

**Decisions taken in the 54<sup>th</sup> Meeting of the Genetic Engineering Approval Committee (GEAC) held on 3<sup>rd</sup> May 2005.**

The 54<sup>th</sup> Meeting of the Genetic Engineering Approval Committee was held on 3<sup>rd</sup> May 2005 at 10.00 AM in the Ministry of Environment and Forests under the Chairmanship of Shri Suresh Chandra, Special Secretary & Chairman GEAC

**Decisions**

**A. Transgenic Crops (Commercial Release)**

**Central Zone**

- 4.1 **Permission for commercial release of Bt cotton hybrids NCS-145, 'Bunny' Bt, NCS –207 'Mallika' Bt for Central Zone by M/s Nuziveedu Seeds Ltd.**  
&
- 4.2 **Permission for commercial release of RCH –144 Bt , RCH – 118 Bt and RCH –359 Bt for Central zone by M/s Rasi Seeds.**  
&
- 4.3 **Permission for commercial release of BG-I Hybrids MRC – 6160 Bt, MRC-6301 Bt and MRC-6304 Bt for Central Zone by M/s Mahyco.**  
&
- 4.4 **Permission for commercial release of Ankur-651 and Ankur-09 for Central zone by M/s Ankur Seeds Pvt. Ltd.**

1 The Committee noted that the request for commercial release and marketing of NCS-145, 'Bunny' Bt, NCS –207 'Mallika' Bt, by M/s Nuziveedu Seeds Ltd and RCH –144 Bt , RCH – 118 Bt and RCH –359 Bt, by M/s Rasi Seed Ltd, and MRC-6301 Bt and MRC-6304 Bt by M/s Mahyco and Ankur-651 Bt and Ankur 09 Bt by M/s Ankur Seeds Pvt. Ltd. containing cry 1 Ac gene (MON 531 event) in the Central Zone were considered by the GEAC in its 53<sup>rd</sup> meeting held on 13.4.2005 wherein decision on the request was deferred in the absence of the recommendations from ICAR. In the case of RCH 144 Bt, it was decided to await the clarification from MEC regarding its recommendation for commercial release for a period of two years only while approval is generally given for three years.

2. The Committee also took note of the fact that the Department of Agriculture and Co-operation of Ministry of Agriculture have notified NCS-145, 'Bunny' Bt, NCS –207 'Mallika' Bt, Ankur-651 Bt and Ankur 09 Bt on 15.11.2001, 12.3.2003, 1.1.1996 and 15.5.1998 respectively.

3. After detailed deliberations and taking into consideration the findings of the large scale trials and ICAR trials and recommendations made by ICAR and MEC, the following decisions were taken:-

a) The Committee approved the commercial release and marketing of the following Bt varieties in the Central Zone for a period of three years subject to written confirmation from ICAR regarding the suitability of the hybrids for the Central Zone.

- I. RCH 144 Bt & RCH – 118 Bt developed by M/s Rasi Seeds Ltd

- II. MRC-6301 Bt developed by M/s Mayhco
  - III. Ankur-651 Bt & Ankur 09 Bt developed by M/s Ankur Seeds Ltd
- b) Decision, in the case of NCS-145, 'Bunny' Bt and NCS –207 'Mallika' Bt was deferred. It was decided to obtain following documents and put up the case again before GEAC for its reconsideration.
- I. Confirmation from ICAR on the suitability of the hybrids for the Central Zone.
  - II. Confirmation from ICAR that only one year of testing required under the AICCIP trials is adequate for centrally notified varieties.
  - III. DNA fingerprinting to prove that the Bt variety of Bunny and Malika are equivalent to its Non Bt counterpart.
- c) Since ICAR has not recommended MRC-6304 Bt, the request for commercial release of this variety was rejected.

4. The Member Secretary informed the Committee that in the previous meeting it was decided to reject hybrids not recommended by MEC. RCH 359 was one such hybrid which was rejected for commercial release. M/s Rasi Seeds Ltd has submitted a request for repeating the large scale trials during Kharif 2005, the Committee was of the view that MEC has already evaluated RCH 359 Bt and it has been found unsuitable for commercial release, the request of the Company for conduct of 2<sup>nd</sup> year large scale trials under GEAC cannot be accepted.

**4.5 Renewal of GEAC permission for commercialization of three Bt. Cotton hybrids namely MECH – 12 Bt, MECH – 162 Bt, and MECH – 184 Bt containing with Cry 1 Ac gene developed by M/s Mahyco in Central and South zones.**

1. The Member Secretary recalled that the request of M/s Mayhco was considered in the GEAC meetings held on 3.3.2005 and 13.4.2005 wherein the Committee considered the representations received from the NGOs and Farmers Associations and the report of the State Govts. of Andhra Pradesh, Maharashtra and Tamil Nadu. In the previous meeting, the Committee also took note of the findings of the three year CICR study on the 'Baseline susceptibility and resistance monitoring studies on the cotton bollworm, *Helicoverpa armigera* to Cry1Ac'.

2. After detailed deliberation and in view of the diverse and conflicting views received from various quarters, the Committee had decided to obtain the specific views of the State Govt on the following issues:

- a) Whether the Bt technology introduced in cotton crop has been beneficial to the farmers in the respective States.
- b) Whether the overall productivity of cotton crop in general has increased over the period 2002 to 2005 in the respective States.
- c) Any other findings specific to an area were observed.

3. Taking into consideration all these reports received from the various State Govts. regarding the performance of the 3 approved Bt Cotton varieties and after detailed deliberations following decisions were taken.

- a. The Committee decided to **renew** the GEAC permission for commercial cultivation of MECH 12 Bt for the Central Zone (States of Maharashtra, Madhya Pradesh and Gujarat) for a period of two years.
- b. The Committee decided to **renew** the GEAC permission for commercial cultivation of MECH 162 Bt and MCH 184 Bt for the Central and Southern Zone except Andhra Pradesh (i.e. States of Maharashtra, Madhya Pradesh, Gujarat, Karnataka and Tamil Nadu) for a period of two years.
- c. The Committee did not renew the GEAC permission for MECH 12 Bt, MECH 162 Bt and MECH 184 Bt for the State of Andhra Pradesh.

#### A. Commercial Release – Contd...

##### South Zone

- 4.6 **Permission for commercial release of NCS-145, 'Bunny' Bt and NCS –207 'Mallika' Bt by M/s Nuziveedu Seeds Ltd.**
- 4.7 **Permission for commercial release of MRC–6160 Bt, MRC-6322 Bt and MRC –6918 Bt by M/s Mahyco.**
- 4.8 **Permission for commercial release of RCH – 20 Bt and RCH –368 Bt by M/s Rasi Seeds.**

1 The Member Secretary informed that M/s Nuziveedu Seeds Ltd, M/s Mahyco and M/s Rasi Seed Ltd have submitted an application on 21.2.2005, 15.2.2005 and 28.2.2005 respectively seeking approval of GEAC for commercial release and marketing of NCS-145, 'Bunny' Bt, NCS –207 'Mallika' Bt, MRC – 6160 Bt, MRC-6322 Bt, MRC-6918 Bt and RCH 20 Bt and RCH 368 Bt in the South I Zone.

2. The Committee noted that these companies have transferred their proprietary Bt. Cotton hybrids (NCS-145, 'Bunny' Bt, NCS –207 'Mallika' Bt, MRC – 6160 Bt, MRC-6322 Bt, MRC-6918 Bt, RCH 20 Bt and RCH 368 Bt) with cry 1 Ac gene (Mon 531 event ) along with gene cassette through traditional back crossing method.

3. The Committee noted that out of the seven hybrids under consideration, the Department of Agriculture and Co-operation of Ministry of Agriculture have notified NCS-145, 'Bunny' Bt, NCS –207 'Mallika' Bt, on 15.11.2001 and 12.3.2003 respectively.

4. After detailed deliberations and taking into consideration the findings of the large scale trials and ICAR trials and recommendations made by ICAR and MEC, the following decisions were taken:-

a) The Committee approved the commercial release and marketing of the following Bt varieties in the South Zone for a period of three years subject to written confirmation from ICAR regarding the suitability of the hybrids for the South Zone.

I. MRC-6322 Bt and MRC-6918 Bt developed by M/s Mayhco

II. RCH 20 Bt & RCH – 368 Bt developed by M/s Rasi Seeds Ltd

b) In the case of NCS-145, 'Bunny' Bt and NCS –207 'Mallika' Bt it was decided to obtain the following documents and put up the case again before GEAC for its consideration.

- 1) Confirmation from ICAR on the suitability of the hybrids for the Central Zone.
- 2) Confirmation from ICAR that only one year of testing required under the AICCIP trials is adequate for centrally notified varieties.
- 3) DNA fingerprinting to prove that the Bt variety of Bunny and Malika are equivalent to its Non Bt counterpart.

**B. Transgenic Crops (Large Scale Trials in Central Zone subsequent to RCGM trials and MEC evaluation)**

**Central Zone**

4.9 Permission for large Scale trials and seed production of VCH-110 Bt, VCH-111Bt. VCH-112 Bt by M/s Vikki Agrotech Ltd.

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4.10 Permission for large Scale trials and seed production of GK-204Bt, GK-205Bt and GK-206 Bt by M/s Ganga Kaveri Seeds.

&

4.11 Permission for large Scale trials and seed production of PRCH-101 Bt, PRCH-102 Bt and PRCH-103 Bt by M/s. Paravardhan Seeds Pvt. Ltd.

&

4.12 Permission for large scale trials and seed production of Bt. Cotton hybrids NPH-2270, NPH-2171 and NPH-2250 by M/s Prabhat Agri Biotech Ltd.

&

4.13 Permission for large scale trials & Seed Production for RCH 377 Bt, RCH-380 Bt and RCH –386 Bt by M/s Rasi seeds.

&

4.14 Permission for large-scale trials of ACH-155-1 and ACH 21-1 with Cry 1 Ac gene in the North Zone by M/s Ajeet Seeds.

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4.15 Permission for large scale trials & seed Production of Tulsi 4 Bt, Tulsi –117 Bt, Tulsi-5 Bt, Tulsi –9 Bt and Tulsi-18 Bt by M/s Tulsi Seeds Pvt. Ltd.

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- 4.16 Permission for large scale trials & seed production in Brahma Bt, Krishna Bt, Kirtiman and Dhanwan Bt, Chetana Bt, Ram-2 Bt, Paras Laxmi and Rukmini Bt by M/s Emergent Genetics India Pvt. Ltd.  
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- 4.17 Permission for large scale trials & seed production of Brahma BG-II Bt, Krishna BG-II Bt, Kirtiman BG-II and Paras Laxmi BG-II by M/s Emergent Genetics India Pvt. Ltd.  
&
- 4.18 Permission for large scale trials & seed production of KDCHH-9632 Bt, KDCHH-09 Bt, KDCHH -351 Bt, KDCHH- 9821 Bt, KDCHH -9810 Bt, BG-I by M/s Krishidhan Seeds Ltd.  
&
- 4.19 Permission for large scale trials and seed production of KDCHH-621 BG-II, KDCHH-441 BG-II and KDCHH-531 BG- by M/s Krishidhan seeds Ltd.  
&
- 4.20 Permission for large scale trials & seed production of cotton hybrids RCH-512 BGII, RCH 515 BGII and RCH 521 BGII by M/s Rasi Seeds.  
&
- 4.21 Permission for large scale trials of BGII, Cotton hybrids MRC-7160 BGII, MRC-7201 BGII, MRC- 7301 BGII, and MRC-7326 BGII for the second year and first year large scale trials of MRC-7351 BGII, MRC-7341 BGII, MRC-7347 BGII and seed production by M/s Mahyco.  
&
- 4.22 Permission for large scale trials and seed production of JK-Durga Bt, JK-Varun, JKCH 666 Bt, JKCH 99 Bt, JKCH 226 Bt and JKCH 634 (Ishwar) Bt by M/s J.K. seeds.  
&
- 4.23 Permission for large scale trials and seed production of hybrids NCEH-2R Bt and NCEH-3R Bt by M/s. Nath Seeds Ltd.  
&
- 4.24 Permission for large scale trials and seed production of hybrids 02- 41 Vip, 02-58 Vip containing 'vip3A' gene by M/s Syngenta Seeds India Ltd.  
&
- 4.25 Permission for conducting large scale field trails and seed production of ACH –11-2 BG-II and ACH –155-2 BG –II containing Cry X (Cry 1 Ac and Cry 2 Ab) genes by M/s Ajeet Seeds Ltd.

1. The Committee noted that the request of a number of companies namely M/s Vikki Agrotech Ltd, M/s Ganga Kaveri Seeds, M/s. Paravardhan Seeds Pvt. Ltd, M/s Prabhat Agri Biotech Ltd, M/s Rasi seeds, M/s Ajeet Seeds, M/s Tulsi Seeds Pvt. Ltd, M/s Emergent Genetics India Pvt. Ltd, M/s. Nuziveedu Seed Ltd, M/s Krishidhan seeds Ltd, M/s Rasi Seeds Ltd, M/s Mahyco, M/s J.K. Seeds, M/s. Nath Seeds Ltd, M/s Syngenta Seeds India Ltd for conduct of large scale trials in the Central Zone was considered in the GEAC meeting on 13.4.2005.

2. Decision with respect to hybrids approved by MEC namely VCH-111 Bt, GK-204 Bt, GK-205Bt, PRCH-102 Bt, NPH-2171, RCH 377 Bt, RCH –386 Bt, ACH-155-1, Tulsi 4 Bt, Tulsi –117 Bt, Brahma Bt, NCS 913 Bt, KDCHH -9810 Bt, KDCHH-621 BG-II, KDCHH-441 BG-II, RCH 515 BGII, MRC- 7301 BG II, MRC-7326 BG II, MRC-7351 BG II, MRC-7341 BG II, MRC-7347 BG II, JK-Varun, JKCH 99 Bt, NCEH-2R Bt, 02- 41 Vip, was deferred in the absence of RCGM recommendation. The Member Secretary informed that the report of MEC has been subsequently considered by the RCGM in its meeting held on 21.4.2005. RCGM

has endorsed the recommendations of MEC on the suitability of the hybrids for large scale trials in the Central Zone. Formal communication in this regard has been received on 28.4.2005.

3. The Member Secretary informed the Committee that subsequent to the meeting held on 13.4.2005, M/s Ajeet Seeds Ltd have submitted their request for conduct of large scale trials of ACH –11-2 BG-II and ACH –155-2 BG –II. These hybrids have been approved by MEC based on the evaluation of the multilocal trials. The recommendation of MEC has been endorsed by the RCGM in its meeting held on 21.4.2005.

4. It was noted that on receipt of RCGM recommendation, the hybrids listed at para 2 & 3 above have fulfilled the following requirements for its consideration for large scale trials:

- Completion of Multi-local trials under RCGM
- Monitoring & Evaluation of the multi-local trials by MEC
- Recommendation of MEC endorsed by RCGM on suitability of the hybrids for the region.

5. The Committee also considered the 'Protocol for Large Scale Trials' recommended by the sub –Committee constituted by the GEAC. The Committee endorsed the recommendation of the sub Committee and directed that in future the applicants should strictly adhere to the protocol while conduct of large-scale trials.

6. During the deliberations the duration of large-scale trials was also discussed. It was pointed out by some of the members that GEAC had earlier taken a view that GEAC large scale trials for notified varieties would be for a period of 1 year whereas for the un notified varieties it could be for a period of 2 years. Subsequently taking into consideration that the large scale trials have been conducted at 80 locations and based on the recommendation of ICAR and MEC, the GEAC in its meetings held on 4.3.2005 and in the present meeting have accorded commercial released based on 1 year large scale trial data even for un notified varieties. In view of the large number of entries for large scale trials and to ensure harmonization with the decision of ICAR regarding the notified varieties, it was agreed that the large scale GEAC trial would be conducted henceforth for a period of 2 years in the case of un notified varieties.

7. The Committee also deliberated the issue of seed production. The Member Secretary informed that in the 41<sup>st</sup> GEAC meeting held on 15.4.2004 a decision was taken to permit seed production in area of 100 ha along with the large-scale trials. The Committee was of the view that such large quantities of seed production is not desirable. It was recommended that for un-notified varieties, seed production in an area of 1 acre may be permitted along with the approval for the 1<sup>st</sup> year large scale trials. Subsequently during the approval for the 2<sup>nd</sup> year large scale trial an area of 20 acres may be permitted. In view of the policy adopted by GEAC and ICAR for centrally notified varieties, it was recommended that seed production in an area of 20 acres may be permitted during the approval for the 1<sup>st</sup> year large scale trial. Taking into consideration the large number of request for large scale trials, the Committee was of the view that decision adopted by RCGM / GEAC / ICAR in its previous meetings needs to be reviewed. In this regard, the Committee authorized requested the Chairman to constitute a sub-committee to look into the policies regarding the above and submit its recommendation to the GEAC.

8. After detailed deliberations and taking into consideration the findings of the multi-location trials and recommendations made by RCGM and MEC it was decided to approve

large scale trials of the following hybrids at 80 locations in the Central Zone as per the protocol recommended by the sub-Committee of the GEAC for a period of 2 years:

- I. VCH-111 Bt by M/s Vikki Agrotech Ltd;
- II. GK-204 Bt and GK-205 Bt by M/s Ganga Kaveri Seeds;
- III. PRCH-102 Bt by M/s. Paravardhan Seeds Pvt. Ltd;
- IV. NPH-2171 by M/s Prabhat Agri Biotech Ltd;
- V. RCH 377 Bt and RCH –386 Bt by M/s Rasi Seeds Ltd;
- VI. ACH-155-1 by M/s Ajeet Seeds;
- VII. Tulsi 4 Bt and Tulsi –117 Bt by M/s Tulsi Seeds Pvt. Ltd;
- VIII. Brahma Bt by M/s Emergent Genetics India Pvt. Ltd;
- IX. NCS 913 Bt by M/s. Nuziveedu Seed Ltd;
- X. KDCHH -9810 Bt, KDCHH-621 BG-II, KDCHH-441 BG-II by M/s Krishidhan seeds Ltd;
- XI. RCH 515 BGII by M/s Rasi Seeds Ltd;
- XII. MRC- 7301 BG II, MRC-7326 BG II, MRC-7351 BG II, MRC-7341 BG II and MRC-7347 by M/s Mahyco, BG II;
- XIII. JK-Varun and JKCH 99 Bt, M/s J.K. Seeds;
- XIV. NCEH-2R Bt by M/s. Nath Seeds Ltd;
- XV. 02- 41 Vip by M/s Syngenta Seeds India Ltd;
- XVI. ACH –11-2 BG-II and ACH –155-2 BG –II by M/s Ajeet Seeds Ltd.

9. The Committee approved seed production in an area of 1 acre for the above hybrids approved by the GEAC large scale trials.

**B. Transgenic Crops (Large Scale Trials in Central Zone subsequent to RCGM trials and MEC evaluation) – Cont...**

**South Zone**

- 4.26** Permission for conducting large scale field trails and seed production of ACH –155-1 Bt and ACH –21-1 Bt cotton hybrids by M/s. Ajeet Seeds Ltd.
- 4.27** Permission for large scale trials and seed production of GK-207 Bt, GK-208 Bt and GK-209 Bt by M/s Ganga Kaveri Seeds.

- 4.28** Permission for conducting large scale field trails and seed production of cotton hybrids NPH- 2270, PH-2172 and NPH – 2250 South Zone by M/s. Prabhat Agri Biotech Ltd.
- 4.29** Permission for large Scale trials and seed production of PRCH-101 Bt, PRCH-102 Bt and PRCH-103 Bt by M/s. Paravardhan Seeds Pvt. Ltd.
- 4.30** Permission for large scale trials & seed production of KDCHH-9632 Bt, KDCHH-09 Bt, KDCHH -351 Bt, KDCHH- 9821 Bt, KDCHH -9810 Bt, BG-I by M/s Krishidhan Seeds Ltd.
- 4.31** Permission for large scale trials & seed production of cotton hybrids RCHB 702 Bt, RCHB 708 Bt , RCH 111 Bt and RCH 371 Bt by M/s Rasi Seeds.
- 4.32** Permission for large scale trials of NCS-138 Bt, NCS 570 Bt and NCS 913 Bt and seed production by M/s. Nuziveedu Seed Ltd.
- 4.33** Permission for large scale trials & seed production in Brahma Bt, Krishna Bt, Kirtiman and Dhanwan Bt, Chetana Bt, Ram-2 Bt, Paras Laxmi and Rukmini Bt by M/s Emergent Genetics India Pvt. Ltd.
- 4.34** Permission for large scale trials of BGII, Cotton hybrids MRC-7160 BGII , MRC-7201 BGII, MRC- 7301 BGII, and MRC-7326 BGII for the second year and first year large scale trials of MRC-7351 BGII, MRC-7341 BGII, MRC-7347 BGII and seed production by M/s Mahyco.
- 4.35** Permission for large scale trials & seed production of cotton hybrids RCH 524 BG-II, RCH 530 BG-II and RCH 533 BG-II by M/s Rasi Seeds.
- 4.36** Permission for large scale trials and seed production of KDCHH-621 BG-II, KDCHH-441 BG-II and KDCHH-531 BG- by M/s Krishidhan seeds Ltd.
- 4.37** Permission for large scale field trials and seed production of Bt cotton hybrids. J.K.-Durga Bt, JKCH-99 Bt, JK- Varun Bt, JKCH-666 Bt, JKCH-226 Bt, and JKCH-634(Ishwar) Bt in South Zone by M/s J.K. Agri Genetics Ltd. Hyderabad.
- 4.38** Permission for large scale trials and seed production of hybrids NCEH-2R Bt and NCEH-3R Bt.by M/s. Nath seeds Ltd.
- 4.39** Permission for large scale field trials of Bt Cotton hybrids, Bunny Vip. (02-41 Vip) and 02-42 Vip, Containing 'Vip3A' Insect-resistant gene in South Zone by M/S Syngenta Seeds India Pvt. Ltd. Pune

1. The Member Secretary informed that a number of companies namely M/s Ajeet Seeds, M/s Ganga Kaveri Seeds, M/s Prabhat Agri Biotech Ltd, M/s. Paravardhan Seeds Pvt. Ltd, M/s Krishidhan seeds Ltd, M/s Rasi Seeds Ltd, M/s. Nuziveedu Seed Ltd, M/s Emergent Genetics India Pvt. Ltd, M/s Mahyco, M/s J.K. Seeds, M/s. Nath Seeds Ltd, M/s Syngenta Seeds India Ltd have submitted their application seeking approval of GEAC for conduct of large scale trials of ACH-11-1, ACH-21-1, GK-207 Bt, GK-208 Bt, GK-209 Bt, NPH-2270 Bt, NPH-2171 Bt, NPH-2250 Bt, PRCH-101 Bt, PRCH-102 Bt, PRCH-103 Bt, KDCHH-9632 Bt, KDCHH-09 Bt, KDCHH-351 Bt, KDCHH-9821 Bt, KDCHH-9810 Bt, RCHB-702 Bt, RCHB-708 Bt, RCHB-111 Bt, RCHB-371 Bt, NCS-138 Bt, NCS-570 Bt, NCS-913 Bt, Brahma Bt, Krishna Bt, Kirtiman & Dhanwan Bt, , Chetana Bt, Ram-2 Bt, Paras Laxmi & Rukmini Bt,



MRC-7160 BG-II, MRC-7201 BG-II, MRC-7301 BG-II, MRC-7326 BG-II, MRC-7351 BG-II, MRC-7341 BG-II, MRC-7347 BG-II, RCH-524 BG-II, RCH-530 BG-II, RCH-533 BG-II, KDCHH-621 BG-II, KDCHH-441 BG-II, KDCHH-531 BG-II, J.K. Durga Bt, JKCH-99 Bt, J.K. Varun Bt, JKCH-666 Bt, JKCH-226 Bt, JKCH-634 (Ishwar) Bt, NCEH-2R Bt, NCEH-3R Bt, Bunny Vip (02-41 Vip), 02-42 Vip for large scale trials in the South Zone.

2. The Companies have conducted multi-locational trials under RCGM during Kharif 2004. These trials have been evaluated by the MEC. Out of the 54 hybrids under consideration, the MEC in its meeting held on April 1-2, 2005 has recommended 26 hybrids namely GK-207 Bt, GK-209 Bt, NPH-2270 Bt, NPH-2171 Bt, PRCH-102 Bt, PRCH-103 Bt, KDCHH-9632 Bt, KDCHH-9810 Bt, RCHB-708 Bt, RCHB-111 Bt, RCHB-371 Bt, NCS-913 Bt, Brahma Bt, Paras Laxmi Bt, MRC-7160 BG-II, MRC-7201 BG-II, MRC-7351 BG-II, MRC-7347 BG-II, RCH-530 BG-II, RCH-533 BG-II, KDCHH-621 BG-II, J.K. Durga Bt, JKCH-99 Bt, NCEH-3R Bt, Bunny Vip (02-41 Vip), 02-42 Vip.

3. The recommendation of MEC has been endorsed by the RCGM in its meeting held on 21.4.2005. Formal communication in this regard has been received on 28.4.2005. It was noted that on receipt of RCGM recommendation, the above hybrids have fulfilled the following requirements for its consideration for large scale trials:

- Completion of Multi-locational field trials under RCGM
- Monitoring & Evaluation of the multi-locational trials by MEC
- Recommendation of MEC endorsed by RCGM on suitability of the hybrids for the region.

4. After detailed deliberations and taking into consideration the findings of the multi-location trials and recommendations made by RCGM and MEC the following decisions were taken:

a) The Committee approved the following Bt varieties for large scale trials at 80 locations in the South I Zone as per the protocol recommended by the GEAC for a period of 2 years:

- I. GK-207 Bt and GK-209 Bt by M/s Ganga Kavery Seeds;
- II. NPH-2270 Bt and NPH-2171 Bt by M/s Prabhat Agri Biotech Ltd;
- III. PRCH-102 Bt and PRCH-103 Bt by M/s Paravardhan Seeds Pvt. Ltd;
- IV. KDCHH-9632 Bt and KDCHH-9810 Bt by M/s Krishidhan Seeds Ltd;
- V. RCHB-708 Bt, RCHB-111 Bt and RCHB-371 Bt by M/s Rasi Seeds Ltd;
- VI. NCS-913 Bt by M/s Nuziveedu Seeds Ltd;
- VII. Brahma Bt and Paras Laxmi by M/s Emergent Genetics India Pvt Ltd;
- VIII. MRC-7160 BG-II, MRC-7201 BG-II, MRC-7351 BG-II and MRC-7347 BG-II by M/s Mahyco;
- IX. RCH-530 BG-II and RCH-533 BG-II by M/s Rasi Seeds Ltd;
- X. KDCHH-621 BG-II by M/s Krishidhan Seeds Ltd;
- XI. J.K. Durga Bt and JKCH-99 Bt by M/s J.K. Seeds Ltd;
- XII. NCEH-3R Bt by M/s Nath Seeds Ltd;

- XIII. Bunny Vip (02-41 Vip) and 02-42 Vip by M/s Syngenta Seeds Ltd;
- b) The Committee approved seed production in an area of 1 acre for the above hybrids along with the large scale trials.
- c) It was decided not to approve all such Bt Cotton hybrids as are not recommended by MEC. These include the following hybrids:
- I. ACH-11-1 and ACH-21-1 by M/s Ajeet Seeds;
  - II. GK-208 Bt by M/s Ganga Kavery Seeds;
  - III. NPH-2250 Bt by M/s Prabhat Agri Biotech Ltd;
  - IV. PRCH-101 Bt by M/s Paravardhan Seeds Pvt. Ltd;
  - V. KDCHH-09 Bt, KDCHH-351 Bt and KDCHH-9821 Bt by M/s Krishidhan Seeds Ltd;
  - VI. RCHB-702 Bt by M/s Rasi Seeds Ltd;
  - VII. NCS-138 Bt and NCS-570 Bt by M/s Nuziveedu Seeds Ltd;
  - VIII. Krishna Bt, Kirtiman & Dhanwan Bt, Chetana Bt, Ram-2 Bt & Rukmini Bt by M/s Emergent Genetics India Pvt Ltd;
  - IX. MRC-7301 BG-II, MRC-7326 BG-II and MRC-7341 BG-II by M/s Mahyco;
  - X. RCH-524 BG-II by M/s Rasi Seeds Ltd;
  - XI. KDCHH-441 BG-II and KDCHH-531 BG-II by M/s Krishidhan Seeds Ltd;
  - XII. J.K. Varun Bt, JKCH-666 Bt, JKCH-226 Bt and JKCH-634 (Ishwar) Bt by M/s J.K. Seeds Ltd;
  - XIII. NCEH-2R Bt by M/s Nath Seeds Ltd;

### C. Direct GEAC Large Scale trials

#### Central Zone

- 4.9 Permission for large scale trials and seed production of hybrids NCS-914 Bt, NCS-915 Bt and NCS-918 Bt, NCS-922 Bt, NCS-929 Bt and NCHB-945 Bt by M/s. Nuziveedu seeds Ltd.
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- 4.10 Large scale trial BCHH 302 Bt Bajrang and BCHH 322 Bt containing Cry 1 Ac by M/s Bioseeds Research India Pvt. Ltd.
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- 4.11 Permission for large scale trials and seed production of Bt cotton hybrids VICH-9, VICH-5, VICH-11 and VICH-15 by M/s. Vikram Seeds Ltd.
- &
- 4.12 Permission for large scale trials & seed production of PCH- 917I Bt. (NCS 917Bt.), PCH-923 Bt.(NCS-923) PCH-927Bt.(NCS 927Bt.) and ) PCH-930Bt.(NCS 930 Bt.) by M/s Prabhat Agri Biotech.
- &
- 4.13 Permission for large scale trials & seed production of Ankur –2226 BG , Akka BG & Sita BG by M/s. Ankur Seeds Ltd.

1. The Member Secretary informed that the request of M/s. Nuziveedu seeds Ltd, M/s Bioseeds Research India Pvt. Ltd, M/s. Vikram Seeds Ltd and M/s Prabhat Agri Biotech and M/s Ankur Seeds Ltd for direct entry into large scale trials in the Central Zone was considered by the GEAC in its meeting held on 13.4.2005.

2. In accordance with the decision taken, the MoEF has constituted a sub-Committee with the following members to examine the case verification documents submitted by the applicants and recommend to the GEAC the suitability of the hybrids for large scale trials in the respective zones:

- a) Shri R P Sharma, Member GEAC
- b) Dr T Mahapatra, Senior Scientist, NBPGR
- c) Dr B S Dhillon, Director, NBPGR
- d) Dr K K Kranthi, Scientist, CICR.
- e) Dr T V Ramaniah, Director DBT & Member Secretary RCGM

3. The report of the Sub-Committee was placed before the GEAC. The GEAC considered the following qualifying criteria recommended by the sub Committee in its meeting held on 29.4.2005 and endorsed the same:-

- A. The non-Bt. hybrid should be a Notified and released hybrid by the Central Government with reference to the zones.
- B. Applications should be supported by documentary evidence of the following:
  - a) Confirmation that the hybrid contains approved gene event.
  - b) Protein expression level in different tissues at different intervals.
  - c) DNA finger printing to prove its genotype equivalent to non-Bt hybrid.

4. The Committee further noted that the sub Committee has recommended only VICH 5 and VICH 9 on the following grounds:

- a) VICH 5 and VICH 9 are centrally notified varieties by the Ministry of Agriculture.
- b) The case verification documents especially with respect to DNA fingerprinting to establish the equivalence to the non Bt counter part was satisfactory.

5. After detailed deliberations, based on the recommendation of the sub Committee and noting the fact that VICH 5 and VICH 9 by M/s Vikram Seeds Ltd are released and notified varieties for the Central Zone, the GEAC recommended these hybrids for large scale trials at 80 locations subject to the conditions that the applicant should further refine the DNA finger printing data with the help of NBPGR/NRCPB, New Delhi and protein expression levels through CICR Nagpur and submit the same to GEAC. The large-scale trials will be conducted for a period of 2 years. The Committee also approved the seed production in an area of 1 acre.

6. The Committee rejected the following hybrids for direct entry into large scale trials under GEAC and directed the applicants to approach RCGM for conduct of multilocal trials under RCGM if they so desired:-

- I. NCS-914 Bt, NCS-915 Bt and NCS-918 Bt, NCS-922 Bt, NCS-929 Bt and NCHB-945 Bt by M/s. Nuziveedu seeds Ltd.

- II. BCHH 302 Bt Bajrang and BCHH 322 Bt by M/s Bioseeds Research India Pvt. Ltd.
- III. VICH-11 and VICH-15 by M/s. Vikram Seeds Ltd.
- IV. PCH- 917I Bt. (NCS 917Bt.), PCH-923 Bt.(NCS-923) PCH-927Bt.(NCS 927Bt.) and PCH-930Bt.(NCS 930 Bt.) by M/s Prabhat Agri Biotech.
- V. Ankur –2226 BG , Akka BG & Sita BG by M/s. Ankur Seeds Ltd.

C. Direct GEAC Large Scale trials – Cont....

North Zone

- 4.14 Permission for large scale trials of BCHH - 6317 – Bt and HE- 563 Bt with Cry 1 Ac gene in the North Zone and seed production by Bioseed Research India Pvt. Ltd.
- &
- 4.15 Permission for large scale trials and seed production of hybrids NCS-914 Bt, NCS-915 Bt and NCS-918 Bt by M/s. Nuziveedu seeds Ltd.
- &
- 4.16 Permission for large scale trials & seed Production of Tulsi 4 Bt, Tulsi –117 Bt, Tulsi-5 Bt, Tulsi –9 Bt and Tulsi-18 Bt by M/s Tulsi Seeds Pvt. Ltd.
- &
- 4.17 Permission for large scale trials and seed production of Bt. Cotton hybrids NPH-2270, NPH-2171 and NPH-2250 by M/s Prabhat Agri Biotech Ltd.
- &
- 4.18 Permission for large scale trials and seed production of Bt cotton hybrids VICH-9 and VICH-11 by M/s. Vikram Seeds Ltd.
- &
- 4.19 Permission for large scale trials & seed production of Quick 351 Bt (KDCHH -351 Bt), Surya 144 Bt (KDCHH -144 Bt), KDCHH-702 Bt, KDCHH-603 Bt, KDCHH- 801 Bt, BG-I by M/s Krishidhan Seeds Ltd.
- &
- 4.20 Permission for large scale trials & seed production of PCH- 917 Bt. (NCS 917 Bt.), PCH-923 Bt (NCS-923), PCH-927 Bt (NCS 927Bt) and PCH-930 Bt (NCS 930 Bt) all containing Cry 1Ac gene by M/s Prabhat Agri Biotech.
- &
- 4.21 Permission for large-scale trials and seed production of ACH – 11 - 1 and ACH- 155-1 with Cry 1 Ac gene by M/s Ajeet Seeds.
- &
- 4.22 Permission for large scale trials & seed production of Ankur –2226 BG , Sita BG, Ankur – 1286 BG and Jassi BG by M/s. Ankur Seeds Ltd.

1. The Committee considered the request of M/s Bioseeds Research India Pvt. Ltd, M/s. Nuziveedu seeds Ltd, M/s Tulsi Seeds Pvt. Ltd, M/s Prabhat Agri Biotech Ltd, M/s. Vikram Seeds Ltd, M/s Krishidhan Seeds Ltd and M/s. Ajeet Seeds for direct entry into large scale trials in the light of the recommendations made by the sub Committee. The Committee noted that the sub Committee has recommended only VICH 9 on the following grounds:

- a) VICH 9 is a centrally notified variety by the Ministry of Agriculture.
  - b) The case verification documents especially the DNA fingerprinting to establish the equivalence to the non Bt counter part was satisfactory.
2. After detailed deliberations, based on the recommendation of the sub Committee and noting the fact that VICH 9 by M/s Vikram Seeds Ltd are released and notified varieties for the Central Zone, the GEAC recommended these hybrids for large scale trials at 80 locations subject to the conditions that the applicant should further refine the DNA finger printing data with the help of NBPGR/NRCPB, New Delhi and protein expression levels through CICR Nagpur and submit the same to GEAC. The large-scale trials will be conducted for a period of 2 years. The Committee also approved the seed production in an area of 1 acre.
3. The Committee rejected the following hybrids for direct entry into large scale trials under GEAC and directed the applicants to approach RCGM for conduct of multilocal trials under RCGM if they so desired:-
- I. BCHH - 6317 – Bt and HE- 563 Bt by Bioseed Research India Pvt. Ltd.
  - II. NCS-914 Bt, NCS-915 Bt and NCS-918 Bt by M/s. Nuziveedu seeds Ltd.
  - III. Tulsi 4 Bt, Tulsi –117 Bt, Tulsi-5 Bt, Tulsi –9 Bt and Tulsi-18 Bt by M/s Tulsi Seeds Pvt. Ltd.
  - IV. NPH-2270, NPH-2171 and NPH-2250 by M/s Prabhat Agri Biotech Ltd.
  - V. VICH-11 by M/s. Vikram Seeds Ltd.
  - VI. Quick 351 Bt (KDCHH -351 Bt), Surya 144 Bt (KDCHH -144 Bt), KDCHH-702 Bt, KDCHH-603 Bt, KDCHH- 801 Bt, BG-I by M/s Krishidhan Seeds Ltd.
  - VII. PCH- 917 Bt. (NCS 917 Bt.), PCH-923 Bt (NCS-923), PCH-927 Bt (NCS 927Bt) and PCH-930 Bt (NCS 930 Bt) all containing Cry 1Ac gene by M/s Prabhat Agri Biotech.
  - VIII. ACH – 11 - 1 and ACH- 155-1 with Cry 1 Ac gene by M/s Ajeet Seeds.
  - IX. Ankur –2226 BG , Sita BG, Ankur – 1286 BG and Jassi BG by M/s. Ankur Seeds Ltd.

**C. Direct GEAC Large Scale trials – Cont....**

**South Zone**

- 4.23 **Permission for large scale trials and seed production of hybrids NCS-914 Bt, NCS-915 Bt and NCS-918 Bt, NCS–922 Bt, NCS-929 Bt and NCHB-945 Bt by M/s. Nuziveedu seeds Ltd.**
- 4.24 **Large scale trial BCHH 302 Bt Bajrang and BCHH 322 Bt by M/s Bioseeds Research India Pvt. Ltd.**
- 4.25 **Permission for large scale trials and seed production of Bt cotton hybrids VICH-9, VICH-5, VICH-11 and VICH-15 by M/s. Vikram Seeds Ltd.**

**4.26 Permission for large scale trials & seed production of PCH- 917 Bt (NCS 917Bt), PCH-923 Bt (NCS-923) PCH-927Bt (NCS 927Bt. and PCH-930 Bt (NCS 930 Bt) by M/s Prabhat Agri Biotech.**

**&**

**4.27 Permission for large scale trials & seed production of Akka BG, Sita BG, Jai BG by M/s. Ankur Seeds Ltd.**

1. The Committee considered the request of M/s Nuziveedu seeds Ltd., M/s Bioseeds Research India Pvt. Ltd, M/s. Vikram Seeds Ltd, M/s Prabhat Agri Biotech and M/s Emergent Genetics India Pvt. Ltd. for direct entry into large scale trials under GEAC in the light of the recommendations made by the sub Committee.

2. After detailed deliberations, based on the recommendation of the sub Committee and noting the fact that VICH 5 and VICH 9 by M/s Vikram Seeds Ltd are release and notified varieties for the South Zone, the GEAC approved these hybrids for large scale trials at 80 locations in the South Zone subject to the conditions that applicant should further refine the DNA finger printing data with the help of NBPGR/NRCPB, New Delhi and protein expression levels through CICR Nagpur and submit the same to GEAC. The large-scale trials will be conducted for a period of 2 years. The Committee also approved the seed production in an area of 1 acre.

3. The Committee rejected the following hybrids for direct entry into large scale trials under GEAC and directed the applicants to approach RCGM for conduct of multilocal trials under RCGM if they so desired:-

I. NCS-914 Bt, NCS-915 Bt and NCS-918 Bt, NCS-922 Bt, NCS-929 Bt and NCHB-945 Bt, by M/s. Nuziveedu seeds Ltd.

II. VCH-111 Bt and VCH-113 Bt, by M/s. Vikram Seeds Ltd.

III. BCHH 302 Bt 'Bajrang' and BCHH 322 Bt, M/s Bioseeds Research India Pvt. Ltd.

IV. PCH- 917 Bt. (NCS 917 Bt.), PCH-923 Bt (NCS-923), PCH-927 Bt (NCS 927Bt) and PCH-930 Bt (NCS 930 Bt), by M/s Prabhat Agri Biotech.

V. Akka BG, Sita BG, Jai BG by M/s. Ankur Seeds Ltd.

**Agenda Item No.5. Other items**

**5.1 Permission for large Scale trials and seed production of VCH-111 Bt. VCH-113 Bt by M/s Vikki Agrotech Ltd.**

1. The Committee noted that the proposal is premature for consideration at this stage since multi-local trials under RCGM have not been conducted. The applicant has also not submitted the case verification documents for direct entry into the GEAC trials.

**5.2 Permission for large scale trials & seed Production of Tulsi 4 Bt, Tulsi –117 Bt, Tulsi-5 Bt, Tulsi –9 Bt and Tulsi-18 Bt by M/s Tulsi Seeds Pvt. Ltd.**

1. The Committee noted that MEC in its meeting held on April 1-2, 2005 has directed the applicant to conduct multi-locational trials properly in the next season and present the data for consideration of the MEC. The proposal is therefore premature for consideration at this stage.

**5.3 Permission for large scale trials & seed production in Brahma BG-II Bt, Dhanwan BG-II Bt and Paras Laxmi BG-II Bt containing Cry X gene by M/s Emergent Genetics India Pvt. Ltd.**

1. The Committee noted that MEC in its meeting held on April 1-2, 2005 has directed the applicant to repeat the multi-locational trials in the next season and present the data for consideration of the MEC. The proposal is therefore premature for consideration at this stage.

**5.4 Large scale trial BCHH 322-2 BG-II and BCHH 557-2 BG-II Bt containing Cry X genes by M/s Bioseeds Research India Pvt. Ltd.**

1. The Committee noted that BG-II is not an approved event and therefore the request for direct entry cannot be considered. The Committee directed the applicant to approach RCGM for conduct of multi-locational trials.

**5.5 Permission for large scale trials and seed production of hybrids Nandi 405, Nandi 45, and 36 by M/s Nandi Seeds (P) Ltd.**

1. The Committee noted that the hybrids are not centrally notified varieties and therefore cannot be considered for direct entry for GEAC trials. The Committee directed the applicant to approach RCGM for conduct of multi-locational trials.

**5.6 Permission for large scale field trials and seed production of BG II Cotton hybrids containing (cry I AB-cry I AC), NEH – 19 Bt, NCEH-1R and NCEH-4R South Zone by M/S Nath Seeds, Aurangabad**

1. The Committee noted that BG-II is not an approved event and therefore the request for direct entry cannot be considered. The Committee directed the applicant to approach RCGM for conduct of multi-locational trials.

**Date of the Next GEAC Meeting:** It was decided that the next GEAC meeting would be held on 8.6.2005.