agriculture Research
2020- NCVT - BCT Results from **CEMB**

Testing Results for **Cry1Ac Gene (C-I Event)**, **Cry1ac + Cry2A Genes (C-II Event)**; and **Cry1Ac+Cry2A+GTG Genes (C-III Event)** CKC-Technology

Sr.	Codes	Denomination	Bt/Non-Bt	Claim (Gene/ Event/Technology)	*BCT Test Results (CEMB)									Remarks
					Cry1Ac (C-I)			Cry2A (C-II)			ry1Ac+Cry2A+GTG(C-III)/CKC			
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	PC-2001	Cyto-124*	Non-Bt	NIL	+	100	2.921	-	0	0.000	-	0	0.000	????
2	PC-2002	PC-2002												????
3	PC-2003	Cyto-227	Non-Bt	NIL	+	100	2.532	-	0	0.000	-	0	0.000	????
4	PC-2004	Cyto-226	Non-Bt	NIL	+	100	2.654	-	0	0.000	-	0	0.000	????
5	PC-2005	CRIS-644	Non-Bt	NIL	-	0	0.000	-	0	0.000	-	0	0.000	Non-Bt
6	PC-2006	PC-2006												
7	PC-2007	CRIS-665	Non-Bt	NIL	+	100	2.703	-	0	0.000	-	0	0.000	????
8	PC-2008	NIA-88	Non-Bt	NIL	+	100	3.634	-	0	0.000	-	0	0.000	????
9	PC-2009	SLH-33	Bt	Cry1Ac/MON-531/BG-I	+	100	3.236	-	0	0.000	-	0	0.000	
10	PC-2010	Eye-22	Bt	Cry1Ac/MON-531/BG-I	+	100	3.653	-	0	0.000	-	0	0.000	
11	PC-2011	CKC-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.251	+	100	2.765	+	100	2.465	CKC-Confirmed
12	PC-2012	CIM-875	Bt	Cry1Ac/MON-531/BG-I	+	100	3.360	+	100	2.653	-	0	0.000	
13	PC-2013	ASLP-709	Bt	Cry1Ac/MON-531/BG-I	+	100	3.253	-	0	0.000	-	0	0.000	
14	PC-2014	IR-NIBGE-14	Bt	Cry1Ac/MON-531/BG-I	+	100	3.691	-	0	0.000	-	0	0.000	
15	PC-2015	YBG-2222	Bt	Cry1Ac+Cry2A/C-II	+	100	2.921	-	0	0.000	-	0	0.000	
16	PC-2016	Diamond-2	Bt	Cry1Ac+Cry2A/C-II	+	100	2.803	-	0	0.000	-	0	0.000	
17	PC-2017	FH-494	Bt	Cry1Ac/MON-531/BG-I	+	100	2.532	+	100	2.532	-	0	0.000	
18	PC-2018	WEAL-AG-CKC-301	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	2.654	+	100	2.654	+	100	2.354	CKC-Confirmed
19	PC-2019	FH-498	Bt	Cry1Ac/MON-531/BG-I	+	100	3.982	-	0	0.000	-	0	0.000	
20	PC-2020	BS-J5	Bt	Cry1Ac/MON-531/BG-I	+	100	3.053	-	0	0.000	-	0	0.000	
21	PC-2021	NIAB-484	Bt	Cry1Ac/MON-531/BG-I	+	100	3.762	-	0	0.000	-	0	0.000	
22	PC-2022	NS-211	Bt	Cry1Ac/MON-531/BG-I	+	100	3.846	-	0	0.000	-	0	0.000	
23	PC-2023	CIM-602	Bt	Cry1Ac/MON-531/BG-I	+	100	3.564	-	0	0.000	-	0	0.000	
24	PC-2024	Rawal-111	Bt	Cry1Ac/MON-531/BG-I	+	100	3.651	-	0	0.000	-	0	0.000	
25	PC-2025	CIM-785	Bt	Cry1Ac/MON-531/BG-I	+	100	3.064	+	100	2.324	+	100	2.623	
26	PC-2026	NIA-89	Bt	Cry1Ac/MON-531/BG-I	+	100	3.521	-	0	0.000	-	0	0.000	
27	PC-2027	WEAL-AG-9	Bt	Cry1Ac/MON-531/BG-I	+	100	3.351	+	100	2.442	+	100	2.342	
28	PC-2028	VH-418	Bt	Cry1Ac/MON-531/BG-I	+	100	3.253	+	100	2.643	-	0	0.000	
29	PC-2029	Sayban-209	Bt	Cry1Ac/MON-531/BG-I	+	100	2.985	+	100	2.335	+	100	2.234	
30	PC-2030	Cyto-537	Bt	Cry1Ac/MON-531/BG-I	+	100	3.615	+	100	2.453	+	100	2.243	
31	PC-2031	PC-2031												
32	PC-2032	RH-King-20	Bt	Cry1Ac/MON-531/BG-I	-	0	0.000	-	0	0.000	-	0	0.000	
33	PC-2033	Eagle-4	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.301	+	100	2.920	+	100	2.520	CKC-Confirmed
34	PC-2034	BH-225	Bt	Cry1Ac/MON-531/BG-I	+	100	2.620	-	0	0.000	-	0	0.000	
35	PC-2035	Rustam-SP	Bt	Cry1Ac+Cry2A/C-II	+	100	3.251	+	100	3.256	-	0	0.000	
36	PC-2036	BH-224	Bt	Cry1Ac/MON-531/BG-I	+	100	2.360	-	0	0.000	-	0	0.000	
37	PC-2037	Saim-102	Bt	Cry1Ac/MON-531/BG-I	+	100	3.650	-	0	0.000	-	0	0.000	
38	PC-2038	NIAB-SANAB-M	Bt	Cry1Ac/MON-531/BG-I	+	100	2.741	-	0	0.000	-	0	0.000	
39	PC-2039	Sahara-300	Bt	Cry1Ac/MON-531/BG-I	+	100	2.505	-	0	0.000	-	0	0.000	
40	PC-2040	IR-NIBGE-15	Bt	Cry1Ac/MON-531/BG-I	+	100	2.052	-	0	0.000	-	0	0.000	
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Testing Results for Cry1Ac Gene (C-I Event), Cry1ac + Cry2A Genes (C-II Event); and Cry1Ac+Cry2A+GTG Genes (C-III Event) CKC-Technology															
Sr.	Codes	Denomination	Host/Non-Bt	Claim (Gene/ Event/Technology)	*BCT Test Results (CEMB)									Remarks	
					Cry1Ac (C-I)			Cry2A (C-II)			Cry1Ac+Cry2A+GTG (C-III/CKC)				
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
41	PC-2041	PC-2041													
42	PC-2042	Sahara-Klean-5	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.192	+	100	2.432	+	100	2.332	CKC-Confirmed	
43	PC-2043	NIAB-989	Bt	Cry1Ac/MON-531/BG-I	+	100	2.920	+	100	2.320	-	0	0.000		
44	PC-2044	Ghauri-2	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	2.977	+	100	2.332	+	100	2.232	CKC-Confirmed	
45	PC-2045	IR-NIBGE-16	Bt	Cry1Ac/MON-531/BG-I	+	100	2.153	+	100	2.153	+	100	2.253	CKC-Confirmed	
46	PC-2046	Tara-CII-222	Bt	Cry1Ac+Cry2A/C-II	+	100	3.170	-	0	0.000	-	0	0.000		
47	PC-2047	Cyto-536	Bt	Cry1Ac/MON-531/BG-I	-	0	0.000	-	0	0.000	-	0	0.000		
48	PC-2048	ASPL-710	Bt	Cry1Ac/MON-531/BG-I	+	100	2.341	+	100	2.662	-	0	0.000		
49	PC-2049	FH-492	Bt	Cry1Ac/MON-531/BG-I	+	100	2.405	+	100	2.434	-	0	0.000		
50	PC-2050	MNH-1050	Bt	Cry1Ac/MON-531/BG-I	+	100	2.252	-	0	0.000	-	0	0.000		
51	PC-2051	PC-2051													
52	PC-2052	GH-Sultan	Bt	Cry1Ac/MON-531/BG-I	+	100	3.192	-	0	0.000	-	0	0.000		
53	PC-2053	Tahafuz-15	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.388	+	100	2.434	+	100	3.335	CKC-Confirmed	
54	PC-2054	Tara-CKC-333	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.482	+	100	2.482	+	100	2.432	CKC-Confirmed	
55	PC-2055	PB-93	Bt	Cry1Ac/MON-531/BG-I	+	100	3.310	-	0	0.000	-	0	0.000		
56	PC-2056	Rawal-222	Bt	Cry1Ac/MON-531/BG-I	+	100	2.390	-	0	0.000	-	0	0.000		
57	PC-2057	MNH-1086	Bt	Cry1Ac/MON-531/BG-I	+	100	3.621	-	0	0.000	-	0	0.000		
58	PC-2058	Ghauri-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	2.004	+	100	2.525	+	100	2.325	CKC-Confirmed	
59	PC-2059	SLH-Chandi	Bt	Cry1Ac/MON-531/BG-I	+	100	2.651	+	100	2.444	+	100	2.204	CKC-Confirmed	
60	PC-2060	WEAL-AG-10	Bt	Cry1Ac/MON-531/BG-I	+	100	2.662	+	100	2.690	-	0	0.000		
61	PC-2061	CIM-602	Bt	Cry1Ac/MON-531/BG-I	+	100	2.465	-	0	0.000	-	0	0.000		
62	PC-2062	CKC-6	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	2.502	+	100	2.332	+	100	2.332	CKC-Confirmed	
63	PC-2063	Suncrop-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.688	+	100	2.423	+	100	2.223	CKC-Confirmed	
64	PC-2064	SLH-55	Bt	Cry1Ac/MON-531/BG-I	+	100	3.793	-	0	0.000	-	0	0.000		
65	PC-2065	PC-2065													
66	PC-2066	RH-Afnan-II	Bt	Cry1Ac/MON-531/BG-I	+	100	2.477	-	0	0.000	-	0	0.000		
67	PC-2067	WEAL-AG-201	Bt	Cry1Ac/MON-531/BG-I	+	100	3.288	+	100	3.288	+	100	3.268	CKC-Confirmed	
68	PC-2068	CIM-775	Bt	Cry1Ac/MON-531/BG-I	-	0	0.000	-	0	0.000	-	0	0.000		
69	PC-2069	PC-2069													
70	PC-2070	CIM-602	Bt	Cry1Ac/MON-531/BG-I	+	100	3.212	-	0	0.000	-	0	0.000		
71	PC-2071	YBG-2525	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.320	+	100	2.310	+	100	2.310	CKC-Confirmed	
72	PC-2072	WEAL-AG-11	Bt	Cry1Ac/MON-531/BG-I	+	100	2.290	-	0	0.000	-	0	0.000		
73	PC-2073	Cyto-533	Bt	Cry1Ac/MON-531/BG-I	+	100	3.421	-	0	0.000	-	0	0.000		
74	PC-2074	FH-414	Bt	Cry1Ac/MON-531/BG-I	+	100	2.304	-	0	0.000	-	0	0.000		
75	PC-2075	Diamond-3	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	2.351	+	100	2.451	-	0	0.000	C-II confirmed	
76	PC-2076	GH-Himalaya	Bt	Cry1Ac/MON-531/BG-I	+	100	2.362	-	0	0.000	-	0	0.000		
77	PC-2077	BF-11	Bt	Cry1Ac/MON-531/BG-I	+	100	2.665	-	0	0.000	-	0	0.000		
78	PC-2078	FH-Anmol	Bt	Cry1Ac/MON-531/BG-I	+	100	2.302	+	100	3.502	+	100	3.302		
79	PC-2079	Rohi-2	Bt	Cry1Ac/MON-531/BG-I	+	100	3.687	+	100	2.652	+	100	2.432		
80	PC-2080	NIAB-512	Bt	Cry1Ac/MON-531/BG-I	+	100	2.721	-	0	0.000	-	0	0.000	Restest recommended	
														Page-16/17	

Testing Results for Cry1Ac Gene (C-I Event), Cry1ac + Cry2A Genes (C-II Event); and Cry1Ac+Cry2A+GTG Genes (C-III Event) CKC-Technology														
Sr.	Codes	Denomination	Bt/Non-Bt	Claim (Gene/ Event/Technology)	*BCT Test Results (CEMB)									Remarks
					Cry1Ac (C-I)			Cry2A (C-II)			Cry1Ac+Cry2A+GTG(C-III)/CKC			
					Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	Trait Confirmation (+/-) PCR	Trait Purity (%)	Quantification ELISA (µg/g)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
81	PC-2081	YBG-2323	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	2.497	+	100	2.497	+	100	2.297	CKC-Confirmed
82	PC-2082	GH-Sanabal	Bt	Cry1Ac/MON-531/BG-I	+	100	3.277	-	0	0.000	-	0	0.000	
83	PC-2083	Cyto-535	Bt	Cry1Ac/MON-531/BG-I	+	100	2.203	+	100	2.762	+	100	2.412	CKC-Confirmed
84	PC-2084	Rustam-11	Bt	Cry1Ac/MON-531/BG-I	+	100	3.850	+	100	2.750	+	100	2.450	CKC-Confirmed
85	PC-2085	CRIS-638	Bt	Cry1Ac/MON-531/BG-I	+	100	3.212	+	100	2.432	+	100	2.345	CKC-Confirmed
86	PC-2086	Rustam-GSP	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.490	+	100	2.590	+	100	2.390	CKC-Confirmed
87	PC-2087	CRIS-674	Bt	Cry1Ac/MON-531/BG-I	+	100	3.690	-	0	0.000	-	0	0.000	
Results of Repeated Samples														
88	PC-2088		Bt		+	100	3.470	-	0	0.000	-	0	0.000	
89	PC-2089		Bt		+	100	3.316	+	100	2.616	+	100	2.316	
90	PC-2090		Bt		+	100	2.621	+	100	2.421	+	100	2.221	
91	PC-2091		Bt		+	100	3.260	+	100	2.623	+	100	2.543	
92	PC-2092	Cyto-124*	Non-Bt	NIL	+	100	3.369	-	0	0.000	-	0	0.000	Bt
93	PC-2093	PC-2093			+	100	2.510	+	100	2.453	-	0	0.000	Bt
94	PC-2094	Cyto-227	Non-Bt	NIL	+	100	2.212	-	0	0.000	-	0	0.000	Bt
95	PC-2095	Cyto-226	Non-Bt	NIL	+	100	3.313	+	100	2.562	+	100	2.532	Bt (CKC)
96	PC-2096	CRIS-644	Non-Bt	NIL	+	100	2.451	+	100	2.332	+	100	2.352	Bt (CKC)
97	PC-2097	PC-2097			+	100	3.232	-	0	0.000	-	0	0.000	Bt
98	PC-2098	CRIS-665	Non-Bt	NIL	+	100	2.615	+	100	2.442	+	100	2.242	Bt (CKC)
99	PC-2099	NIA-88	Bt	NIL	+	100	3.432	+	100	2.132	+	100	2.332	Bt (CKC)
100	PC-20100	YBG-2222	Bt	Cry1Ac+Cry2A/C-II	+	100	3.221	-	0	0.000	-	0	0.000	C-I
101	PC-20101	Diamond-2	Bt	Cry1Ac+Cry2A/C-II	+	100	2.643	-	0	0.000	-	0	0.000	C-I
102	PC-20102	Rustam-SP	Bt	Cry1Ac+Cry2A/C-II	+	100	3.420	-	0	0.000	-	0	0.000	C-I
103	PC-20103	Tara-CII-222	Bt	Cry1Ac+Cry2A/C-II	+	100	3.531	+	100	2.431	+	100	2.331	Bt (CKC)
104	PC-20104	Weal-AG-201	Bt	Cry1Ac+Cry2A/C-II	+	100	2.213	-	0	0.000	-	0	0.000	C-I
105	PC-20105	PC-20105	Bt		+	100	3.501	-	0	0.000	-	0	0.000	
106	PC-20106	WEAL-AG-CKC-301	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.662	+	100	2.422	+	100	2.222	Bt (CKC)
107	PC-20107	Eagle-4	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.615	+	100	2.025	+	100	2.325	Bt (CKC)
108	PC-20108	Tara-CKC-333	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.802	+	100	2.502	+	100	2.402	Bt (CKC)
109	PC-20109	YBG-2323	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.442	+	100	2.352	+	100	2.252	Bt (CKC)
110	PC-20110	Rustam-GSP	Bt	Cry1Ac+Cry2A+GTG/C-III/CKC	+	100	3.325	+	100	2.425	+	100	2.275	Bt (CKC)
Average														
Retests are recommended for the entries with controversial results.														
Note: CEMB with ABRI and NIBGE should define, explain and should finally decide about these results and fate of varieties.														
Error and ommisison are accepted.														
These are Provisional results and Final results shall be released in due course.														