

**Minutes of the Varietal Identification Committee meeting held under the Chairmanship of Dr. A.K. Singh, Deputy Director General (Hort. & CS), ICAR to consider identification of Bt cotton varieties/ hybrids on 12<sup>th</sup> December, 2019 in Committee Room 205, Krishi Anusandhan Bhawan (KAB II), PUSA, New Delhi.**

The meeting of Varietal Identification Committee for the identification of Bt Cotton hybrids / varieties with deregulated gene events- MON 531 & MON 15985 was held in Committee Room # 205, Krishi Anusandhan Bhawan (KAB II), PUSA, New Delhi under the Chairmanship of Dr. A.K. Singh, DDG (Hort. & CS), ICAR.

The list of members participated in the meeting is annexed.

At the outset Dr. A.H. Prakash, Project Coordinator (Cotton Improvement) and Member Secretary welcomed the Chairman and the members of the Committee. He informed the house that Ministry of Environment, Forest & Climate Change, CS.III (Biosafety) Division (F No. 13/39/2007-CS-II; dated 24/04/2017) has assigned the ICAR evaluation, approval, management and monitoring of the Bt cotton varieties/ hybrids. Based on the guidelines, the AICRP on Cotton undertook Bt cotton evaluation in all the three zones of the country for two years, instead of three years in normal case, due to the transition from GEAC to ICAR, one time relaxation was given to identify the Bt hybrids / varieties based on two year data. Accordingly, 50 proposals for identification were received for consideration. Member Secretary also apprised the Committee of unfavourable conditions during the evaluation period (2017-18 and 2018-19), yield performance of the genotype was not upto its potential level.

The Chairman in his introductory remark informed the house that uniform criteria for screening the proposals will be adopted and asked for the suggestions from the members. The Committee was of the opinion that because of unfavorable climate conditions that prevailed during the evaluation period (2017-18 and 2018-19), the proposals with yield on par or with numerical superiority over the checks with special traits may be considered for identification. All the members agreed on the Terms of Reference and 50 proposals were individually scrutinized and nineteen proposals were recommended for further consideration to CVRC for commercial release as follows:



**List of Bt hybrids / varieties considered in VIC Meeting on 12-12-2019**

S.No.	Name of the hybrid / variety	Sponsored by	Zone / State	Irrigated / Rainfed	Remarks
1.	ACH 711-2 BG II	AJEET SEEDS PVT LTD	Punjab & Haryana	IRRIGATED	Not considered because of lesser yield over the zonal check hybrid
2.	ACH 733-2 BG II	AJEET SEEDS PVT LTD	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	Not considered because of lesser yield over zonal and Local check hybrids
3.	RAGHUVIR BG II	ANKUR SEEDS	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	<b>Recommended</b> because of high Cry protein expression and bioefficacy and numerically superior yield over zonal and local check hybrids
4.	BIO 6106 BG II	BIOSEED RESEARCH INDIA	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	Not considered because of lower yield compared to Zonal Check hybrid
5.	BIO 6524 BG II	BIOSEED RESEARCH INDIA	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	Not considered because of lesser yield over zonal check and also poor micronaire
6.	MC 5423 BG II	METAHELIX	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	Not considered because of lower yield over zonal check
7.	NCS 6174 Bt 2	NUZIVEEDU SEEDS LTD.	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	Not considered because of lower yield over zonal check hybrid
8.	RCH 846 BG II	RASI SEEDS	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	<b>Recommended</b> because of higher yield over zonal and local checks. The hybrid also showed moderate resistance to CLCuD and resistance to BLB and FFLS
9.	RCH 866 BG II	RASI SEEDS	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	Not considered because lower yield over zonal check hybrid
10.	RCH 926 BG II	RASI SEEDS	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	<b>Recommended</b> because the yield was numerically superior over zonal and local checks. The hybrid also showed moderate resistance to CLCuD and resistance to BLB and FFLS

11.	ICAR CICRS 21 Bt	CICR, SIRSA	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	Not considered because of low Cry protein level (Cry 1 Ac) below the benchmark.
12.	PAU Bt 2 (PBH Bt 5)	PAU, BATHINDA	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	<b>Recommended</b> because of higher yield over zonal and local checks. The variety also showed moderate resistance to CLCuD and tolerance to jassids, whitefly and thrips.
13.	PAU Bt 3 (FBt 16-4)	PAU, FARIDKOT	NORTH/ Punjab, Harayana & Rajasthan	IRRIGATED	<b>Recommended</b> because of higher yield over zonal and local checks. The variety also showed moderate resistance to CLCuD and fungal foliar diseases and resistant to jassids
14.	ICAR-CICR 16 Bt	CICR, NAGPUR	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	IRRIGATED	<b>Recommended</b> because of numerically higher yield over zonal and local checks and higher Cry protein expression
15.	ICAR-CICR 81 Bt	CICR, NAGPUR	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	IRRIGATED	Not considered because of lesser yield over zonal and local check varieties. Also the bioefficacy for bollworms was below the bench mark
16.	ICAR-CICR 2017 Bt	CICR, NAGPUR	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	IRRIGATED	Not considered because of lesser yield over zonal check Bt variety
17.	ACH 121-2 BG II	AJEET SEEDS PVT LTD	GUJARAT	RAINFED	Not considered because of lesser yield over local check hybrid
18.	ACH 171-2 BG II	AJEET SEEDS PVT LTD	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lesser yield over local check hybrid
19.	HEMANG BG II	ANKUR SEEDS	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	<b>Recommended</b> because of numerically higher yield over zonal and local checks and higher Cry protein expression
20.	SP 7670 BG II	BAYER BIOSCIENCE PVT. LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	<b>Recommended</b> because of numerically higher yield over both zonal and local checks. The hybrid also showed resistance to BLB and tolerant to Jassid and Whitefly

21.	BIO GHH 324-2 BG II	BIOSEED RESEARCH INDIA	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lesser yield over local check hybrid
22.	Daftari 333 BG II	DAFTARI SEEDS	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield over zonal and local check hybrids
23.	Daftari 525 BG II	DAFTARI SEEDS	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield over zonal and local check hybrids
24.	INDAM 1667 BG II	INDO- AMERICAN HYBRID SEEDS (INDIA) PVT LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield over local check hybrid
25.	KCH 301 BG II	KAVERI SEEDS	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield over local check hybrid
26.	C 9391 BG II	MAHYCO	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lesser yield over zonal and local check hybrids
27.	C 9397 BG II	MAHYCO	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield over local check hybrid
28.	MC 5405 BG II	METAHELIX LIFE SCIENCES LTD	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield over local check hybrid
29.	NBC 1103 BG II	NATH BIO- GENES (I) LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	<b>Recommended</b> because of numerical higher yield over zonal and local check hybrids. It also showed higher Cry 1Ac expression. Approval will be subject to submission of No Objection Certificate from Technology Provider.
30.	PCH 5677 Bt 2	PRABHAT AGRI BIOTECH LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield against local check hybrid

31.	PRCH 2799 Bt 2	PRAVARDHAN SEEDS LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	<b>Recommended</b> because of numerically higher yield over zonal and local check hybrids. It also exhibited higher Cry protein levels. Approval will be subject to submission of No Objection Certificate from Technology Provider.
32.	RCH 929 BG II	RASI SEEDS	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	<b>Recommended</b> because of higher yield over zonal check and on par yield with local check hybrid. It also exhibited higher Cry protein levels.
33.	C 331 BG II	SUNGRO SEEDS PVT. LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield against local check hybrids.
34.	C 344 BG II	SUNGRO SEEDS PVT. LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield against local check hybrids.
35.	YCH 7475 Bt 2	YAGANTI SEEDS PVT. LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	<b>Recommended</b> because of higher yield over zonal check and on par yield with local check hybrid. It also exhibited higher Cry protein levels. Approval will be subject to submission of No Objection Certificate from Technology Provider
36.	YC 7963 Bt 2	YAGANTI SEEDS PVT. LTD.	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of low Cry protein level (Cry 1 Ac)
37.	ICAR-CICR 16 Bt	CICR, NAGPUR	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lesser yield against zonal check (Bt) variety
38.	ICAR-CICR 81 Bt	CICR, NAGPUR	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lesser yield against zonal and local check varieties
39.	ICAR-CICR 2017 Bt	CICR, NAGPUR	CENTRAL/ Madhya Pradesh, Maharashtra, Gujarat	RAINFED	Not considered because of lower yield against zonal check Bt variety

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40.	ACH 1155-2 BG II	AJEET SEEDS PVT LTD	SOUTH / Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	<b>Recommended</b> because of higher yield against zonal and local check hybrids. It is also resistant to ALB, BLB, GM, Rust and CLS
41.	SAMIR BG II	ANKUR SEEDS	SOUTH / Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	<b>Recommended</b> because of numerically superior yield against both zonal and Local check hybrids The hybrid exhibited tolerant reaction to sucking pests
42.	JKCH 1551 BG II	JK SEEDS PVT. LTD.	SOUTH/ Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	<b>Recommended</b> because numerically superior yield over zonal and local check hybrids. Highly resistant to BLB, ALB and TSV
43.	C 9355 BG II	MAHYCO	SOUTH / Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	Not considered because of lesser yield against both zonal and Local check hybrids
44.	C 9366 BG II	MAHYCO	SOUTH/ Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	Not considered because of lesser yield against both zonal and Local check hybrids
45.	NBC 1111 BG II	NATH BIO- GENES (I) LTD.	SOUTH/ Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	<b>Recommended</b> because of higher yield against both zonal and local check hybrids. It also expressed higher Cry protein levels. Approval will be subject to submission of No Objection Certificate from Technology Provider
46.	SRCH 207 BG II	SRI RAMA	SOUTH / Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	Not considered because of lesser yield against zonal and local check hybrids
47.	INDAM 1642 BG II	INDO- AMERICAN HYBRID SEEDS (INDIA) PVT LTD.	SOUTH / Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	<b>Recommended</b> because of higher yield against both zonal and local check hybrids with good fibre quality

48.	NBHB 2205 BG II	NATH BIO- GENES (I) LTD.	SOUTH / Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	IRRIGATED	<b>Recommended</b> because of numerically higher yield over zonal and local check hybrids with good fibre quality. Approval will be subject to submission of No Objection Certificate from Technology Provider
49.	ICAR-CICR 23 Bt	CICR, NAGPUR	SOUTH/ Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	RAINFED	<b>Recommended</b> because of higher yield against zonal and local check varieties with good bioefficacy of over 95%.
50.	ICAR-CICR 902 Bt	CICR, NAGPUR	SOUTH/ Andhra Pradesh, Telangana, Karnataka & Tamil Nadu	RAINFED	Not considered even though the yield levels were on par with check varieties but bioefficacy was below the benchmark

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12/12/19

The list of participants who attended the meeting to consider the proposals of the Bt cotton hybrids/ varieties held on 12/12/2019

S. No.	Name
1	Dr. A.K. Singh Chairman Deputy Director General (Hort& CS), ICAR, New Delhi
2	Dr. R.K. Singh Assistant Director General (Commercial Crops), ICAR, New Delhi
3	Dr. Chandan Mohan Assistant Commissioner DAC & FW, GOI, New Delhi
4	Dr. N.K. Singh Director, ICAR-NIPB, New Delh
5	Dr. V.N. Waghmare Director, ICAR-CICR, Nagpur
6	Dr. P.G. Patel Director, ICAR-CIRCOT, Mumbai
7	Dr. M. Ramasamy MD, Rasi Seeds, Attur
8	Dr. M.L. Arora Deputy Commissioner, NSC, New Delhi
9	Dr. B.P. Singh Deputy Commissioner (Seeds) NSC, New Delhi
10	Dr. Dilip Monga Principal Investigator (Plant Pathology) ICAR-CICR (RS), Sirsa
11	Dr. S. Manickam Principal Investigator (Plant Breeding) ICAR-CICR (RS), Coimbatore
12	Dr. B. Dharajothi Principal Investigator (Entomology) ICAR-CICR (RS), Coimbatore
13	Dr. K. Sankaranarayanan Principal Investigator (Agronomy) ICAR-CICR (RS), Coimbatore
14	Dr. P.K. Mandhyan Principal Investigator (Fibre technology) ICAR-CIRCOT, Mumbai
15	Dr. A.H. Prakash Project Coordinator (Cotton Improvement) ICAR-CICR(RS), Coimbatore