

## **Decisions taken in the 84<sup>th</sup> Meeting of the Genetic Engineering Approval Committee held on 2.5.2008**

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The 84<sup>th</sup> meeting of the Genetically Engineering Approval Committee (GEAC) was held on 2.5.2008 in Room No. 623 in the Ministry of Environment and Forests under the Chairmanship of Shri B. S. Parsheera, Additional Secretary, MoEF and Chairman, GEAC.

The deliberations of the GEAC in respect of Agenda Item 4 to 10 are as follows:

### **Agenda Item No 4: Consideration of Proposals related to Pharmaceuticals**

#### **4.1 Permission for import and conduct of phase I clinical trials of AERAS-402 Vials from USA to conduct randomized placebo controlled, double blinded study to evaluate safety and immunogenicity when administered to HIV-Negative BCG vaccinated Adults without evidence of tuberculosis infection by M/s. Lotus Labs Pvt. Ltd, Bangalore .**

4.1.1 The Committee considered the request received from M/s. Lotus Labs Pvt. Ltd, Bangalore, on 28.12.2007 which was for import of AERAS-402 vials from Aeras Global TB Vaccine Foundation, USA for conduct of phase I clinical trials in human subjects in India and comments received from DBT on the proposal. After detailed deliberations, the Committee conveyed its no objection for import of AERAS-402 Vials from USA for conducting phase-I clinical trials as per the protocol approved by the DCGI.

### **Agenda Item No 5: Consideration of applications for Renewal of GEAC Permission for Commercial cultivation of Bt cotton expressing *cry 1Ac* gene (Mon-531 event) in Central and South zones.**

5.1 Renewal of GEAC permission for Commercial cultivation of MRC-6301 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) in Central zone developed by M/s. Mahyco.

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5.2 Renewal of GEAC permission for Commercial cultivation of RCH-138 & RCH-144 and RCH-118 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) in Central zone developed by M/s. Rasi Seeds.

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5.3 Renewal of GEAC permission for Commercial cultivation of MRC-6322 and MRC-6918 Bt cotton hybrid *expressing cry 1Ac* & *Cry 2* Ab genes (Mon-15985 event) in South zone developed by M/s. Mahyco.

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5.4 Renewal of GEAC permission for Commercial cultivation of RCH-20 & RCH-368 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) in South zone developed by M/s. Rasi Seeds (P) Ltd.

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5.5 Renewal of GEAC permission for Commercial cultivation of NCS 145 & NCS-207 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) in Central & South zone developed by M/s. Nuziveedu Seeds.

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5.6 Renewal of GEAC permission for Commercial cultivation of Ankur -651 Bt and Ankur -09 Bt cotton hybrids *expressing cry 1Ac* gene (Mon-531 event) in Central zone developed by M/s. Ankur Seeds

1.0 The Committee noted that the applications contained at agenda 5.1 to 5.6 from M/s Mahyco, M/s Rasi Seeds, M/s Nuziveedu Seeds and M/s Ankur Seeds Limited is for renewal of GEAC permission for commercial cultivation of MRC 6301 Bt, RCH 138 Bt, RCH 144 Bt, RCH 118 Bt, Ankur 651 Bt, Ankur

09 Bt, NCS 145 Bt and NCS 207 Bt in the Central zone and MRC 6322 Bt, MRC 6918 Bt, RCH 20 Bt, RCH 368 Bt, NCS 145 Bt and NCS 207 Bt in the South zone.

2.0 It was noted that the GEAC in its meeting held in May, 2005 had accorded approval for commercial release of the above mentioned hybrids in the Central and South zones for a period of three years subject to compliance of certain conditions. As the validity of GEAC approval has expired on 30<sup>th</sup> April 2008, the applicants have requested for renewal of the GEAC permission in accordance with Rule 13 (2) of Rules 1989 which mandates all approvals of the GEAC shall be for a specified period not exceeding four years at the first instance, renewable for 2 years at a time.

3.0 The Committee considered the request in light of the 'event based approval' process adopted by the GEAC in its meeting held on 2.4.2008. It was also noted, the GEAC has not received any adverse reporting on the performance of the hybrids from the State Department of Agriculture / State Agricultural Universities. After detailed deliberations, the Committee decided to renew the GEAC approval for commercial cultivation of the following hybrids in the Central and South zones:

1. MRC-6301 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Mahyco in Central Zone
2. RCH-138 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Rasi Seeds in Central Zone.
3. RCH-144 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Rasi Seeds in Central Zone.
4. RCH-118 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Rasi Seeds in Central Zone.
5. MRC-6322 Bt cotton hybrid *expressing cry 1Ac & Cry 2 Ab* genes (Mon-15985 event) developed by M/s. Mahyco in South Zone.
6. MRC-6918 Bt cotton hybrid *expressing cry 1Ac & Cry 2 Ab* genes (Mon-15985 event) developed by M/s. Mahyco in South Zone.
7. RCH-20 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Rasi Seeds (P) Ltd in South Zone.
8. RCH-368 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Rasi Seeds (P) Ltd in South Zone.
9. NCS 145 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Nuziveedu Seeds in Central and South Zones.
10. NCS-207 Bt cotton hybrid *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Nuziveedu Seeds in Central and South Zones.
11. Ankur -651 Bt cotton hybrids *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Ankur Seeds in Central zones.
12. Ankur -09 Bt cotton hybrids *expressing cry 1Ac* gene (Mon-531 event) developed by M/s. Ankur Seeds in Central Zones.

4.0 During the deliberations, the need for renewal of GEAC permission in case of transgenic crops was discussed. It was agreed that there is a need for reviewing and harmonizing the Rules, 1989 in light of the new policies adopted by the GEAC in respect of GM crops and commitments made under other Multi-lateral Environmental Agreements (MEAs). The Expert Committee may also review and recommend charging of a fee for processing of applications, creation of a fund, modalities for its

utilization and amendments necessary, if any, in view of the various developments taking place under the Cartagena Protocol on Biosafety to which India is Party. The Committee may also consider the need to have a separate legislation on biosafety keeping in view the experience of other countries. The Committee requested the Chairman, GEAC to set up an Expert Committee comprising of legal and scientific experts to review the existing regulations and guidelines with appropriate terms of reference.

**Agenda Item No 6: Consideration of applications for Commercial release of Bt cotton hybrids expressing approved gene event**

**A. COMMERCIAL CULTIVATION FOR NORTH ZONE**

**Hybrids expressing stacked genes (Cry 1AC & Cry 2Ab (Mon 15985))**

- 6.1 Permission for commercialization ANKUR 8120 BGII *and* ANKUR 5642 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) in the North Zone by M/s Ankur Seeds Pvt. Ltd.
- 6.2 Permission for commercialization 2510-2 and 2113-2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) in the North Zone by M/s Bioseeds Research India (P) Ltd.
- 6.3 Permission for commercialization Tulasi-45 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) in the North Zone by M/s Tulasi Seeds (P) Ltd.
- 6.4 Permission for commercialization SDS-9 BGII and SDS-36 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) in the North Zone by M/s Nandi Seeds (P) Ltd.
- 6.5 Permission for commercialization 569 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) in the North Zone by M/s Rasi Seeds (P) Ltd.

**Hybrids expressing genes (Cry 1Ab -Cry 1Ac) "GFM Cry 1A"**

- 6.6 Permission for commercialization NCEH 26 Bt and NCEH 31 Bt *expressing* (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene in the North Zone by M/s Nath Seeds Ltd.

1.0 The recommendations of SAU/MEC/RCGM/ICAR in respect of 8 Bt cotton hybrids as contained in the proposal at agenda 6.1 to 6.6 namely Ankur 8129 BG II, Ankur 5642 BG II, 2510-2, 2113-2, Tulasi 45 BG II, SDS 9 BGII, SDS 36 BG II and 569 BG II, *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) and NCEH 26 Bt and NCEH 31 Bt *expressing* (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene were considered by the GEAC.

2.0 The Committee noted that the above hybrids have been approved for commercial release in the North zone in the MEC meetings held on 26.2.2008 and 15.4.2008 and RCGM meetings held on 25.1.2008 and 7.3.2008, respectively. In light of the recommendations made by the MEC and RCGM and taking into consideration the policy decision to adopt an event based approval mechanism for Bt cotton hybrids *expressing* approved events, the Committee approved the following hybrids for commercial release in the North Zone:

1. ANKUR 8120 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Ankur Seeds Pvt. Ltd.
2. ANKUR 5642 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Ankur Seeds Pvt. Ltd.
3. 2510-2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Bioseeds Research India (P) Ltd

4. 2113-2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Bioseeds Research India (P) Ltd.
5. Tulasi-45 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Tulasi Seeds (P) Ltd.
6. SDS-9 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Nandi Seeds (P) Ltd.
7. SDS-36 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Nandi Seeds (P) Ltd.
8. 569 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Rasi Seeds (P) Ltd.
9. NCEH 26 Bt *expressing* (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene by M/s Nath Seeds Ltd.
10. NCEH 31 Bt *expressing* (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene by M/s Nath Seeds Ltd.

## **B. COMMERCIAL CULTIVATION FOR CENTRAL ZONE**

### **Hybrids expressing Cry 1 Ac gene (MON 531 event)**

- 6.7 Permission for commercialization of ACH-177-1 BGI *expressing* Cry 1 Ac gene (MON 531 event) in the Central Zone by M/s Ajeet Seeds Ltd.
- 6.8 Permission for commercialization of SP-499 B1 (Goldmine), SP-904 B1 (HXB) and SP-503 BG 1 *expressing* Cry 1Ac gene (MON 531 event) in the Central Zone by M/s Bayer Biosciences Pvt. Ltd.
- 6.9 Permission for commercialization of Tulasi-5 Bt *expressing* Cry 1Ac gene (Mon-531 event) in the Central Zone by M/s Tulasi Seeds Pvt. Ltd.
- 6.10 Permission for commercialization of VBCH-1006, VBCH-1016, VBCH-1017 and VBCH-1018 *expressing* Cry 1 Ac gene (MON 531 event) in the Central Zone by M/s Vibha Agrotech Ltd.
- 6.11 Permission for commercialization of SWCH-4314 *expressing* Cry 1Ac gene (MON 531 event) in the Central Zone by M/s Seed Works India Pvt. Ltd.
- 6.12 Permission for commercialization of Ankur 3032 Bt, and Ankur (HxB) 1950 Bt *expressing* Cry 1Ac gene (MON 531 event) in the Central Zone by M/s Ankur Seeds India (P) Ltd.
- 6.13 Permission for commercialization of RCH 395 Bt *expressing* Cry 1Ac gene (MON 531 event) in the Central Zone by M/s Rasi Seeds Pvt. Ltd.
- 6.14 Permission for commercialization of Sarju BG and Mahasangram BG *expressing* Cry 1 Ac gene (MON 531 event) in the Central Zone by M/s Solar Agrotech Pvt. Ltd.

### **Hybrids expressing stacked genes (Cry 1AC & Cry 2Ab (Mon 15985)**

- 6.15 Permission for commercialization ACH-111-2 and ACH-177-2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Ajeet Seeds Ltd.
- 6.16 Permission for commercialization SP 1037 B2, *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Bayer Biosciences Pvt. Ltd.

- 6.17 Permission for commercialization KCH-135 BG II expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) in the Central Zone by M/s Kaveri seed company Ltd.
- 6.18 Permission for commercialization KDCHH-9632 BG II expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Krishidhan Seeds Ltd.
- 6.19 Permission for commercialization MRC- 7918 BGII expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Mahyco.
- 6.20 Permission for commercialization Atal BG II and Paras Lakshmi BG II expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Monsanto Genetics Pvt. Ltd.
- 6.21 Permission for commercialization NSPL 999 BGII, NSPL 36 BGII and NSPL 405 BGII expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Nandi Seeds Pvt Ltd.
- 6.22 Permission for commercialization NCS-145 Bt 2, NCS 854 Bt 2 and NCHB 945 Bt expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Nuziveedu Seeds Ltd.
- 6.23 Permission for commercialization PCH 2171 Bt 2 and PCH 205 Bt 2 expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Prabhat Agri Biotech Ltd.
- 6.24 Permission for commercialization PRCH 504 BGII expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Pravardhan Seeds (P) Ltd.
- 6.25 Permission for commercialization RCH-578 BGII expressing Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Rasi Seeds Co. Ltd.
- 6.26 Permission for commercialization Tulasi 9 BGII, Tulasi 118 BGII and Tulasi 4 BG II expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Tulasi Seeds (P) Ltd.
- 6.27 Permission for commercialization VICH 15 BG II expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Vikram Seeds.
- 6.28 Permission for commercialization Akka BGII expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene in the Central Zone by M/s Ankur Seeds Pvt Ltd.

**Hybrids expressing genes (Cry 1Ab -Cry 1Ac) "GFM Cry 1A"**

- 6.29 Permission for commercialization NCEH 21 expressing (Cry 1Ab -Cry 1Ac ) "GFM Cry 1A"gene in the Central Zone by M/s Nath Seeds Ltd.
- 6.30 Permission for commercialization ZCH-50072 Bt and ZCH 50005 expressing (Cry 1Ab -Cry 1Ac ) "GFM Cry 1A"gene in the Central Zone by M/s Zuari Seeds Ltd.

**Hybrids expressing Cry 1Ac event -1**

- 6.31 Permission for commercialization of JK- Indra Bt expressing Cry 1Ac event -1 in the Central Zone by M/s JK Agri Genetics Ltd.

### Additional agenda

- 6.42 Application for commercialization Amar-1065 Bt BGII *expressing* Cry 1Ac & Cry 2Ab genes (Mon 15985 event) in Central zone by M/s Amar Bio- tech Ltd.
- 6.43 Application for commercialization NCEH 23 and NCEH 14 *expressing* (Cry 1Ab - Cry 1Ac) "GFM Cry 1A" gene in the Central zone by M/s Nath Seeds Ltd.

1.0 The recommendations of SAU/MEC/RCGM/ICAR in respect of 45 Bt cotton hybrids as contained in the proposal at agenda 6.7 to 6.31 namely ACH 177-1 BG I, SP 499 BG 1 (Goldmine), SP 904-B1 (HXB), SP-503 BG 1, Tulasi 5 Bt, VBCH 1006, VBCH 1016, VBCH 1017, VBCH 1018, SWCH-4314, Ankur 3032 Bt, Ankur (HXB) 1950 Bt, RCH 395 Bt, Sarju BG, Mahasangram BG *expressing* cry 1Ac (MON 531 event), ACH 111-2, ACH-177-2, SP-1037 B2, KCH-135 BG II, KDCHH 9632 BG II, MRC 7918 BG II, Atal BG II, Paras Lakshmi BG II, NSPL 999 BG II, NSPL 36 BG II, NSPL 405 BG II, NCS 145 Bt 2, NCS 854 Bt 2, NCHB 945 Bt, PCH 2171 Bt 2, PCH 205 Bt 2, PRCH 504 BG II, RCH 578 BG II, Tulasi 9 BG II, Tulasi 118 BG II, Tulasi 4 BG II, VICH 15 BG II, Akka BG II and Amar 1065 Bt BG II *expressing* cry 1Ac & cry 2 AB (MON 15985), NCEH 21, NCEH 23, NCEH 14, ZCH 50072 Bt and ZCH 50005 *expressing* (Cry 1Ac -Cry 1Ac) "GFM Cry 1A"gene and JK Indra Bt *expressing* cry 1Ac event 1 were considered by the GEAC.

2.0 The Committee noted that the above hybrids have been approved for commercial release in the Central Zone in the MEC meetings held on 15.4.2008 and 29.4.2008 and RCGM meetings held on 7.3.2008, respectively. In light of the recommendations made by the MEC and RCGM and taking into consideration the policy decision to adopt an event based approval mechanism for Bt cotton hybrids *expressing* approved events, the Committee approved the following hybrids for commercial release in the Central Zone:

1. ACH-177-1 BGI *expressing* Cry 1 Ac gene (MON 531 event) by M/s Ajeet Seeds Ltd.
2. SP-499 B1 (Goldmine) *expressing* Cry 1Ac gene (MON 531 event) by M/s Bayer Biosciences Pvt. Ltd.
3. SP-904 B1 (HXB) *expressing* Cry 1Ac gene (MON 531 event) by M/s Bayer Biosciences Pvt. Ltd.
4. SP-503 BG 1 *expressing* Cry 1Ac gene (MON 531 event) by M/s Bayer Biosciences Pvt. Ltd.
5. Tulasi-5 Bt *expressing* Cry 1Ac gene (Mon-531 event) by M/s Tulasi Seeds Pvt. Ltd.
6. VBCH-1006, *expressing* Cry 1 Ac gene (MON 531 event) by M/s Vibha Agrotech Ltd.
7. VBCH-1016, *expressing* Cry 1 Ac gene (MON 531 event) by M/s Vibha Agrotech Ltd.
8. VBCH-1017 *expressing* Cry 1 Ac gene (MON 531 event) by M/s Vibha Agrotech Ltd.
9. VBCH-1018 *expressing* Cry 1 Ac gene (MON 531 event) by M/s Vibha Agrotech Ltd.
10. SWCH-4314 *expressing* Cry 1 Ac gene (MON 531 event) by M/s Seed Works India Pvt. Ltd.
11. Ankur 3032 Bt *expressing* Cry 1 Ac gene (MON 531 event) by M/s Ankur Seeds India (P) Ltd.
12. Ankur HxB 1950 Bt *expressing* Cry 1 Ac gene (MON 531 event) by M/s Ankur Seeds India (P) Ltd.
13. RCH 395 Bt *expressing* Cry 1 Ac gene (MON 531 event) by M/s Rasi Seeds Pvt. Ltd.
14. Sarju BG *expressing* Cry 1 Ac gene (MON 531 event) by M/s Solar Agrotech Pvt. Ltd.

15. Mahasangram BG *expressing* Cry 1 Ac gene (MON 531 event) by M/s Solar Agrotech Pvt. Ltd.
16. ACH-111-2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Ajeet Seeds Ltd.
17. ACH-177-2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Ajeet Seeds Ltd.
18. SP 1037 B2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Bayer Biosciences Pvt. Ltd.
19. KCH-135 BG II *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) by M/s Kaveri seed company Ltd.
20. KDCHH-9632 BG II *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Krishidhan Seeds Ltd.
21. MRC- 7918 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Mahyco.
22. Atal BG II *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Monsanto Genetics Pvt. Ltd.
23. Paras Lakshmi BG II *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Monsanto Genetics Pvt. Ltd.
24. NSPL 999 BGII, *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Nandi Seeds Pvt Ltd.
25. NSPL 36 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Nandi Seeds Pvt Ltd.
26. NSPL 405 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Nandi Seeds Pvt Ltd.
27. NCS-145 Bt 2, Bt *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Nuziveedu Seeds Ltd.
28. NCS 854 Bt 2 Bt *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Nuziveedu Seeds Ltd.
29. NCHB 945 Bt *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Nuziveedu Seeds Ltd.
30. PCH 2171 Bt 2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Prabhat Agri Biotech Ltd.
31. PCH 205 Bt 2 *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Prabhat Agri Biotech Ltd.
32. PRCH 504 BGII *expressing* (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Pravardhan Seeds (P) Ltd.
33. RCH-578 BGII *expressing* Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Rasi Seeds Co. Ltd.

34. Tulasi 9 BGII, expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Tulasi Seeds (P) Ltd.
35. Tulasi 118 BGII expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Tulasi Seeds (P) Ltd.
36. Tulasi 4 BG II expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Tulasi Seeds (P) Ltd.
37. VICH 15 BG II expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Vikram Seeds.
38. Akka BGII expressing (Cry 1AC & Cry 2Ab genes (Mon 15985) gene by M/s Ankur Seeds Pvt Ltd.
39. NCEH 21 expressing (Cry 1Ab -Cry 1Ac ) "GFM Cry 1A"gene by M/s Nath Seeds Ltd.
40. ZCH-50072 Bt expressing (Cry 1Ab -Cry 1Ac ) "GFM Cry 1A"gene by M/s Zuari Seeds Ltd.
41. ZCH 50005 expressing (Cry 1Ab -Cry 1Ac ) "GFM Cry 1A"gene by M/s Zuari Seeds Ltd.
42. JK- Indra Bt expressing Cry *1Ac* event -1 by M/s JK Agri Genetics Ltd.
43. Amar-1065 Bt BGII *expressing* Cry 1AC & Cry 2Ab genes (Mon 15985 event) by M/s Amar Bio-tech Ltd.
44. NCEH 23 *expressing* (Cry 1Ab - Cry 1Ac) "GFM Cry 1A" gene by M/s Nath Seeds Ltd.
45. NCEH 14 *expressing* (Cry 1Ab - Cry 1Ac) "GFM Cry 1A" gene by M/s Nath Seeds Ltd.

### **C. COMMERCIAL CULTIVATION FOR SOUTH ZONE**

- 6.32 Permission for commercialization of SWCH 4531Bt *expressing* Cry 1 Ac (MON 531 event) in the South Zone by M/s Seed Works Pvt. Ltd.
- 6.33 Permission for commercialization of Ankur 3042 Bt, Ankur HB 1902 Bt, Ankur HB 1976 Bt *expressing* Cry 1 Ac (MON 531 event) in the South Zone by M/s Ankur Seeds Pvt. Ltd.
- 6.34 Permission for commercialization of ACHB 901-1 Bt *expressing* Cry 1 Ac (MON 531 event) in the South Zone by M/s Ajeet Seeds.
- 6.35 Permission for commercialization of ABCH 3083 Bt *expressing* Cry 1 Ac (MON 531 event) in the South Zone by M/s Amar Biotech Ltd.
- 6.36 Permission for commercialization of SP 700 B1 and SP 503 B 1 *expressing* Cry 1 Ac (MON 531 event) in the South Zone by M/s Bayer Biosceinces Ltd.
- 6.37 Permission for commercialization NSPL 9 BG I, NSPL 603 BGI, NSPL 666 BGI *expressing* Cry 1Ac gene (Mon 531) gene in the South Zone by M/s Nandi Seeds Pvt Ltd.
- 6.38 Permission for commercialization PCH 409 Bt *expressing* Cry 1AC gene (Mon 531) gene in the South Zone by M/s Prabhat Agritech Ltd.
- 6.39 Permission for commercialization PRCHB-405 *expressing* Cry *1Ac* (Mon 531) in the South Zone by M/s Pravardhan Seeds (P) Ltd.
- 6.40 Permission for commercialization of Mahasangram BG *expressing* Cry 1 Ac (MON 531 event) in the South Zone by M/s Solar Agrotech Pvt. Ltd.



6.41 Permission for commercialization of VBCH – 1010 BG, VBCH-1016 Bt, VBCH-1018 Bt and VBCHB - 1203 BG 1 *expressing* Cry 1 Ac (MON 531 event) in the South Zone by M/s Vibha Agrotech Ltd.

1.0 The recommendations of SAU/MEC/RCGM/ICAR in respect of 18 Bt cotton hybrids as contained in the proposal at agenda 6.32 to 6.41 namely SWCH 4531 Bt, Ankur 3042 Bt, Ankur HB 1902 Bt, Ankur HB 1976 Bt, ACHB 901-1, ABCH 3083 Bt, SP-700 B1, SP 503 B1, NSPL 9 BG1, NSPL 603 BG I, NSPL 666 BG I, PCH 409 Bt, PRCHB 405, Mahasangram BG, VBCHB 1010 BG, VBCH 1016 Bt, VBCH 1018 Bt and VBCH 1203 BG 1 *expressing* cry 1Ac (MON 531 event) were considered by the GEAC.

2.0 The Committee noted that the above hybrids have been approved for commercial release in the South zone in the MEC meetings held on 15.4.2008 and 29.4.2008 and RCGM meetings held on 7.3.2008, respectively. In light of the recommendations made by the MEC and RCGM and taking into consideration the policy decision to adopt an event based approval mechanism for Bt cotton hybrids *expressing* approved events, the Committee approved the following hybrids for commercial release in the South Zone:

1. SWCH 4531Bt *expressing* Cry 1 Ac (MON 531 event) by M/s Seed Works Pvt. Ltd.
2. Ankur 3042 Bt, *expressing* Cry 1 Ac (MON 531 event) by M/s Ankur Seeds Pvt. Ltd.
3. Ankur HB 1902 Bt, *expressing* Cry 1 Ac (MON 531 event) by M/s Ankur Seeds Pvt. Ltd.
4. Ankur HB 1976 Bt *expressing* Cry 1 Ac (MON 531 event) by M/s Ankur Seeds Pvt. Ltd.
5. ACHB 901-1 Bt *expressing* Cry 1 Ac (MON 531 event) by M/s Ajeet Seeds.
6. ABCH 3083 Bt *expressing* Cry 1 Ac (MON 531 event) by M/s Amar Biotech Ltd.
7. SP 700 B1 *expressing* Cry 1 Ac (MON 531 event) by M/s Bayer Biosceinces Ltd.
8. SP 503 B 1 *expressing* Cry 1 Ac (MON 531 event) by M/s Bayer Biosceinces Ltd.
9. NSPL 9 BG I, *expressing* Cry 1Ac gene (Mon 531) gene by M/s Nandi Seeds Pvt Ltd.
10. NSPL 603 BGI, *expressing* Cry 1Ac gene (Mon 531) gene by M/s Nandi Seeds Pvt Ltd.
11. NSPL 666 BGI *expressing* Cry 1Ac gene (Mon 531) gene by M/s Nandi Seeds Pvt Ltd.
12. PCH 409 Bt *expressing* Cry 1AC gene (Mon 531) gene by M/s Prabhat Agritech Ltd.
13. PRCHB-405 *expressing* Cry 1Ac (Mon 531) by M/s Pravardhan Seeds (P) Ltd.
14. Mahasangram BG *expressing* Cry 1 Ac (MON 531 event) by M/s Solar Agrotech Pvt. Ltd.
15. VBCHB – 1010 BG, *expressing* Cry 1 Ac (MON 531 event) by M/s Vibha Agrotech Ltd.
16. VBCH-1016 Bt, *expressing* Cry 1 Ac (MON 531 event) by M/s Vibha Agrotech Ltd.
17. VBCH-1018 Bt *expressing* Cry 1 Ac (MON 531 event) by M/s Vibha Agrotech Ltd.
18. VBCHB-1203 BG 1 *expressing* Cry 1 Ac (MON 531 event) by M/s Vibha Agrotech Ltd.

**Agenda Item 7: PROPOSALS FOR LARGE SCALE TRIALS IN CENTRAL & SOUTH ZONES AS RECOMMENDED BY MEC/RCGM.**

**Hybrids expressing stacked genes Cry 1Ac & Cry 2Ab (Mon 15985)**

- 7.1 Permission for Large Scale Trials and seed production of cotton hybrid of Ankur HB 2102 BG II, Ankur HB 2104 BG II, Ankur 3028 BG II, Ankur 3034 BG II and Jai BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the Central Zone by M/s Ankur Seeds Private Ltd.
- 7.2 Permission for Large Scale Trials and seed production of cotton hybrid of SP 700 B2, SP 503 B2, SP 1044 B2 and SP 671 B2 expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the Central Zone by M/s Bayer Bioscience Pvt. Ltd.
- 7.3 Permission for Large Scale Trials and seed production of cotton hybrid of NAMCOT-611 BG II and NAMCOT 613 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the Central Zone by M/s Namdhari Seeds P Ltd.
- 7.4 Permission for Large Scale Trials and seed production of cotton hybrid of RCH-608 BG II, RCH-377 BG II and RCH 118 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the Central Zone by M/s Rasi seeds P Ltd. Private Ltd.
- 7.5 Permission for Large Scale Trials and seed production of Sarju BG II and Solar 60 BG II *expressing* Cry 1Ac & Cry 2Ab (Mon 15985) in the Central Zone by M/s Solar Agrotech Pvt. Ltd.
- 7.6 Permission for Large Scale Trials and seed production of cotton hybrid of VBCH-1511 BG II, VBCH-1512 BG II, VBCH-1513 BG II and VBCH-1514 BG II expressing Cry 1 Ac gene (MON 531 event) in the Central Zone by M/s Vibha Agrotech. Ltd.
- 7.7 Permission for Large Scale Trials and seed production of cotton hybrid of Ankur HB 2110 BG II, Ankur 3034 BG II and Jai BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Ankur Seeds Private Ltd.
- 7.8 Permission for Large Scale Trials and seed production of cotton hybrid of ACH 5 BG II, and ACH 6 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Ajeet Seeds Ltd.
- 7.9 Permission for Large Scale Trials and seed production of cotton hybrid of ABCH 1299 Bt (BG II) and ABCH-7399 Bt (BG II) expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Amar Biotech. Ltd.
- 7.10 Permission for Large Scale Trials and seed production of cotton hybrid of SP-700 B2 and SP 503 B2 expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Bayer Biosciences Ltd.
- 7.11 Permission for Large Scale Trials and seed production of cotton hybrid of KDCHH 541 BG II and KDCHH 9821 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Krishidhan Seeds Ltd.
- 7.12 Permission for Large Scale Trials and seed production of cotton hybrid of NAMCOT 608 BG II and NAMCOT 610 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Namdhari Seeds Ltd.
- 7.13 Permission for Large Scale Trials and seed production of cotton hybrid of NSPL 666 BG II and NSPL 333 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Nandi Seeds Ltd.

- 7.14 Permission for Large Scale Trials and seed production of cotton hybrid of NCS-859 BG II and NCS 860 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Nuziveedu Seeds Ltd.
- 7.15 Permission for Large Scale Trials and seed production of cotton hybrid of PCH-881 Bt 2 and PCH 883 Bt 2 expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Prabhat Agritech Ltd.
- 7.16 Permission for Large Scale Trials and seed production of cotton hybrid of PRCH 304 BG II, PRCH 305 BG II, PRCH 306 BG II and PRCH 333 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Pravardhan Seeds Private Ltd.
- 7.17 Permission for Large Scale Trials and seed production of cotton hybrid of RCH 614 BG II and RCH 20 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Rasi Seeds Private Ltd.
- 7.18 Permission for Large Scale Trials and seed production of cotton hybrid of SWCH-2 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Seed Works India Private Ltd.
- 7.19 Permission for Large Scale Trials and seed production of cotton hybrid of Sarju BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Solar Agrotech Private Ltd.
- 7.20 Permission for Large Scale Trials and seed production of cotton hybrid of Tulasi 7 BG II, Tulasi 333 BG II and Tulasi 45 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Tulasi Seeds Private Ltd.
- 7.21 Permission for Large Scale Trials and seed production of cotton hybrid of VBCH 1511 BG II, VBCH 1512 BG II, VBCH-1513 BG II and VBCH 1514 BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Vibha Agrotech. Ltd.
- 7.22 Permission for Large Scale Trials and seed production of cotton hybrid of VICH 101 Bt (BG II) and VICH 104 Bt (BG II) expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Vikram Seeds Ltd.
- 7.23 Permission for Large Scale Trials and seed production of cotton hybrid of Ankur HB 2110 BG II, Ankur 3034 BG II and Jai BG II expressing Cry 1Ac & Cry 2Ab (Mon 15985) in the South Zone by M/s Ankur Seeds Private Ltd.

**Hybrids expressing genes (Cry 1Ab -Cry 1Ac ) "GFM Cry 1A"**

- 7.24 Permission for Large Scale Trials and seed production of Bt cotton hybrids SBCH-303 Bt, SBCH-307 Bt, SBCH 309 Bt, SBCH 310 Bt and SBCH 311 Bt expressing (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene in the Central Zone by M/s Safal Seeds & Biotech Ltd.
- 7.25 Permission for Large Scale Trials and seed production of Bt cotton hybrid of GBCH 07 Bt expressing (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene in the South Zone by M/s Green Gold Seeds Ltd.
- 7.26 Permission for Large Scale Trials and seed production of Bt cotton hybrid of SBCH-310 Bt and SBCH-311 Bt expressing (Cry 1Ab -Cry 1Ac ) "GFM Cry 1A" gene in the South Zone by M/s Safal seeds & Biotech Ltd.

- 7.27 Permission for c Large Scale Trials and seed production of Bt cotton hybrid of UPLHH – 271 Bt expressing (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene in the South Zone by M/s Uniphos Enterprises Ltd.
- 7.28 Permission for Large Scale Trials and seed production of Bt cotton hybrid of UPLHH – 189 Bt expressing (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene in the South Zone by M/s Uniphos Seeds & Bio Genetics Ltd.
- 7.29 Permission for Large Scale Trials and seed production of Bt cotton hybrid of ZCH -501064 Bt expressing (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene in the South Zone by M/s Zuari Seeds Ltd.

1.0 The Committee noted that the GEAC in its 78<sup>th</sup> and 79<sup>th</sup> meetings held on 22.6.2007 and 8.8.2007 had approved the conduct of MLRT with Bt cotton hybrids expressing Cry 1Ac (MON 531 event), Cry 1Ac & Cry 2Ab (Mon 15985 event), (Cry 1Ab -Cry 1Ac) "GFM Cry 1A" gene and cry 1Ac (event 1) developed by several companies based on the RCGM recommendations during Kharif, 2007. The field trials have been monitored by the SAUs and discussed in the MEC meeting held on 15.4.2008. In light of the policy decision adopted by the GEAC to follow an event based approval process, the MEC was of the view that large scale field trials of Bt cotton expressing approved gene events may not be necessary. Accordingly, the MEC has recommended that the above hybrids may be further tested under the ICAR/SAU trials. This would allow the applicant to follow the new procedure from Kharif, 2008. The Committee also noted that the same practice was followed when the GEAC adopted a fast track approval process for cry 1Ac (MON 531 event) in Kharif, 2006.

2.0 After detailed deliberations, the Committee recommended that the Bt cotton hybrids expressing approved events which have completed MLRT during Kharif, 2007 as contained in the agenda 7.1 to 7.29 may be further tested under the ICAR/SAU trials under intimation to RCGM/GEAC. On completion of the SAU/ICAR trials, the hybrids may be considered for commercial release as per the new event based approval procedure adopted by the GEAC. The Committee was also of the view that the SAU trials should be conducted as per the AICRP procedure under the ICAR system for genotype evaluation. It was also suggested by one of the members that MoEF jointly with ICAR, may organize a training workshop for the State Agricultural Universities and the State Departments of Agriculture with a view to sensitize the field level agencies on the biosafety issues as well as guidelines for conduct of GM crop field trials, its monitoring and evaluation.

**Agenda Item No 8: Consideration of Applications for MLRT/Strip Trials and Seed Production trials of Bt cotton expressing approved gene events in the Central and South zones during Kharif, 2008 as recommended by the MEC/RCGM**

- 8.1 Application submitted by M/s. Ankur Seeds Pvt. Ltd., Nagpur for permission to conduct Multi Location Research Trials (MLRT) of one Bt cotton hybrid (HXB) namely Ankur HB 1024 Bt containing *cry1Ac* gene (Event MON 531) at eight locations in South zones during Kharif 2008.
- 8.2 Application submitted by M/s. Ankur Seeds Pvt. Ltd., Nagpur for permission to conduct SAU Trials of one Bt cotton hybrid (HXB) namely Ankur HB 1024 Bt containing *cry1Ac* gene (Event MON 531) at three locations in Central & at three locations in South zones during Kharif 2008.
- 8.3 Application submitted by M/s. Ankur Seeds Pvt. Ltd., Nagpur for permission to conduct (Strip Trials) of 10+10 Bt cotton hybrid (HXB) namely Ankur HB 7001 Bt to Ankur HB 7010 Bt containing *cry1Ac* gene (Event MON 531) (10 hybrids) & Ankur HB 8001 BGII to Ankur 8010 BGII containing *cry1Ac* & *cry2Ab* genes (MON 15985) (10 hybrids) in South zone during Kharif 2008.
- 8.4 Application submitted by M/s. Pravardhan Seeds Pvt. Ltd., Andhra Pradesh for permission to conduct Multi Location Research Trials (MLRT) and SAU trials of three Bt cotton hybrids (HXB)

namely PRCHB-402 BGI, PRCHB-403 BGI, PRCHB-405 BGI containing *cry1Ac* (Event MON 531) at eight locations in Central Zone during Kharif 2008.

- 8.5 Application submitted by M/s. Pravardhan Seeds Pvt. Ltd., Andhra Pradesh for permission to conduct SAU trials of three cotton hybrids (HXB) namely PRCHB-402 BGI, PRCHB-403 BGI, PRCHB-405 BGI containing *cry1Ac* (Event MON 531) at two locations each in three states in Central Zone during Kharif 2008.
- 8.6 Application submitted by M/s. Pravardhan Seeds Pvt. Ltd., Andhra Pradesh for permission to conduct Multi Location Research Trials (MLRT) & ICAR trials of seven BGII cotton hybrids (HXH) namely PRCH-305 BGII, PRCH-306 BGII, PRCH-331 BGII, PRCH-333 BGII, PRCH-151 BGII, PRCH-155 BGII, PRCH-165 BGII containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at eight locations in Central Zone during Kharif 2008.
- 8.7 Application submitted by M/s. Pravardhan Seeds Pvt. Ltd., Andhra Pradesh for permission to conduct Experimental Seed Production of seven BGII cotton hybrids (HXH) namely PRCH-305 BGII, PRCH-306 BGII, PRCH-331 BGII, PRCH-333 BGII, PRCH-151 BGII, PRCH-155 BGII, PRCH-165 BGII containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at Palakonada, Mahaboobnagar District in Central Zone during Kharif 2008. The seeds will be utilized for LST/ICAR trials during the next year.
- 8.8 Application submitted by M/s. Pravardhan Seeds Pvt. Ltd., Andhra Pradesh for permission to conduct Multi Location Research Trials (MLRT) & ICAR trials of five BGII cotton hybrids (HXH) namely PRCH-215 BGII, PRCH-151 BGII, PRCH-155 BGII, PRCH-161 BGII, PRCH-165 BGII containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at six locations in South Zone during Kharif 2008.
- 8.9 Application submitted by M/s. Pravardhan Seeds Pvt. Ltd., Andhra Pradesh for permission to conduct Experimental Seed Production of five BGII cotton hybrids (HXH) namely PRCH-215 BGII, PRCH-151 BGII, PRCH-155 BGII, PRCH-161 BGII, PRCH-165 BGII containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at own research farm, in South Zone during Kharif 2008.
- 8.10 Application submitted by M/s. Super Seeds Pvt. Ltd., Hisar for permission to conduct Multi Location Research Trials (MLRT) of three Bt cotton hybrids namely Prateek-1 BG-1, Prateek-333 BG-1 & Prateek-427 BG-1 containing *cry1Ac* gene (Event MON 531) at eight locations in Central zone during Kharif 2008 .
- 8.11 Application submitted by M/s. Super Seeds Pvt. Ltd., Hisar for permission to conduct Multi Location Research Trials (MLRT) of one BG-II cotton hybrids namely Super-5 BG-II containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at eight locations in Central zone during Kharif 2008.
- 8.12 Application submitted by M/s. Super Seeds Pvt. Ltd., Hisar for permission to conduct Multi Location Research Trials (MLRT) of three Bt cotton hybrids namely Prateek-1 BG-1, Prateek-333 BG-1 & Prateek-427 BG-1 containing *cry1Ac* gene (Event MON 531) at six locations in South zone during Kharif 2008.
- 8.13 Application submitted by M/s. Super Seeds Pvt. Ltd., Hisar for permission to conduct Multi Location Research Trials (MLRT) of one BG-II cotton hybrids namely Super-5 BG-II containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at six locations in South zone during Kharif 2008.
- 8.14 Application submitted by M/s. Bioseeds Research India Pvt. Ltd., Hyderabad for permission to conduct Strip trials of 11 Bt cotton hybrids i.e. eight hybrids 841-2/MON 15985, 842-2/MON 15985, 843-2/MON 15985, 844-2/MON 15985, 845-2/MON 15985, 846-2/MON 15985, 847-2/MON 15985, 848-2/MON 15985 containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) and three hybrids 849-1/MON 531, 850-1/MON 531, 851-1/MON 531, containing *cry1Ac* gene

(Event MON 531) at four locations in Central & three locations in South zones during Kharif 2008.

- 8.15 Application submitted by M/s. Bioseeds Research India Pvt. Ltd., Hyderabad for permission to conduct Strip trials of 12 cotton hybrids namely 811-2/MON 15985, 812-2/MON 15985, 813-2/MON 15985, 814-2/MON 15985, 815-2/MON 15985, 816-2/MON 15985, 817-2/MON 15985, 818-2/MON 15985, 819-2/MON 15985, 820-2/MON 15985, 821-2/MON 15985, 822-2/MON 15985 containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at three locations in North zone during Kharif 2008.
- 8.16 Application submitted by M/s. Nandi Seeds Pvt. Ltd., Mahbubnagar for permission to conduct Strip trials of nine Bt cotton hybrids namely NSPL-117, NSPL-216, NSPL-279, NSPL-189, NSPL-459, NSPL-1116, NSPL-2223, NSPL-252, NSPL-531 containing *cry1Ac* gene (Event MON 531) in Central zone during Kharif 2008.
- 8.17 Application submitted by M/s. Nandi Seeds Pvt. Ltd., Mahbubnagar for permission to conduct Strip trials of nine BGII cotton hybrids namely NSPL-117, NSPL-216, NSPL-279, NSPL-189, NSPL-459, NSPL-1116, NSPL-2223, NSPL-252, NSPL-531 containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) in Central zone during Kharif 2008.
- 8.18 Application submitted by M/s. Nandi Seeds Pvt. Ltd., Mahbubnagar for permission to conduct MLRT & SAU/ ICAR trials for transgenic cotton hybrids two in each BG-I (HXH) namely NSPL-423 & NSPL-432 containing *cry1Ac* gene (MON 531) & BGII (HXH) viz. NSPL-423 & NSPL-432 & (HXB) NSPL-63 & NSPL-603 containing *cry1Ac* & *cry2Ab* gene (MON 15985) at six locations in South zone during Kharif 2008.
- 8.19 Application submitted by M/s. Vikram Seeds Pvt. Ltd., Ahmedabad for permission to conduct Multi Location Research Trials (MLRT) of three BGII cotton hybrids (HXH) namely VICH-301 BG-II, VICH-303 BG-II, VICH-304 BG-II containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at eight locations in Central zone during Kharif 2008.
- 8.20 Application submitted by M/s. Vikram Seeds Pvt. Ltd., Ahmedabad for permission to conduct Multi Location Research Trials (MLRT) of two BGII cotton hybrids (HXB) namely VICH-501 BG-II & VICH-502 BG-II containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at eight locations in Central zone during Kharif 2008 .
- 8.21 Application submitted by M/s. Vikram Seeds Pvt. Ltd., Ahmedabad for permission to conduct Multi Location Research Trials (MLRT) of three BGII cotton hybrids (HXH) namely VICH-301 BG-II, VICH-303 BG-II, VICH-304 BG-II containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at seven locations in South zone during Kharif 2008.
- 8.22 Application submitted by M/s. Vikram Seeds Pvt. Ltd., Ahmedabad for permission to conduct Multi Location Research Trials (MLRT) of two BGII cotton hybrids (HXB) namely VICH-501 BG-II & VICH-502 BG-II containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at seven locations in South zone zone during Kharif 2008 .
- 8.23 Application submitted by M/s. Vikram Seeds Pvt. Ltd., Ahmedabad for permission to conduct (Strip Trial) of 44 BGII cotton hybrids containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at own research farm, in Central zone during Kharif 2008 .
- 8.24 Application submitted by M/s. Green Gold Seeds Ltd., Aurangabad for permission to conduct Multi Location Research Trial (MLRT) & SAU Trials & F1 Seed Production in half acre area of two cotton hybrids namely GBCH-07 Bt & GBCH-09 Bt containing *cry1Ab-Ac* genes at eight locations in Central zone & at own research farm, for Seed production during Kharif 2008.
- 8.25 Application submitted by M/s. Namdhari Seeds Pvt. Ltd., Bangalore for permission to conduct Multi Location Research Trial (MLRT) & ICAR & Seed Production of four cotton hybrids namely

NAMCOT-603 BGII, NAMCOT-605 BGII, NAMCOT-614 BGII, NAMCOT-615 BGII containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at eight locations in Central & 6 locations in South zones zone during Kharif 2008.

- 8.26 Application submitted by M/s. Namdhari Seeds Pvt. Ltd., Bangalore for permission to conduct (Strip Trial) & Seed Production in half acre of 8 Bt. hybrids (HXH) i.e. NAMCOT-424 BGI, NAMCOT-425 BGI, NAMCOT-426 BGI, NAMCOT-427 BGI, NAMCOT-428 BGI, NAMCOT-429 BGI, NAMCOT-430 BGI & NAMCOT-431 BGI containing *cry1Ac* genes (Event MON 531), 5 BG II cotton hybrids (HXB) i.e. NAMCOT-801 BGII, NAMCOT-802 BGII, NAMCOT-803 BGII, NAMCOT-804 BGII & NAMCOT-805 BGII containing *cry1Ac* & *cry1Ab* genes (Event MON 15985) & 12 BG II cotton hybrids (HXH) i.e. NAMCOT-618 BGII, NAMCOT-619 BGII, NAMCOT-620 BGII, NAMCOT-621 BGII, NAMCOT-622 BGII, NAMCOT-623 BGII, NAMCOT-624 BGII, NAMCOT-625 BGII, NAMCOT-626 BGII, NAMCOT-627 BGII, NAMCOT-628 BGII & NAMCOT-629 BGII at own research farms in, Karnataka and Haryana during Kharif 2008 .
- 8.27 Application submitted by M/s. Amar Biotech Ltd., Hyderabad for permission to conduct Multi Location Research Trial (MLRT) & SAU/ ICAR Trials of 4 BG-1 cotton hybrids (HXB) namely ABCH-137, ABCH-138, ABCH-139 & ABCH-140 containing *cry1Ac* (Event MON 531) at 6 locations for MLRT & 4 locations for SAU in South zone during Kharif 2008.
- 8.28 Application submitted by M/s. Amar Biotech Ltd., Hyderabad for permission to conduct Multi Location Research Trial (MLRT) & SAU/ ICAR Trials of 5 BG-1 cotton hybrids (HXH) namely ABCH-102, ABCH-104, ABCH-105, ABCH-121 & ABCH-136 containing *cry1Ac* (Event MON 531) at 6 locations for MLRT & 4 locations for SAU in South zone during Kharif 2008.
- 8.29 Application submitted by M/s. Amar Biotech Ltd., Hyderabad for permission to conduct Multi Location Research Trial (MLRT) and SAU/ ICAR Trials of 4 BG-II cotton hybrids namely ABCH-143, ABCH-146, ABCH-147 & ABCH-148 containing *cry1Ac* & *cry2Ab* genes (Event MON 15985) at 6 locations for MLRT & 4 locations for SAU in South zone during Kharif 2008.
- 8.30 Application submitted by M/s. Uniphos Enterprises Ltd., Mumbai for permission to conduct Multi Location Research Trial (MLRT) & SAU & Seed Production in half acre of 2 Bt cotton hybrids (HXB) namely UPLHB-323 Bt & UPLHH-325 Bt containing GFM *cry1A* Event (*cry1Ab* & *cry1Ac* gene) at 5 locations in South zone during Kharif 2008.
- 8.31 Application submitted by M/s. Uniphos Enterprises Ltd., Mumbai for permission to conduct Multi Location Research Trial (MLRT) & SAU & Seed Production in half acre of 4 Bt cotton hybrids namely UPLHB-279 Bt, UPLHH-298 Bt, UPLHH-347 Bt & UPLHH-339 Bt containing GFM *cry1A* Event (*cry1Ab* & *cry1Ac* gene) at 8 locations in South zone during Kharif 2008.
- 8.32 Application submitted by M/s. Uniphos Seeds & Bio-Genetics, Secundrabad for permission to conduct Multi Location Research Trial (MLRT) & SAU & Seed Production in half acre of 4 Bt cotton hybrids (HXB) namely UPLHH-295 Bt, UPLHH-350 Bt, UPLHH-355 Bt, UPLHH-358 Bt containing GFM *cry1A* Event (*cry1Ab* & *cry1Ac* gene) at 6 locations in South zone during Kharif 2008.
- 8.33 Application submitted by M/s. Zuari Seeds Ltd., Bangalore for permission to conduct Multi Location Research Trial (MLRT) & SAU of 5 Bt cotton hybrids namely ZCH- 173 Bt, ZCH-184 Bt, ZCH-201 Bt, ZCH-202 Bt, ZCH-221 Bt containing GFM *cry1A* Event (*cry1Ab* & *cry1Ac* gene) at 6 locations in South zone during Kharif 2008.
- 8.34 Application submitted by M/s. Zuari Seeds Ltd., Bangalore for permission to conduct Seed Production of 5 Bt cotton hybrids namely ZCH- 173 Bt, ZCH-184 Bt, ZCH-201 Bt, ZCH-202 Bt, ZCH-221 Bt containing GFM *cry1A* Event (*cry1Ab* & *cry1Ac* gene) at own R& D Farm in South zone during Kharif 2008.

- 8.35 Application submitted by M/s. Zuari Seeds Ltd., Bangalore for permission to conduct Multi Location Research Trial (MLRT) & SAU of 5 Bt cotton hybrids namely ZCH- 173 Bt, ZCH-201 Bt, ZCH-202 Bt, ZCH-50066 Bt, ZCH-50106 Bt containing *GFM cry1A* Event (*cry1Ab* & *cry1Ac* gene) at 8 locations in Central zone during Kharif 2008.
- 8.36 Application submitted by M/s. Zuari Seeds Ltd., Bangalore for permission to conduct Seed Production of 5 Bt cotton hybrids namely ZCH- 173 Bt, ZCH-201 Bt, ZCH-202 Bt, ZCH-50066 Bt, ZCH-50106 Bt containing *GFM cry1A* Event (*cry1Ab* & *cry1Ac* gene) at own research farm, in Central zone during Kharif 2008.
- 8.37 Application submitted by M/s. Zuari Seeds Ltd., Bangalore for permission to conduct Strip trials of 30 F1 Bt cotton hybrids containing *GFM cry1A* Event (*cry1Ab* & *cry1Ac* gene) in Central zone during Kharif 2008.
- 8.38 Application submitted by M/s. Zuari Seeds Ltd., Bangalore for permission to conduct SAU Trials of 5 Bt cotton hybrids namely ZCH-165 Bt, ZCH-223 Bt, ZCH-193 Bt, ZCH-50107 Bt, ZCH-50110 Bt containing *GFM cry1A* genes in North zone during Kharif 2008.
- 8.39 Application submitted by M/s. Tulasi Seeds Ltd., Guntur for permission to conduct SAU Trials of 3 BG II cotton hybrids namely Tulasi-162 BGII, Tulasi-171 BGII, Tulasi-225 BGII in North, 4 BGII cotton hybrids i.e. Tulasi-135 BGII, Tulasi-144 BGII, Tulasi-153 BGII, Tulasi-162 BGII in Central & 3 BGII cotton hybrids i.e. Tulasi-135 BGII, Tulasi-144 BG II, Tulasi-252 BG II in South zones containing *cry1Ac* & *cry2Ab* genes (Event 15985) during Kharif 2008.
- 8.40 Application submitted by M/s. Navkar Hybrid Seeds Ltd., Ahmedabad for permission to conduct SAU Trials of 3 Bt cotton hybrids namely ACH-1085 Bt, ACH-1163 Bt, ACH-1177 Bt containing *GFM cry1A* genes in North zone during Kharif 2008.
- 8.41 Application submitted by M/s. Navkar Hybrid Seeds Ltd., Ahmedabad for permission to conduct SAU Trials of 3 Bt cotton hybrids namely ACH-1050Bt, ACH-1151 Bt, CAH-1171 Bt containing *GFM cry1A* genes in Central zone during Kharif 2008.
- 8.42 Application submitted by M/s. Yashoda Hybrid Seeds Ltd., Wardha for permission to conduct MLRT & SAU Trials of 6 Bt cotton hybrids namely YRCH-4, YRCH-13, YRCH-9, YRCH-54, YRCH-31, YRCH-45 containing *cry1Ac-cry1Ab* genes in Central zone during Kharif 2008.
- 8.43 Application submitted by M/s. Bayer Biosciences Ltd., A.P. for permission to conduct MLRT & SAU & Seed Production of five BG-II cotton hybrids namely SP-1016 B2, SP-1170 B2, SP-1171 B2, SP-622 B2, SP-1146 B2 containing *cry1Ac* & *cry2Ab* gene (MON 15985) at eight locations for MLRT & six locations for SAU trial in Central zone during Kharif 2008.
- 8.44 Application submitted by M/s. Bayer Biosciences Ltd., A.P. for permission to conduct MLRT & SAU & Seed Production of five Bt cotton hybrids namely SP-1016 B1, SP-1170 B1, SP-1136 B1, SP-1150 B1, SP-1164 B1 containing *cry1Ac* gene (MON 531) at eight locations for MLRT & six locations for SAU trial in Central zone during Kharif 2008.
- 8.45 Application submitted by M/s. Bayer Biosciences Ltd., A.P. for permission to conduct Strip trials of 22 BG II cotton hybrids namely SP-7121 B2 to SP-7142 B2 containing *cry1Ac* & *cry2Ab* gene (MON 15985) at three locations in Central zone during Kharif 2008.
- 8.46 Application submitted by M/s. Bayer Biosciences Ltd., A.P. for permission to conduct MLRT & SAU & Seed Production of five Bt cotton hybrids namely SP-1016 B1, SP-1170 B1, SP-1136 B1, SP-1150 B1, SP-1164 B1 containing *cry1Ac* gene (MON 531) at six locations for MLRT & 4 locations for SAU in South zone during Kharif 2008.
- 8.47 Application submitted by M/s. Bayer Biosciences Ltd., A.P. for permission to conduct MLRT & SAU & Seed Production of five BG-II cotton hybrids namely SP-1016 B2, SP-1170 B2, SP-1171



B2, SP-622 B2, SP-1146 B2 containing *cry1Ac* & *cry2Ab* gene (MON 15985) at six locations for MLRT & 4 locations for SAU in South zone during Kharif 2008.

- 8.48 Application submitted by M/s. Bayer Biosciences Ltd., A.P. for permission to conduct Strip trials of 44 BG II cotton hybrids namely SP-7121 B2 to SP-7164 B2 containing *cry1Ac* & *cry2Ab* gene (MON 15985) at three locations in South zone during Kharif 2008.
- 8.49 Application submitted by M/s. Monsanto Genetic India Private Limited, Mumbai for permission to conduct Multi Location Research Trial (MLRT) of four BG-II cotton hybrids (HXH) namely EGCH-1517 BG-II, EGCH-1513 BG-II, EGCH-1447 BG-II and EGCH-5 BG-II containing *cry1Ac* & *cry2Ab* gene (MON 15985) at five locations in Central zone during Kharif 2008.
- 8.50 Application submitted by M/s. Monsanto Genetic India Private Limited, Mumbai for permission to conduct Multi Location Research Trial (MLRT) of four BG-II cotton hybrids (HXH) namely EGCH-1510 BG-II, EGCH-1527 BG-II, EGCH-1426 BG-II and SO7H-777 BG-II containing *cry1Ac* & *cry2Ab* gene (MON 15985) at five locations in Central zone during Kharif 2008.
- 8.51 Application submitted by M/s. Monsanto Genetic India Private Limited, Mumbai for permission to conduct Multi Location Research Trial (MLRT) of two BG-II cotton hybrids (HXB) namely EGCHB-5213 BG-II and EGCHB-10 BG-II containing *cry1Ac* & *cry2Ab* gene (MON 15985) at 2 locations in Central zone during Kharif 2008.
- 8.52 Application submitted by M/s. Monsanto Genetic India Private Limited, Mumbai for permission to conduct Multi Location Research Trial (MLRT) of four BG-II cotton hybrids (HXH) namely EGCH-1517 BG-II, EGCH-1513 BG-II, EGCH-1448 BG-II and EGCH-5 BG-II containing *cry1Ac* & *cry2Ab* gene (MON 15985) at six locations in South zone during Kharif 2008.
- 8.53 Application submitted by M/s. Monsanto Genetic India Private Limited, Mumbai for permission to conduct Multi Location Research Trial (MLRT) of four BG-II cotton hybrids (HXH) namely EGCH-1525 BG-II, EGCH-1527 BG-II, EGCH-1510 BG-II and EGCH-1426 BG-II containing *cry1Ac* & *cry2Ab* gene (MON 15985) at four locations in South zone during Kharif 2008.
- 8.54 Application submitted by M/s. Monsanto Genetic India Private Limited, Mumbai for permission to conduct Multi Location Research Trial (MLRT) of two BG-II cotton hybrids (HXB) namely EGCHB-5213 BG-II and EGCHB-10 BG-II containing *cry1Ac* & *cry2Ab* gene (MON 15985) at 3 locations in South zone during Kharif 2008.
- 8.55 Application submitted by M/s. Monsanto Genetic India Private Limited, Mumbai for permission to conduct Seed production of 16 BG-II cotton hybrids namely EGCH-1426 BGII, EGCH-5 BGII, EGCH-73 BGII, SO7H846 BGII, SO7H866 BG II, SO7H878 BGII, EGCH-1517 BGII, EGCH-1513 BGII, EGCH-1447 BGII, EGCH-1510 BGII, EGCH-1527 BGII, SO7H777 BG-II, EGCH-1448 BGII, EGCH 1525 BG-II, EGCHB 10 BG-II and EGCHBH 5213 BGII containing *cry1Ac* & *cry2Ab* gene (MON 15985) in one location in South zone during Kharif 2008.

1.0 The Committee considered 55 applications from 17 companies recommended by the RCGM for conducting MLRT/Strip trials and limited seed production of Bt cotton hybrids expressing approved events in the Central and South zones. The Committee also considered the proposals recommended by the RCGM for MLRT/SAU /Strip trials /seed production of Bt cotton expressing approved events in the 63<sup>rd</sup> and 64<sup>th</sup> meetings held on 7.3.2008 and 25.3.2008.

2.0 The Committee opined that as per the event based approval mechanism adopted by the GEAC, MLRT is not mandatory. Therefore, the applicants may be advised to conduct SAU/ICAR trials under intimation to RCGM / GEAC. On completion of the SAU/ICAR trials the hybrids may be considered for commercial release as per the new event based approval procedure adopted by the GEAC. The Committee was also of the view that the SAU trials should be conducted as per the AICRP procedure under the ICAR system for genotype evaluation.

**Agenda Item 9: Consideration of Applications for field trials of Bt cotton expressing new gene events in the Central and South Zones during Kharif, 2008**

**9.1 Permission for large scale trials, ICAR trials and seed production of Bt. cotton expressing cry 1Ac protein in the Central and South zones by Central Institute for Cotton Research, Nagpur.**

9.1.1 The applications from the Central Institute for Cotton Research (CICR), Nagpur seeking permission of the GEAC to conduct large scale field trials, ICAR trials and seed production with Bt cotton namely BN Bt (variety), and hybrids NHH 44 and DBt H1 expressing Bt Cry 1Ac protein in the Central and BN Bt (variety), and hybrids NHH 44, DBt H1, DBt H2 and DBt H5 expressing Bt Cry 1Ac protein in the South Zones was considered by the GEAC in light of the discussions and decisions taken in the GEAC meeting held on 2.4.2008 at agenda items 4.1 and 7.2.

9.1.2 Views were expressed by some of the members that approvals for large scale trials for a variety and a hybrid have a different implications because in the case of a variety, approval for large scale trials would tantamount to commercial release as the farmers can save the seeds for planting in the next season. It was agreed that there is a need for review of the decision taken by the GEAC directing CICR to conduct large scale trials with BN Bt (variety) in the North zone. In light of the above deliberations and taking into consideration (i) the recommendations of the Task Force on Agriculture Biotechnology under the chairmanship of Prof. M. S. Swaminathan, (ii) Bt technology has been for the first time introduced in a varietal background whereby the farmers can save the seeds; (iii) Bt technology has been introduced in a popular and well established agronomic background; and (iv) No cost to the trait value which would provide cheaper options to the farmers, the Committee approved the commercial release of BN Bt (variety) developed by CICR in the North, Central and South zones.

9.1.3 However, in respect of the Bt cotton hybrids expressing Cry 1Ac protein developed by CICR, the Committee was of the view that the hybrids should undergo large scale trials as per the prevailing procedure. Accordingly, the GEAC approved the conduct of large scale trials with NHH 44 and DBt H1 expressing Bt Cry 1Ac protein in the Central and hybrids NHH 44, DBt H1, DBt H2 and DBt H5 expressing Bt Cry 1Ac protein in the South zone.

**Agenda Item No 10: Other Items with the Permission of the Chair**

**10.1 IRM Strategy in Bt cotton.**

10.1.1 The Committee opined that in view of the 'event based approval mechanism' adopted by the GEAC there was an urgent need to suggest alternate and practical IRM strategy suitable for the agricultural practices in the region. After a brief discussion on the matter, it was decided that a sub-committee may be constituted to review the suggestions received from various stakeholders in the 'National Consultations on IRM Strategy' organized jointly by the MoEF, CICR and BCIL in February, 2008. The Committee was also of the view that the experience of US and China may also be taken into consideration while formulating the IRM strategy. The Committee further opined that until an alternate strategy is notified by the GEAC, the current practice of maintaining 20% area as refuge should be strictly complied with.

10.1.2 On the composition of the sub-committee, it was recommended that the ToR of the sub-committee constituted by the MoEF to review the implications of the Hon'ble SC directions dated 8.5.2007 may be expanded to include the review of alternate IRM strategy in Bt cotton. It was also agreed that the Dr. K. R. Kranthi, Scientist, CICR, Dr. Balasubramanian, Scientist, TNAU and Dr. Dhawan, Scientist PAU, Ludhiana may be co-opted as a members of the sub-committee.

## **10.2 Sub Committee to Review the Implications of the Hon'ble Supreme Court Directions dated 08.05.2007**

10.2.1 The Member Secretary, GEAC informed that the Hon'ble SC in the hearing on 8.4.2008, has directed the GEAC to further review the issue of 0.01% LOD and give a finding as to what should be the LOD, whether it should continue to be 0.01% or be less than 0.01% or more than 0.01% or whether it should be dispensed with altogether with an alternative protocol, and if so, what should be the alternative protocol.

10.2.2 It was noted that the sub-committee constituted by the GEAC to review the implications of the hon'ble SC order 8.5.2007 had submitted its detailed recommendations which have been filed before the hon'ble Supreme Court. The GEAC was of the view that the sub-committee may examine the matter in light of the recent directions issued by the hon'ble Supreme Court vide its order dated 8.4.2008 and submit its detailed report for consideration of the GEAC.

## **10.3 Report of the Sub-Committee to finalize the TOR / Protocols for socio-economic studies with respect to Bt Brinjal developed by M/s Mahyco.**

10.3.1 The Member Secretary, GEAC informed that in accordance with the decision taken in the meeting of the GEAC held on 8.8.2007, a meeting of the sub-committee comprising of Dr R Parasuraman, Director TISS, Prof M N Murthy, Institute of Economic Growth, Dr Mathura Rai Director IIVR, Dr. K. K. Tripathi, Adviser, DBT and Dr. R. Warriar, Director, MoEF was held on 24.12.20207 at IIVR, Varanasi. The GEAC considered the recommendations of the sub-committee and was of the view that the responsibility of conducting the socio economic survey may be assigned to National Centre for Agriculture Economics and Policy Research (NCAP). It was also suggested that Director, IIVR and Dr. T.P. Rajendran, ADG, Plant Protection may be closely associated with the conduct of socio-economic survey.

## **10.4. Representations received from the Seed industries.**

10.4.1 The Committee considered the representation received from some of the seed industries regarding the non-inclusion of their proposal in the GEAC agenda. It was informed that all hybrids approved by the MEC and RCGM and whose applications have been received in the Ministry, were placed in the agenda for GEAC consideration. The additional items included in the GEAC agenda covers most of the representations received by the GEAC. The Committee was of the view that hybrids which have not been approved by the MEC / RCGM would not be considered in the GEAC. The Committee requested MEC Chairman to look into the matter and submit his report. The Committee authorized Chairman, GEAC to take a final view on the matter based on the report received from MEC Chairman. In respect of applications not received in the Ministry, it was decided to consider the same in the next meeting. The applicants were advised to submit the same at least two weeks before the next GEAC meeting.

**The next meeting of the GEAC would be held on 28.5.2008.**

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