

Minutes of the 117th meeting of the Genetic Engineering Appraisal Committee (GEAC) held on 22.3.2013

The 117th meeting of the GEAC was held on 22.3.2013 in the Ministry of Environment & Forests under the chairmanship of Shri Hem Pande, Additional Secretary, MoEF and Chairman, GEAC.

1.0 At the outset, the Chairman welcomed all Members of the GEAC. He informed that the GEAC has been recently reconstituted in accordance with the provisions of Rules 1989 and Prof. Sudhir Sopory, Vice-Chancellor; JNU has been nominated by the Department of Biotechnology (DBT) as Co-Chair of the GEAC. He thanked the newly appointed members for accepting the nominations to the GEAC. He emphasized that the GEAC is a multi-disciplinary decision making body and therefore additional technical experts/ members may be co-opted so that decisions of the GEAC are objective and science based.

2.0 He further expressed his appreciation for the contributions made by the former members of the GEAC especially Mr. M. F. Farooqui, former Chairman, GEAC for his valuable guidance in effectively steering the GEAC meetings. The Committee endorsed the views expressed by the Chairman and the Committee placed on record its deep appreciation for all the former members of the GEAC for their valuable contribution

3.0 After a brief introduction of the members, the Chairman requested the Member Secretary GEAC to take up the agenda items for discussion.

Agenda item No. 1: Leave of absence

The Committee granted leave of absence to Prof. Sudhir Kumar Sopory, Dr B. Sesikeran and Dr. S.K. Apte as requested by them.

Agenda item No. 2 : Confirmation of minutes of 116th meeting of the GEAC held on 11.4.2012.

2.1 Minutes of the 116th GEAC meeting were confirmed without any amendments.

Agenda item No. 3 Action taken report on the decision taken in the 116th GEAC Meeting.

3.1 The Committee noted that decisions taken in the GEAC meeting held on 11.4.2012 have been communicated to the project proponent, concerned government and departments and other agencies.

3.2 As regards the decision to convene a separate meeting of the GEAC with experts to specifically discuss two issues namely, (i) additional tests, if any, required to assess the safety of GM crops and (ii) the draft position paper on use of antibiotic resistance markers in GM plants are pending consideration of the GEAC for a long time, it was informed that the Technical Expert Committee (TEC) constituted by the Supreme Court in Writ Petition (Civil) of 260/2005 is reviewing the matter and therefore a parallel exercise may not be required at this stage.

3.3 As regards the organization of a brainstorming session to discuss the performance of Bt Cotton, the Committee noted that the proceedings of the seminar on the 'Socio-Economic Impact of Bt Cotton' organized by the 'Council for Social Development' in June 2012 is available in the Public domain. The Committee noted that the seminar was attended by several stakeholders including members of the GEAC, wherein issues related to Bt cotton was discussed extensively. It was therefore decided that organizing one more seminar on the same issue is not advisable at this point of time.

3.4 On issues related to the Standing Committee, under the Event Based Approval Mechanism (EBAM), it was informed that the matter is listed for discussion under agenda item 4.2.

3.5 As regards the status of NOCs from the States for GM crop field trials, it was noted that the matter is listed for discussion under agenda item 4.3.

Agenda item No. 4 : Policy issues:

4.1 Co-opting member/experts to the GEAC in accordance with section 4, Para 3 of the 'Rules, 1989'.

4.1.1 The Member Secretary GEAC, informed that the MoEF has re-constituted the GEAC vide its Office Order No. C-12017/48/2008-CS-III dated 1.5.2009 for a period of three years in accordance with Section 4 (4), sub section (i) to (iv) of the Notification No GSR 1307 (E) dated 5th December 1989 of the 'Rule for the Manufacture, Use, Import, Export and Storage of Hazardous Micro Organisms / Genetically Engineered Organisms or Cells, 1989', notified under the Environment (Protection) Act, 1986.

4.1.2 It was noted that in accordance with Section 4, para 3 of Rules, 1989, the GEAC may co-opt other members/experts. As per the earlier practice, the Committee decided to co-opt additional experts in the field of molecular biology (plant) , plant breeding, plant genetics, entomology, ecology, drug development, molecular biology (Pharma), food safety experts (toxicology and allergenicity) and legal experts. The Committee also emphasized the need for institutional representation on the GEAC. After detailed deliberations, the Committee decided to co-opt the following experts /institutional representative to the GEAC:

1. Dr. Veluthambi, Professor, Madurai Kamraj University, Madurai
2. Dr. O.P.Govilla, Retired Scientist, Indian Agriculture Research Institute (IARI), New Delhi
3. Prof. Akshay Kumar Pradhan, Department of Genetics, University of Delhi, South Campus, Benito Juarez Road, New Delhi
4. Dr. V V Ramamurthy, Principal Scientist , Entomology Division, IARI, New Delhi
5. Dr. Renee M Borges, Professor, Centre for Ecological Sciences, Indian Institute of Science, Bangalore

6. Prof. B.P Srinivasan, Director, Delhi Institute of Pharmaceutical Science and Research, Pushp Vihar, Sector 3, M. B. Road, New Delhi
7. Dr. Saman Habib, Division of Molecular and Structural Biology, Central Drug Research Institute, P.O. Box No. 173, Chattar Manzil, Lucknow
8. Dr. Luther M. Rangreji, Assistant Professor, South Asian University, Room 106, Old Physics Building, Jawaharlal Nehru University, New Delhi
9. Representative of Department of Agriculture & Cooperation, Ministry of Agriculture Krishi Bhawan, New Delhi
10. Representative of Deptt. of Commerce, Ministry of Commerce & Industry, Udyog Bhawan, New Delhi
11. Representative of Ministry of Health and Family Welfare, Nirman Bhawan, New Delhi
12. Representative of Ministry of Food Processing Industries, Panchsheel Bhawan, August Kranti Marg, New Delhi
13. Representative of Food Safety and Standards Authority of India (FSSAI), FDA Bhawan, Next to Rashtriya Bal Bhavan, Kotla Road, New Delhi

4.1.3 As regards, nomination of experts in the field of toxicology and allergenicity, it was decided to consider the matter in the next meeting after having further consultations with ICMR, NIN, NII, CFTRI and other concerned institutions.

4.2 Extending the tenure of the Standing Committee to review applications for commercial release of Bt cotton hybrids expressing approved events.

4.2.1 The Committee noted that, during 2002-2009, GEAC has approved Bt cotton hybrids expressing six events Cry 1 Ac gene (MON 531 event) and stacked genes Cry1 Ac and Cry 2Ab (MON 15985 event) developed by M/s Mahyco; encoding fusion genes (cry 1Ab+Cry Ac) 'GFM developed by M/s Nath Seeds; cry 1Ac gene (Event-1) developed by M/s J. K. Agri Genetics Ltd; Cry 1AC gene (Dharwad event) developed by Central Institute of Cotton Research (CICR); and Cry 1C (event 9124) developed by M/s Metahelix Life Sciences for environmental release.

4.2.2 Subsequently in 2009, the GEAC had adopted the 'Event Based Approval Mechanism (EBAM)' and constituted a Standing Committee to operationalize the new procedure on 16.4.2009 for a period of three years (16.4.2012). During the interim period the GEAC had requested ICAR to set up an alternate mechanism under the AICCP to evaluate the performance of approved Bt cotton events before release. It was informed that a sub-Committee under DDG, ICAR was also set up to review the matter.

4.2.3 It was further noted that in the absence of an alternate mechanism, the tenure of the Standing Committee was extended for a period of six months (October 2012) in the 115th GEAC meeting held on 08.02.2012. DDG ICAR informed that ICAR is in the process of putting in place an alternative mechanism through the Seed Policy. However, as the sowing season for Kharif 2013 is fast approaching and in the absence of a formal proposal from ICAR, the

Committee opined that the existing mechanism may continue for another six months subject to consent from DBT.

4.2.4 In view of the above stated facts and taking into consideration the affirmation from representative of DBT to continue servicing the Standing Committee for one more season, the Committee decided to extend the tenure of the Standing Committee for a period of four months or till such time an alternate mechanism is put in place by ICAR whichever is earlier. The GEAC also decided to reconstitute the Standing Committee as follows:

S.No.	Name and Designation of Experts	Designation
1.	Dr. N Gopalkrishnan, ADG (commercial crops), ICAR, Krishi Bhavan New Delhi.	Chairman
2.	Dr. D. Monga, Head, Regional Station, Central Institute of Cotton Research, Sirsa, Haryana.	Member
3.	Dr. Punit Mohan, Principal Scientist, Plant Breeding, CICR, Nagpur	Member
4.	Project Coordinator, All India Cotton Crop Improvement Project (AICCIP) or his nominee.	Member
5.	Prof Ramesh Poombar, Punjab Agriculture University	Member
6.	Dr S.J. Rahman, Principal Scientist & Head, Agriculture Research Institute (ANGRAU), Hyderabad	Member
7.	Director (Seeds), Ministry of Agriculture	Member
8.	Dr. S R Rao, Adviser, DBT and Member Secretary, RCGM	Member
9.	Ms Rajalakshmi Muralidharan, Scientist D, DBT	Member Secretary

4.2.5 The Committee further noted that the Standing Committee, till date, has convened seven meetings wherein it has approved 845 Bt cotton hybrids. The Committee opined that there is a need to review the performance of these hybrids on ground as not more than 20% of the hybrids approved by the Standing Committee are under commercial cultivation and the reason needs to be ascertained so as to filter out unwanted material. Accordingly, the GEAC requested the Standing Committee to put in place a procedure for review of the Bt cotton hybrids approved by the Standing Committee. Based on the review, the Standing Committee may recommend to the GEAC, list of Bt cotton hybrids whose approval may be withdrawn.

4.3 Status of NOC from State Government for GM Crop Field Trials.

4.3.1 The Committee noted that the GEAC in its 111th meeting held on 6.7.2011 had directed the applicants to submit NOC from the respective State Government where they propose to undertake GM Crop field trials before issuance of the GEAC approval letter.

4.3.2 The Committee noted the status of NOC granted by various States as given below:

Name of the company	Approval	NOC Received	Date of issue
Directorate of Sorghum Research	BRL-I trials for Sorghum	Andhra Pradesh Not initiated	5.7.2011
Central Research	Sorghum with Mtd gene	Andhra Pradesh	11.7.2011

Institute for Dryland Agriculture			
M/s. Mahyco	BRL-I trials with RR Flex Cotton	Andhra Pradesh /Haryana /Gujarat/Punjab	20.1.2012
M/s Mayhco	BRL-II trials with BG-II RRF	Andhra Pradesh /Haryana /Gujarat/Punjab	20.1.2012, 10.5.2012 25.5.2012 15.6.2012
M/s Bayer Biosciences Pvt Ltd	BRL-I trials with Glytol Cotton Hybrids	Andhra/Gujarat/Haryana	19.8.2011 09.11.2011 10.5.2012
M/s Bayer Biosciences Pvt Ltd	Event selection trials with herbicide tolerance (2Mepsps gene event) Glytol Cotton Hybrids	Andhra Pradesh	19.8.2011
M/s Bayer Biosciences Pvt Ltd	Seed production herbicide tolerance (2Mepsps gene event) Glytol Cotton Hybrids	Andhra Pradesh	19.8.2011
M/s. Dow Agro Sciences India Pvt Ltd, Mumbai	BRL-II trials with WideStrike Cotton	Gujarat	8.8.2011
M/s Syngenta Biosciences Pvt Ltd, Pune	BRL-I second year trials with two events of Transgenic Corn <i>mepsps</i> gene (GA 21 event) and <i>cry1Ab</i> & <i>m epsps</i> genes (Bt11xGA21 stack event) BRL-I trial with Transgenic Corn with three events Bt11, GA21 and Stack (Bt11 X GA21) containing <i>cry1Ab</i> & <i>m epsps</i> genes	Gujarat Haryana	8.8.2011 10.5.2012
M/s Metahelix Life Sciences Ltd.	Event selection trials with Bt Cotton	Andhra Pradesh	14.7.2011
M/s Monsanto	*BRL –II trials on transgenic corn hybrids containing stacked <i>cry2Ab2</i> , <i>cry1A.105</i> (Event MON 89034) & <i>cp4epsps</i> (Event NK603) genes	Gujarat/completed Punjab/Haryana	5.8.2011(Rabi) 28.11.2011 10.5.2012
M/s EI DuPont India Pvt Ltd	Event selection trials (EST) of rice Seed production Technology (SPT)	Andhra Pradesh	19.8.2011
M/s. Pioneer Overseas Corporation	*BRL-I trials second year with double stacked events	Haryana/Punjab	8.8.2011 10.5.2012

	*BRL-I trials with triple stacked events	Haryana	10.5.2012
M/s Directorate of Oilseeds Research,	Event selection trials of transgenic castor	Andhra Pradesh	17.10.2011
M/s. Mahyco	Event selection trials of rice (Salinity Tolerance OsNHX1)	Andhra Pradesh	20.1.2012
CGMCP, Delhi University****	BRL-I second year mustard trials	Rajasthan	19.9.2011
NRCPB, IARI, New Delhi	Second year Field trials to analyze the effect of Azotobacter mutant strains on wheat	Delhi	20.3.2012
CICR, Nagpur	scp gene, Bt cotton	Haryana	10.5.2012

****NOC was subsequently withdrawn by the Government of Rajasthan for BRL-I trials of transgenic mustard.

4.3.3 The Committee noted that, currently, there are no ongoing field trials and about 50 applications approved by the GEAC are awaiting NOC from the State Government. It was also noted that due to delay in getting NOC, the GEAC is receiving a large number of requests for revalidating the GEAC approval letter as the approval is granted for specific season. In this regard, keeping in view the requirement of timely sowing during the appropriate season, the Committee authorized Chairman GEAC to revalidate the GEAC approval on a case-by case basis and place the same as information item in subsequent GEAC meeting.

4.3.4 The Committee also noted that several applications are awaiting NOC from the State Government for more than 6-9 months and requested MoEF through Secretary (E&F) to take up the matter with the Chief Secretary of the concerned State wherein clarification on the role and mandate of the State Government through SBCC/DLC in monitoring GM crop field trials may be emphasized. The Committee also opined that safety assessment procedures and conditions stipulated by the GEAC prior to approving GM crop field trials also need to be indicated. It was also felt that there is a need to clarify that GM crop field trials approved by the GEAC are not open field trials but confined field trials and there is no ban imposed by the Hon'ble Supreme Court.

4.3.5 The Committee also opined that there is a tremendous need for capacity building to ensure effective monitoring of GM crops field trials and requested MoEF to consider supporting capacity building at the State level for strengthening the monitoring mechanism.

Agenda item No 5: Review of the pendency of new applications referred to the GEAC by RCGM.

5.1 The Member Secretary informed that the GEAC has received 53 applications recommended by RCGM for GM crop field trials expressing new events (event selection, BRL-I and BRL-II) for its consideration. It was informed that 5 applications of M/s E.I. DuPont India Pvt. Ltd have been withdrawn. It was informed that all reconsideration cases and requests for revalidation of the GEAC approval/ requests for additional location to undertake field trials have been listed under Agenda items 6 and 7. In respect of new applications, it was decided to

consider the same in the next meeting so as to provide the Members adequate time to review the proposals.

Agenda item No 6: Application submitted to the GEAC for reconsideration.

6.1. Request for conducting pollen flow study on homozygous parents of the GlyTol® cotton (*Gossypium hirsutum*) by M/s. Bayer Bio-Science Pvt. Ltd., Gurgaon.

6.1.1 The Committee noted that decision on the proposal was deferred in the GEAC meeting held on 11.4.2012 as the Committee observed that the request is for conduct of pollen flow study with homozygous parent of the GlyTol® cotton which is different to the earlier permission given by the GEAC in its meeting held on 6.7.2011 to conduct pollen flow study of GlyTol® cotton hybrid namely SP499G containing *2mEPSPS gene* (Event GHB614) at Yavatmal, Maharashtra.

6.1.2 The applicant considered the fresh application for conduct of pollen flow study of Glyphosate tolerant GlyTol® cotton containing *2mEPSPS gene* with homozygous parent of the GlyTol® cotton at one of the locations (Yavatmal, Maharashtra: Surendranagar, Gujarat and Guntur, A.P).

6.1.3 The Committee noted that the main objective of the trial is to measure the distance of pollen flow of herbicide tolerant cotton containing 2mEPSPS gene (Event GHB614) under confined field trial.

6.1.4 The Committee also considered details of the experiment field trial design as given below:

- i. The plot will be 12m x 12m block of 112 rows seeded with glyphosate tolerant GHB614 cotton events, and will be surrounded by border rows of a non –transgenic mix of two commercial conventional cotton lines in concentric rows in order to provide concurrent flowering periods. Immediately adjacent to, i.e 1 m apart with a non transgenic cotton as a pollen trap. Additionally at a distance of 10 m to 50 m from the transgenic block, 9 concentric rows 5 m apart will be grown with the conventional cotton.
- ii. The transgenic seeds will be sown in the centre of the plot covering an area of 144 sq m. And surrounded by non-transgenic cotton on all four sides as pollen trap up to 50 meter all around the transgenic plot. 50 meter reproductive isolation distance for cotton as specified under DBT guidelines would be maintained.
- iii. Total area (including transgenic and non transgenic cotton) for the experiment would be 12544 m²

6.1.5 The Members discussed the basis of taking 50 m radius as pollen trap for the study and requested the representative of the Company to clarify the same. It was informed that the distance for measuring pollen dispersal has been decided on the basis of existing seed production isolation requirements. However, in light of a recent report on pollen dispersal in cotton, the members suggested that additional CMS pollen flow line should be planted for monitoring pollen dispersal in an area of 50 m, after the proposed pollen trap. They also

suggested that for covering larger pollen dispersal area, random batches of clearly demarcated CMS plants should be sown around the trial site at 500 m distance from the GlyTol test plot.

6.1.6 In view of the above stated facts, the Committee approved the request to conduct pollen flow study on homozygous parents of the GlyTol® cotton (*Gossypium hirsutum*) during any appropriate season as per the revised protocol recommended by the Committee subject to submission of NOC from the state Government where the trials will be conducted.

6.2 Permission to conduct event selection trials on 45 transgenic rice (*Oryza sativa*) four events containing dual Bt (*cry1Ab* & *cry1Ca*) and bar gene; 17 events with dual Bt and LLRice 62 with bar and 23 events containing *cry1Ab*, *cry1C* and *cry2Ad* gene at North Zone, Central Zone and South Zone by M/s. Bayer Bioscience Pvt. Ltd., Gurgaon

6.2.1 The Committee noted that decision on the proposal was deferred in the GEAC meeting held on 11.4.2012 due to certain anomalies found in the applications. In 'plasmid description' the applicant had indicated that two genes are inserted by the T-DNA being transferred to the plant genome by the Agrobacterium whereas in the application, the 'event selection trials' are with six genes.

6.2.2 The Committee also noted that the M/s. Bayer BioScience Pvt. Ltd vide their letter dated 15.5.2012 has clarified that six genes are present in different pair wise combinations in the constructs used to develop the 45 different events that are part of this Bt rice event selection trial application. It was noted that the event names, the construct and gene combinations are as given below:

Event Name	Plasmid	Gene combination
OSB951, OSB952, OSB957, OSB958 ^A	pTVE543; pTSVH0207	cry1Ab and bar
OSB951, OSB952, OSB957, OSB958 ^A	pTVE544; pTVE545	cry1C and bar
RICE4001; RICE4002; RICE4003; RICE4004; RICE4101; RICE4102; RICE4103; RICE4104 ^A	pTIBE67; pTIBE68;	cry1Ab and cry1C
RICE4201; RICE4205 ^A	pTIBE70	cry1Ab and cry1C
MP-38H-95-8-12; SK-40H-95-5-419; SK-40H-95-7-691; SK-40H-95-7-692; SK-40H-95-7-849; SK-40H-95-5-602 ^B	Bt38; Bt40	cry1Ab and cry2Ad
H43-4-91A; 16 BT43+HSGE-14; P43-H-10-32; P-43H-9-15; SK-43H-95-11-1777; SK-43H-95-12-1761; SK-43H-95-13-1828; SK-43H-95-7-964; SK-H43-95-12-1755; SK-H43-95-13-1817; SK-H43-95-5-284; SK-H43-95-5-359 ^B	Bt43	cry1Ab and cry1C
N-H39-95-7-94C; H39-5-76B; N39-95-11-18; H39-12-72 ^B	Bt39	cry1C and cry2Ad

^A Source Bayer BioScience Pvt Ltd.; ^B Source DuPont India Pvt Ltd.

6.2.3 It was also noted that the genetic elements of the constructs and their plasmid vectors and also the corresponding event names have been provided by the applicant. The exception to the above information is one event, LLRICE62, which contains the bar gene only.

6.2.4 During the deliberations, one of the Members opined that the gene combinations provided by the applicant reflects only four genes instead of six. The Committee requested the representative of the Company to provide clarity on the six genes that have been used in the various combinations. It was informed that the six genes used in the various combinations include *Cry1Ab*, *Cry1Ca* and *bar* (Bayer events) and *Cry1Ab*, *Cry1C* and *Cry1Ad* (DuPont events)

6.2.5 In view of the above stated facts, the Committee approved the request to conduct event selection trials on 45 transgenic rice (*Oryza sativa*) expressing four events containing dual Bt (*cry1Ab* & *cry1Ca*) and bar gene; 17 events with dual Bt and LLRice 62 with bar and 23 events containing *cry1Ab*, *cry1C* and *cry2Ad* gene at one location each in the North Zone (Rajasthan/ UP); Central Zone (Gujarat/ Maharashtra/MP) and South Zone (Andhra Pradesh/ Tamil Nadu/ Orissa/ Kerala) during any appropriate season subject to submission of NOC from the respective State Governments where the trials will be conducted.

6.3 Permission to conduct field trials of GlyTol® cotton to assess bio efficacy and residual analysis of the Glyphosate 41% SL herbicide by M/s. Bayer BioScience Pvt. Ltd., Gurgaon

6.3.1 The Committee noted that the GEAC in its meeting held on 11.4.2012 had decided to defer decision on the above application as the purpose of the trial as indicated in the application is to generate data for submission to Central Insecticide Board & Registration Committee for herbicide registration of glyphosate 41% on Glytol cotton which does not fall under the mandate of GEAC.

6.3.2 The Committee considered the revised proposal for conducting field trials to evaluate the bio-efficacy of Glyphosate 41% SL in transgenic GlyTol® cotton, Glyphosate 41% SL for Phototoxicity, Residue analysis in transgenic GlyTol® cotton soil and effect of left over residues on succeeding Crops. It was noted that the trials will be conducted in a plot size of 25 sq m (5mx5m) in four Replicated Randomized Complete Block Design at CCS hau, Hisar/PAU, Ludhiana/MPUAT, Udaipur in the North Zone; AAU, Anand/MPKV Rahuri in the Central Zone and TNAU, Coimbatore/UAS, Dharwad/ ANGRAU, Hyderabad in the South Zone.

6.3.3 The Committee noted that consent letters from various SAU's to undertake the trials and consent letters from National Research Centre for Grapes, (NRCG) Pune have been obtained by the Company to evaluate residue analysis studies of Glyphosate 41% SL. It was further noted that various physico-chemical and biological properties in soil samples from the trial plots will be evaluated by the International Institute for Biotechnology and Toxicology (IIBAT), Chennai.

6.3.4 The Members suggested that for bio-efficacy, phytotoxicity, residue analysis in soil and effect of left over residue on succeeding crop; the untreated control without any weeding should be GlyTol and its isogenic line (i.e the corresponding non-transgenic counterpart).

6.3.5 In view of the above stated facts, the Committee approved the request to conduct field trials of GlyTol® cotton to assess bio efficacy and residual analysis of the Glyphosate 41% SL herbicide by M/s. Bayer BioScience Pvt. Ltd., Gurgaon during any appropriate season as per the revised protocol recommended by the GEAC subject to submission of NOC from the State Government where the trials will be conducted.

Agenda item No 7: Review of applications for extension of validity period /change of location /additional location:

7.1 Extension of validity of GEAC approval for conduct of event selection trial on castor (*Ricinus communis* L.) events namely AMT-1, NBRI-1, AK1304 PB-1, 804-1, Control (DCS-9) containing *Cry1EC* and *Cry1Aa* genes at DSR, Rajendranagar, Hyderabad during Kharif 2013 by Directorate of Oilseeds Research (ICAR).

7.1.1 The Committee noted that the GEAC in its meeting held on 6.7.2011 had accorded approval to conduct event selection trial on castor (*Ricinus communis* L.) events namely: AMT-1, NBRI-1, AK1304 PB-1, 804-1, Control (DCS-9) containing *cry1Ec* and *cry1Aa genes* at DSR-ICAR organization (within the institutional research farm) during 2011-2012 subject to submission of NOC from the State Government.

7.1.2. The Committee also noted that the applicant has informed that the NOC from the State Government was received late (December, 2011) and therefore, they could only take up sowing for seed multiplication/ generation. The current request is to conduct event selection trials during Kharif 2013 for selection of the events with high expression of the protein

7.1.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 112th meeting held on 24.4.2012, the Committee decided to extend the validity for conduct of event selection trial on castor (*Ricinus communis* L.) events namely AMT-1, NBRI-1, AK1304 PB-1, 804-1, Control (DCS-9) containing *Cry1EC* and *Cry1Aa* genes at DSR, Rajendranagar during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.2 Request for conduct of event selection trials in additional locations and extension of validity with 12 nitrogen use efficient cotton (*Gossypium hirsutum* L) events namely; MAH-11501 to MAH-11512 containing the *AlaAt gene* by M/s. Maharashtra Hybrid Seeds Co. Ltd. (MAHYCO), Mumbai.

7.2.1 The Committee noted that the GEAC in its 115th meeting held on 8.2.2012 had accorded approval for conduct of event selection trials with 12 nitrogen use efficient cotton (*Gossypium hirsutum* L) events namely; MAH-11501 to MAH-11512 containing the *AlaAt gene* at Company's own research farm at Jalna, Maharashtra/Kavaguda Village, Shamshabad, Rang Reddy District (Andhra Pradesh) subject to submission of NOC from the respective States Governments where the trials would be conducted

7.2.2 The Committee also noted that the present request is for additional location for conduct of trials at Distt Ranga Reddy, Andhra Pradesh is in addition to approved location at Jalna, Maharashtra. The company has informed that they are in the process of obtaining NOC from the State of Maharashtra for 2013-2014. The applicant has also requested to extend the

validity of GEAC approval for conduct of trials at Jalna and also allow the trial in Ranga Reddy district in Andhra Pradesh.

7.2.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM, the Committee approved the request for additional locations and extension of validity for conduct of event selection trials with 12 nitrogen use efficient cotton (*Gossypium hirsutum* L) events namely; MAH-11501 to MAH-11512 containing the *AlaAt gene* .during appropriate season subject to submission of NOC from the state Government where the trials will be conducted.

7.3 Revised Protocol for conducting event selection trials on 12 nitrogen use efficient carbon (*Gossypium hirsutum* L.) events namely MAH-11501 to MAH-11512 containing *alaAt gene* and to use water efficient cotton (*Gossypium hirsutum* L.) events namely MAH-10001 to MAH-10010 containing *ipt gene* by M/s. Maharashtra Hybrid Seeds Company Ltd. (Mahyco).

7.3.1 The Committee noted that the GEAC in its meeting held on 8.2.2012 had accorded approval to M/s. Mahyco, to conduct the following event selection trials with the condition that the trial design should be split block with three replicates as recommended by the RCGM.

- 12 nitrogen use efficient cotton (*Gossypium hirsutum* L) events namely; MAH-11501 to MAH-11512 containing the *AlaAt gene*, and;
- 10 water use efficient cotton (*Gossypium hirsutum* L) events namely; MAH-10001 to MAH-10010 containing the *ipt gene*.

7.3.2 The Committee also noted that the revised protocols (trial design) for the both the applications submitted by Mahyco has been approved by the RCGM in its 111th meeting held on 20.3.2012. The Committee noted that the revised protocol is in order.

7.3.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM, the Committee approved the revised protocols for conduct of event selection trials on (i) 12 nitrogen use efficient carbon (*Gossypium hirsutum* L.) events namely MAH-11501 to MAH-11512 containing *alaAt gene* and (ii) to use water efficient cotton (*Gossypium hirsutum* L.) events namely MAH-10001 to MAH-10010 containing *ipt gene* during appropriate season subject to submission of NOC from the state Government where the trials will be conducted.

7.4 Request for additional location to conduct Elite Event Selection trials with 168 events of transgenic rice and F1 hybrid seed production (two cycles/year), Andhra Pradesh by M/s BASF India Ltd.

7.4.1 The Committee noted that the GEAC in its meeting held on 08.02.2012 had accorded approval for conduct of Elite Event Selection trials and F1 hybrid seed production (two cycles/year) with 168 events of transgenic rice at BASF owned land at Bellathi, Coimbatore, subject to submission of NOC from the State Government.

7.4.2 The Committee noted that the present request is to conduct event selection trials at Eluru A.P, at SynTech Research Inc., Andhra Pradesh in addition to Bellathi, Coimbatore due to difficulty in getting NOC from the State Governments. The Committee also noted that the RCGM has recommended the request in its 113th meeting held on 22.5.2012.

7.4.3 The Committee opined that outsourcing of field trials is not allowed and the responsibility of conducting the field trials and associated liability should solely rest with the applicant. Accordingly, the Committee decided to seek clarification on the contract agreement between the applicant and SynTech Research Inc. for allowing event selection trials in the research farm of the institute at Eluru.

7.5 Request for including an additional locations in the state of Punjab for conduct of BRL-1 trials on transgenic maize (*Zea mays L.*) expressing MON 89034 event by M/s Monsanto India Limited, New Delhi

7.5.1 The Committee noted that the GEAC in its 115th meeting held on 8.2.2012 had accorded approval to conduct BRL-I trials with insect resistant transgenic maize containing Event MON 89034 at three locations namely; Andhra Pradesh, Maharashtra, Gujarat, Haryana, Karnataka and Tamil Nadu subject to submission of NOC from the respective State Governments.

7.5.2 The Committee noted that the present request for inclusion of additional location in the State of Punjab for conduct of BRL-1 trials on transgenic maize. is with a view to have some flexibility as the applicant is finding difficulties in obtaining NOC from the State Governments.

7.5.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 114th meeting held on 26.6.2012, the Committee approved the additional locations in the State of Punjab for conduct of BRL-1 trials on transgenic maize (*Zea mays L.*) expressing MON 89034 event during appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.6 Request for extension of the validity period with changed nomenclature for conduct of event selection trials on 7 (seven) transgenic cotton (*Gossypium hirsutum*) variety namely ILK-Bt 77 (ILK-Bt 77-1 to ILK-Bt 77-7) containing *cry1Ac* gene for bollworm resistance by Central Institute for Cotton Research (CICR), Nagpur

7.6.1 The Committee noted that the GEAC in its meeting held on 29.9.2010 had accorded permission to conduct event selection trials on transgenic cotton variety namely ILK-Bt 77 (ILK-Bt 77-1 to ILK-Bt 77-7) containing *cry1Ac* gene at Nagpur and subsequently renewed its permission in the meeting held on 14.12.2011 subject to submission of NOC from the State Government.

7.6.2 The Committee also noted that CICR could not conduct event selection trials during 2011-2012 as they have not received NOC from the State of Maharashtra. The applicant has therefore requested the GEAC to further extend the validity period from 2011-2012 to 2012-2013 to conduct event selection trials on transgenic cotton variety.

7.6.3 The Committee also considered the request of the CICR to change the nomenclature of the approved transgenic cotton (*Gossypium hirsutum*) variety namely ILK-Bt 77 (ILK-Bt 77-1 to ILK-Bt 77-7) containing *cry1Ac* gene as per details given below:

<u>Old Name</u>	<u>New Name</u>
ILK-Bt77-1	CICR-Anjali-1Ac-1
ILK-Bt77-2	CICR-Anjali-1Ac-2
ILK-Bt77-3	CICR-Anjali-1Ac-3
ILK-Bt77-4	CICR-LRA-1Ac-1
ILK-Bt77-5	CICR-LRA-1Ac-2
ILK-Bt77-6	CICR-Suraj-1Ac-1
ILK-Bt77-7	CICR-Suraj-1Ac-2

7.6.4 The trials would be carried out at one location in an area of <0.4 ha at CICR, Panjari Farm, Wardha Road, Nagpur.

7.6.5 In view of the above stated facts and taking in to consideration recommendations of the RCGM in its 114th meeting held on 26.6.2012, , the Committee approved the extension of the validity period with changed nomenclature for conduct of event selection trials on 7 (seven) transgenic cotton (*Gossypium hirsutum*) variety namely ILK-Bt 77 (ILK-Bt 77-1 to ILK-Bt 77-7) containing *cry1Ac* gene during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted

7.7 Request for extension of the validity period with changed nomenclature to conduct event selection trials on two transgenic cotton (*Gossypium hirsutum*) namely; Anjali-FBt-1 and Anjali-FBt-2 containing *cry1F* gene for bollworm resistance by Central Institute for Cotton Research (CICR), Nagpur.

7.7.1 The Committee noted that the GEAC in its meeting held on 15.11.2010 had accorded permission to conduct event selection trials on two events of transgenic cotton (*Gossypium hirsutum*) namely; Anjali-FBt-1 and Anjali-FBt-2 containing *cry1F* gene at CICR, Panjari Farm, Wardha Road, Nagpur and subsequently renewed its permission in the meeting held on 14.12.2011 subject to submission of NOC from the State Government.

7.7.2 The Committee also noted that the CICR could not conduct event selection trials during 2011-2012 as they have not received NOC from the State of Maharashtra. The applicant has requested the GEAC to further extend the validity period from 2011-2012 to 2012-2013 to conduct event selection trials on transgenic cotton variety.

7.7.3 The Committee also considered the request of CICR to change nomenclature of the approved transgenic cotton (*Gossypium hirsutum*) namely; namely; Anjali-FBt-1 and Anjali-FBt-2 containing *cry1F* gene as per details given below:

Name of the old events	Name of the new events
Anjali-FBt-1	CICR-Anjali-FBt-1
Anjali-FBt-2	CICR-Anjali-FBt-2

7.7.4 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 114th meeting held on 26.6.2012, the Committee approved the extension of the validity period with changed nomenclature to conduct event selection trials on two transgenic cotton (*Gossypium hirsutum*) namely; Anjali-FBt-1 and Anjali-FBt-2 containing *cry1F gene* during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.8 Request for extension of the validity with the changed nomenclature to conduct event selection trials on ten events of transgenic cotton (*G. arboreum*) varieties viz. RG-822-Bt (4 events) and PA255-Bt (6 events) containing *cry1Ac gene* by Central Institute for Cotton Research (CICR), Nagpur.

7.8.1 The Committee noted that the GEAC in its meeting held on 15.11.2010 had accorded permission to conduct event selection trials on transgenic cotton variety namely RG-822-Bt (4 events) and PA255-Bt (6 events) containing *cry1Ac gene* at Nagpur.

- i RG-822 Bt - Desi Bt G-822(Desi Bt G822-1 to Desi Bt G822- 4) ;and
- ii PA-255 Bt - CICR Bt Desi (CICR Bt Desi-1 to CICR Bt Desi-6)

7.8.2 The Committee also noted that the GEAC in its meeting held on 14.12.2011 had renewed the permission to conduct event selection trials on transgenic cotton variety namely; RG-822-Bt (4 events) and PA255-Bt (6 events) containing *cry1Ac gene* subject to submission of NOC from the State Government.

7.8.3 The Committee further noted that CICR could not conduct event selection trials during 2011-2012 as they have not received NOC from the State of Maharashtra. The applicant has therefore requested the GEAC to further extend the validity period from 2011-2012 to 2012-2013 to conduct event selection trials on transgenic cotton varieties.

7.8.4 The Committee also considered the request of CICR to change nomenclature of the approved transgenic cotton (*G.arboreum*) varieties viz. RG-822-Bt (4 events) and PA255-Bt (6 events) containing *cry1Ac gene* as given below:

S.No.	Approved events		Renamed events	
	RG-822 Bt	PA-255 Bt.	RG-822 Bt	PA-255 Bt
1	Desi Bt G822-1	Bt Desi (CICR Bt Desi-1	Desi Bt G822-1	CICR –RG8-Ac-1
2	Desi Bt G822-2	Bt Desi (CICR Bt Desi-2	Desi Bt G822-2	CICR –RG8-Ac-1
3	Desi Bt G822-3	Bt Desi (CICR Bt Desi-3	Desi Bt G822-3	CICR –RG8-Ac-1
4	Desi Bt G822-4	Bt Desi (CICR Bt Desi-4	Desi Bt G822-4	CICR –RG8-Ac-1
5		Bt Desi (CICR Bt Desi-5		CICR –RG8-Ac-1
6		Bt Desi (CICR Bt Desi-6		CICR –RG8-Ac-1

7.8.5 The Committee took note that the trials would be carried out at one location in an area of <0.4 ha at CICR, Panjari Farm, Wardha Road, Nagpur.

7.8.6 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 114th meeting held on 26.6.2012, the Committee approved the extension of the validity with the changed nomenclature to conduct event selection trials on ten events of transgenic cotton (*G. arboreum*) varieties viz. RG-822-Bt (4 events) and PA255-Bt (6 events) containing cry1Ac gene during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.9 Request for including additional locations in the states of Andhra Pradesh, Gujarat and Rajasthan for conduct of BRL-1 trials on transgenic maize (*Zea mays L.*) expressing MON NK 603 event by M/s Monsanto India Limited, New Delhi

7.9.1 The Committee noted that the GEAC in its 111th meeting held on 06.07.2011 had accorded approval to conduct BRL-I trials with transgenic maize namely Hishell & 900M Gold containing Event MON NK603 at any three locations in the States of Punjab, Haryana, Uttar Pradesh, Maharashtra, Madhya Pradesh, Karnataka and Tamil Nadu subject to submission of NOC from the respective State Governments.

7.9.2 The Committee also noted that the company is finding difficulty in obtaining NOC from the State Governments and has therefore requested for additional locations in the States of Andhra Pradesh, Gujarat and Rajasthan for conduct of BRL-1 trials on transgenic maize.

7.9.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM request in its 115th meeting held on 28.8.2012, the Committee approved the additional locations in the States of Andhra Pradesh, Gujarat and Rajasthan for conduct of BRL-1 trials on transgenic maize (*Zea mays L.*) expressing MON NK 603 event during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.10 Request to extend the validity of pollen flow trials on Glyphosate tolerant Roundup Ready (RR) wheat line containing the *cp4epsps gene* (event MON 71800) by Mahyco.

7.10.1 The Committee noted that the GEAC in its 114th meeting held on 14.12.2011 had accorded approval for conduct pollen flow trials on Glyphosate tolerant Roundup Ready (RR) wheat line containing the *cp4epsps gene* (event MON 71800) at company's research farm in Jalna during 2012, subject to submission of NOC from the State Government.

7.10.2 The Committee also noted that the applicant is finding difficulty in obtaining NOC from the State Government; and therefore they have requested the GEAC to extend the validity period from 2012 to 2013 for conduct for pollen flow trials.

7.10.3 In view of the above stated facts the Committee approved the extension of the validity of pollen flow trials on Glyphosate tolerant Roundup Ready (RR) wheat line containing the *cp4epsps gene* (event MON 71800) during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.11 Request to extend the validity of event selection trials on transgenic rice events namely; MW-01 to MW-25 containing *AlaAT* gene by Mahyco.

7.11.1 The Committee noted that the GEAC in its meetings held on 14.12.2011 and 08.2.2012 respectively had accorded approval for event selection trials on transgenic rice events namely; MW-01 to MW-25 containing *AlaAT* gene at Andhra Pradesh/ Maharashtra during appropriate season in 2012 subject to submission of NOC from the respective State Governments

7.11.2 The Committee also noted that the applicant is finding difficulty in obtaining NOC from the State Governments and therefore they have requested the GEAC to extend the validity period from 2012 to 2013 to conduct event selection trials on MW-01 to MW-25 containing *AlaAT* gene

7.11.3 In view of the above stated facts, the Committee approved the extension of the validity of event selection trials on transgenic rice events namely; MW-01 to MW-25 containing *AlaAT* gene during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.12 Request to extend the validity of event selection trials on transgenic cotton events namely; MAH - 11501 to MAH-11512 containing *AlaAT* gene by Mahyco.

7.12.1 The Committee noted that the GEAC in its 115th meeting held on 08.2.2012 had accorded approval for event selection trials on transgenic cotton events namely; MAH - 11501 to MAH-11512 containing *AlaAT* gene at company's own farm at Jalna, during the appropriate season in 2012 subject to submission of NOC from the State Government

7.12.2 The Committee also noted that the applicant is finding difficulty in obtaining NOC from the State Government and therefore they have requested the GEAC to extend the validity period from 2012 to 2013 for conduct for event selection trials on MAH - 11501 to MAH-11512 containing *AlaAT* gene.

7.12.3 In view of the above stated facts the Committee approved the extension of the validity of event selection trials on transgenic cotton events namely; MAH - 11501 to MAH-11512 containing *AlaAT* gene during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted

7.13 Request to extend the validity of event selection trials on salt tolerant transgenic rice events namely; OsN-1 to OsN-25 containing *OSnhx1* gene by Mahyco

7.13.1 The Committee noted that the GEAC in its 114th meeting held on 14.12.2011 had accorded approval for event selection trials on salt tolerant transgenic rice events namely; OsN-1 to OsN-25 containing *OSnhx1* gene at SAU's research farm at Panvel, Raigad, Maharashtra during the appropriate season in 2012-2013 subject to submission of NOC from the respective State Department of Agriculture where the trials would be conducted.

7.13.2 The Committee also noted that the applicant is finding difficulty in obtaining NOC from the State Government and therefore, they have requested the GEAC to extend the validity

period from 2012 to 2013 for conduct for event selection trials on salt tolerant transgenic rice events namely; OsN-1 to OsN-25 containing *OSnhx1* gene

7.13.3 In view of the above stated facts the Committee approved the extension of the validity of event selection trials on salt tolerant transgenic rice events namely; OsN-1 to OsN-25 containing *OSnhx1* gene during any appropriate season subject to submission of NOC from the state Government where the trials will be conducted

7.14 Request to extend the validity of Elite Event Selection Trials with 140 events of transgenic rice lines from constructs RPD 5 to RPD 11 by M/s. BASF India Limited, New Delhi.

7.14.1 The Committee noted that the GEAC in its 104th meeting held on 15.11.2010 approved the event selection trials of 140 events of transgenic rice at Tamil Nadu Agriculture University by BASF India Ltd. during the appropriate season in 2012-2013 subject to submission of NOC from the State Government.

7.14.2 The Committee also noted that the request to extend the validity of GEAC approval was earlier approved by the GEAC in the 114th meeting held on 14.12.2011. The applicant has further requested for extension of the validity period till December 2013 as NOC from the State Government is awaited.

7.14.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 116th meeting held on 25.9.2012, the Committee approved the extension of the validity of elite event selection trials with 140 events of transgenic rice lines from constructs RPD 5 to RPD 11 during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.15 Request to extend the validity of Elite Event Selection Trials with 168 events and seed production of transgenic rice lines from constructs RPD 5 to RPD 17 by M/s. BASF India Limited, New Delhi

7.15.1 The Committee noted that the GEAC in its 115th meeting held on 08.02.2012 and accorded approval to conduct Event Selection trials and F1 hybrid seed production (two cycles per year) with 168 events with RPD5-RPD17 at BASF owned site at Bellathi, Coimbatore, TNAU during the appropriate season in 2012-2013 subject to submission of NOC from the State Government

7.15.2 The Committee also noted that NOC from the State Government is still awaited and therefore, they have requested the GEAC to extend the validity period from 2012 to 2013 for conduct of elite event selection trials with 140 events of transgenic rice lines from constructs RPD 5 to RPD 17.

7.15.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 116th meeting held on 25.09.2012, the Committee approved the elite event selection trials with 168 events and seed production of transgenic rice lines from constructs RPD 5 to RPD 17 during any appropriate season subject to submission of NOC from the state Government where the trials will be conducted.

7.16 Request for extension of permission for TwinLink® cotton BRL-1 trial in Central and South zone by M/s. Bayer BioScience Pvt. Ltd., Gurgaon.

7.16.1 The Committee noted that the GEAC in its 116th meeting held on 11.04.2012 and accorded approval to conduct BRL-1 trial on TwinLink® cotton during appropriate season in 2012 to 2014 at North, Central and South zone at one location in each subject to submission of NOC from the respective State Governments.

7.16.2 The Committee also noted that NOC from the State Governments is still awaited and therefore the applicant has requested the GEAC to extend the validity period from 2012-2014 to 2013- 2015 for conduct of BRL-1 trial on TwinLink® cotton at Central and South zone

7.16.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 120th meeting held on 30.01.2013, the Committee approved the extension for TwinLink® cotton BRL-1 trial in Central and South zone during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.17 Request for extension of permission for pollen flow study of TwinLink® cotton by M/s. Bayer BioScience Pvt. Ltd., Gurgaon.

7.17.1 The Committee noted that the GEAC in its 116th meeting held on 011.04.2012 and accorded approval to conduct pollen flow study trial at Rajkot/Yavatmal/Rangareddy during the appropriate season in 2012 subject to submission of NOC from the respective State Governments.

7.17.2 The Committee also noted that NOC from the State Government is awaited and therefore the applicant has requested the GEAC to extend the validity period from 2012 to 2013 for conduct pollen flow study of TwinLink® cotton

7.17.3 The Committee further noted that the RCGM in its 120th meeting held on 30.01.2013 has recommended the request.

7.17.4 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 120th meeting held on 30.01.2013, the Committee approved the extension for pollen flow study of TwinLink® cotton during any appropriate season subject to submission of NOC from the state Government where the trials will be conducted.

7.18 Request for extension of permission for conducting experimental seed production (0.5 acre) of TwinLink®cotton hybrids with stacked events namely GHB119 (cry2Ae/PAT) & T304-40 (cry1Ab/PAT) containing cry1Ab, cry2Ae and bar genes in the South zone during 2013 and 2014 by M/s. Bayer BioScience Pvt. Ltd., Gurgaon

7.18.1 The Committee noted that the GEAC in its 116th meeting held on 11.04.2012 had accorded approval to conduct experimental seed production at Andhra Pradesh during appropriate season in 2012 to 2014 subject to submission of NOC from the State Government.

7.18.2 The Committee also noted the applicant is finding difficulty in obtaining NOC from the State Government of Andhra Pradesh, they have requested the GEAC to extend the validity period from 2012-2014 to 2013- 2015 for conduct of trial on experimental seed production (0.5 acre) of TwinLink® cotton at Andhra Pradesh.

7.18.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 120th meeting held on 30.01.2013, the Committee approved the extension for conducting experimental seed production (0.5 acre) of TwinLink® cotton hybrids with stacked events namely GHB119 (*cry2Ae/PAT*) & T304-40 (*cry1Ab/PAT*) containing *cry1Ab*, *cry2Ae* and *bar* genes in the South zone during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted.

7.19. Request for extension of validity of permission for GlyTol® cotton BRL-1 trial in South Zone by M/s. Bayer BioScience Pvt. Ltd., Gurgaon

7.19.1 The Committee noted that the GEAC in its 114th meeting held on 14.12.2014 had accorded approval for conduct of BRL-1 trial on GlyTol® cotton at Andhra Pradesh during the appropriate season in 2012-2014 subject to submission of NOC from the State Government.

7.19.2 The Committee also noted NOC from the State government is still awaited and therefore the applicant has requested the GEAC to extend the validity period from 2012 – 2014 to 2013-2015 for conduct of BRL-1 trial in South zone.

7.19.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 120th meeting held on 30.1.2013, the Committee approved extension the validity period for GlyTol® cotton for conducting BRL-1 trial in South Zone during any appropriate season subject to submission of NOC from the state Government where the trials will be conducted

7.20 Request for extension of permission to conduct pollen flow study of GlyTol® cotton in homozygous parental lines carrying GHB614 event during 2013 to measure the distance of pollen flow of herbicide tolerant cotton containing 2mEPSPS gene by M/s. Bayer BioScience Pvt. Ltd., Gurgaon

7.20.1 The Committee noted that the GEAC in its 116th meeting held on 11.04.2012 had accorded approval to conduct pollen flow study trial at Gujarat/Andhra Pradesh/Maharashtra during the appropriate season in 2012 subject to submission of NOC from the respective State Governments.

7.20.2 The Committee also noted that NOC from the State Governments is awaited and therefore the applicant has requested the GEAC to extend the validity period from 2012 to 2013 for conduct pollen flow study of GlyTol® cotton

7.20.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 120th meeting held on 30.1.2013, the Committee approved the extension of permission to conduct pollen flow study of GlyTol® cotton in homozygous parental lines carrying GHB614 event to measure the distance of pollen flow of herbicide tolerant cotton

containing *2mEPSPS* gene during any appropriate season subject to submission of NOC from the State Government where the trials will be conducted

7.21 Request for extension of permission for experimental seed production (0.5 acre) of herbicide tolerant GlyTol® cotton hybrids containing *2mEPSPS* gene in South zone during 2013 by M/s. Bayer BioScience Pvt. Ltd., Gurgaon

7.21.1 The Committee noted that the GEAC in its 114th meeting held on 14.12.2014 had accorded approval to conduct experimental seed production on GlyTol® cotton at Andhra Pradesh during the appropriate season in 2012-2014 subject to submission of NOC from the State Government.

7.21.2 The Committee further noted that NOC from the State Government is awaited and therefore the applicant has requested the GEAC to extend the validity period from 2012 – 2014 to 2013-2015 for conduct of experimental seed production in South zone.

7.21.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 120th meeting held on 30.1.2013, the Committee approved the extension for experimental seed production (0.5 acre) of herbicide tolerant GlyTol® cotton hybrids containing *2mEPSPS* gene in South zone during any appropriate season subject to submission of NOC from the state Government where the trials will be conducted

7.22 Request for extension of the permission for confined field trials of GlyTol® cotton carrying GHB614 event (*2mEPSPS* gene) to assess bioefficacy and residual analysis of the Glyphosate 41% SL herbicide by M/s. Bayer BioScience Pvt. Ltd., Gurgaon

7.22.1 The Committee noted that the GEAC in its 114th meeting held on 14.12.2014 discussed to conduct GlyTol® cotton carrying GHB614 event (*2mEPSPS* gene) to assess bioefficacy and residual analysis of the Glyphosate 41% SL herbicide during 2013 -2014 in Central & South zones subject to submission of NOC from the respective State Governments.

7.22.2 The Committee also noted that NOC from the State Government is still awaited and therefore the applicant has requested the GEAC to extend the validity period from 2012 – 2014 to 2013-2015 for conduct of BRL-1 trial in South zone.

7.22.3 In view of the above stated facts and taking in to consideration the recommendations of the RCGM in its 120th meeting held on 30.1.2013, the Committee approved the extension for confined field trials of GlyTol® cotton carrying GHB614 event (*2mEPSPS* gene) to assess bioefficacy and residual analysis of the Glyphosate 41% SL herbicide during any appropriate season subject to submission of NOC from the state Government where the trials will be conducted

Agenda item No 8: Any Other Item:

8.1 Status of Writ Petition 260/2005 in the context of Interim Report submitted by the Technical Expert Committee (TEC) constituted by the Hon'ble Supreme Court.

8.1.1 The Member Secretary GEAC informed the Committee that in the matter of Writ Petition (Civil) 260/2005 filed by Ms. Aruna Rodrigues vs. Union of India (Ministry of Environment and Forests, Department of Biotechnology and Ministry of Agriculture) and others, the Hon'ble Supreme Court had constituted a Technical Expert Committee (TEC) vide order dated 10th May 2012 to provide technical advice to this Court on matters related to GM crop field trials with the following TOR:

- a. To review and recommend the nature of and sequencing of risk assessment (environment and health safety) studies that need to be done for all GM crops before they are released into the environment.
- b. To recommend the sequencing of these tests in order to specify the point at which environmental release through Open Field Trials can be permitted.
- c. To advise on whether a proper evaluation of the genetically engineered crop/plants is scientifically tenable in the green house conditions and whether it is possible to replicate the conditions for testing under different agro ecological regions and seasons in greenhouse?
- d. To advise on whether specific conditions imposed by the regulatory agencies for Open Field Trials are adequate. If not, recommend what additional measures/safeguards are required to prevent potential risks to the environment.
- e. Examine the feasibility of prescribing validated protocols and active testing for contamination at a level that would preclude any escaped material from causing an adverse effect on the environment.
- f. To advise on whether institutions/laboratories in India have the state-of-art testing facilities and professional expertise to conduct various biosafety tests and recommend mechanism to strengthen the same. If no such institutions are available in India, recommend setting up an independent testing laboratory/institution.

8.1.2 It was noted that the interim report is submitted by TEC on 7th October, 2012, has recommended (i) 10-year moratorium on field trials of Bt food crops used for human consumption on the basis of review of Bt cotton and Bt brinjal biosafety data; (ii) Ban on field trials of herbicide tolerant (HT) crops till an independent Committee of experts has examined the potential impact of the HT technology including livelihood issues; and (iii) Ban on GM crop field trials in the centers of origin and centers of diversity. The other key recommendations of the TEC include need assessment, strengthening and restructuring of the current regulatory system, reassessment of the biosafety data on Bt cotton and other data that is generated by all field trials; ensuring there is no conflict of interest; a ban on outsourcing or subcontracting field trials; designation of sites for field trials, and requirement of preliminary bio-safety tests etc; as a prerequisite to all GM crop field trials.

8.1.3 It was further informed that the Union of India has not accepted the recommendations on the ground that the interim report is scientifically flawed, does not address the terms of reference (TOR) and has not only exceeded the mandate assigned to TEC but are also outside the scope of the Writ Petition itself. A Joint Affidavit in this regard has been filed by the Ministry

of Agriculture on behalf of Union of India (MoEF, DBT and MOA). The Hon'ble Supreme Court vide Order dated 9.11.2012 has directed the TEC to consider the objections filed by all respondents, interested parties and the Union of India and submit its report within six weeks. The TEC has sought extension of time till March 31, 2013 for submission of the final report. The matter is now listed for 15.4.2013.

8.1.4 To a query from one of the Members on the implications of the Court Order in respect of the applications under consideration by the GEAC, it was clarified that the Supreme Court has not imposed any ban on GM crop field trials.

8.2 Schedule of GEAC Meetings:

8.2.1 With a view to ensure maximum participation in the GEAC meetings, it was decided that date of the GEAC meeting for the next six month be finalized in advance. Members agreed to the proposal to convene the GEAC meeting on the third Friday of every month and in case of a Gazette Holiday, the meeting will be held the following Monday. As a exception to the rule, it was decided to hold the GEAC meeting in April on April 25, 2013 instead of April 22, 2013 to accommodate the convenience of some Members. The following dates were agreed by the Members.

Month	Date	Time and Venue
April	25.4.2013	11.00 AM
May	24.5.2013	Room No 623, Paryavaran Bhavan, Ministry of Environment and Forests, CGO Complex, Lodhi Road, New Delhi
June	21.6.2013	
July	19.7.2013	
August	16.8.2013	
September	20.9.2013	

8.2.2 Endorsing views of the Chairman, the Committee agreed that active participation of all members is very important to ensure decisions are taken objectively and requested Members to make it convenient to attend all meetings of the GEAC. In case a member is unable to attend, they may seek prior leave of absence and forward their comments.

The Meeting ended with a vote of thanks to the Chair and Members.

List of the Members who attended the 117th GEAC meeting held on 22.3.2013

S. No.	Name and address
1.	Shri Hem Pande, Additional Secretary, MoEF and Chairman, GEAC.
2.	Prof. C.R.Babu, Centre for Environmental Management of the Degraded Ecosystems, DU, New Delhi.
3.	Dr. Swapan Kumar Datta, DDG (Crop Science), ICAR, New Delhi
4.	Dr. S.R. Rao, Advisor, DBT and Member Secretary RCGM
5.	Dr. S. Banga, National Professor, ICAR, D/o Plant Breeding & Genetics, PAU, Ludhiana
6.	Dr Ramesh Sonti, (Representative of DG, CSIR for Agriculture sector), Director, CCMB, Hyderabad.
7.	Shri R. Murali Deputy Director (F), Representative of Advisor, DPPQ&S, Faridabad
8.	Dr R. Warriar, Director, MoEF & Member Secretary, GEAC, New Delhi
9.	Ms Madhu Gupta, Research Officer, MoEF, New Delhi
Special Invitee	
10.	Dr. P. M. Bhargava, Former Director, CCMB, Hyderabad.
Industry Representative	
11.	Dr Deepak Prem, Sr Manager (Regulatory Affairs), Bayer Bioscience Pvt Ltd
