

To,
Hon`ble Shri Narendra Modi,
Prime Minister,
Government of India;
New Delhi 110001,

Subject: Approval of Brassica transgenic hybrid DMH-11 by GEAC (Ministry of Environment, Forest and Climate Change)

Respected Sir,

We the Scientists who have spent our lives in the service of farmers and still guiding the farmers want to submit some observations on the letter by Dr SE Pawar, Ex- Scientist, BARC, Mumbai, bringing out the facts in respect of some serious issues ignored by Genetic Engineering Appraisal Committee (GEAC) while approving GM Mustard Hybrid DMH-11 for commercial cultivation (copy enclosed as ANNEXURE-I).

Any technology has to be sustainable, more so for Bio-safety, Environmental safety and Economic safety. **The farming community in India is under distress which may make the Governance for people in power more disperate.**

Very recently GEAC approved GM Mustard hybrid DMH-11 and granted permission for its commercial cultivation. The recent issue in focus is the permission for "Dominant male sterility system based on Bar-Barnase- Barstar used in DMH-11" To make use of sterile plants of female parent of the hybrid the **sister plants in this female line are to be salvaged by spraying herbicide "Glufosinate Ammonia" (commercial name BASTA) under patent regime of Byer India Ltd. So far dominant male sterility has never been used in crop plants because it adversely affects the reproduction of a species.**

We firmly believed that Dr SE Pawar, who was associated with Mustard Research, analyzed the anomalies very correctly and tried to bring to the notice of Minister of Environment his concerns before providing environmental safety clearance by his ministry. *As Scientific community we may support the GM technology, when it is worth to the benefit of human being. We tried to analyze the scientific information as well as press reports in respect of DMH-11 and mention bellow, few relevant points for your attention in national interest.*

Experiences of Bt-cotton hybrids:

Here, we can cite good experience of cotton hybrid. In 1970s Dr CT Patel, Eminent Cotton Breeder, from Surat (Gujrat), Father of "H-4 Cotton", could make our cotton farmers to flourish. In the year 2002, Bt-Cotton hybrids of Monsanto superseded it, to make cotton cultivation vulnerable to Spotted boll-worm and sucking pests' menace, beyond the control. We do not have

any effective regulatory and control mechanism for GM crops in the country. The GEAC has failed miserably to control the illegal introduction and sell of herbicide tolerant BT cotton varieties on large scale in the state of Gujarat, Maharashtra and Punjab. This is causing damage to the environment and health of the millions of Indians.

Since 2002 when GM-Bt gene was permitted in Cotton hybrid the well laid down procedure of release and notification of variety/ hybrid under Seed Act, 1966, has been hijacked by seed industry. *The approval obtained from GEAC and Ministry of Environment for environmental safety, is used as the right to take the GM hybrid for commercial cultivation. The provision of licensing research hybrid / variety under Ministry of Agriculture, is being unethically utilized to continue Bt-cotton hybrids for last 15 year and 600 Bt-Cotton hybrids flooded in the market. It is universal evolutionary phenomenon known to the scientists that the organism mutates for its perpetuation in any given conditions of stress and becomes more virulent in absence of the favored host. The mandatory condition to sale non-Bt seed with Bt- Cotton to be grown as refugee to maintain the environmental biological balance of the pest suppressed by Bt-toxins in cotton is neither followed nor monitored by any agency, for which Government is likely to be blamed. This resulted in flare up of sucking pest as well as the spotted boll worm causing huge losses to the cotton farmers. Thus, big benefit is gained by monopoly seller MNC, and blame lies with governance.*

Un-leveled field for public institutes due to use of provision of research hybrid or variety:

The provision of research hybrid or variety may be there for one or two seasons and not for the long period of 15 years after the GEAC's approval until expiry of the IPR. There is un-leveled field for playing between private and public organizations due to such misuse of the license system for research variety or hybrids by private sector. This made gross injustice towards public sector plant breeding research with SAUs and ICAR institutes where thorough testing for agronomic traits, for more than 7 to 8 years taking >10 years to develop one new variety or hybrid while private sector flooded dozens to hundreds of research hybrid without following valid testing protocol under Seed Act, 1966.

Risks visualized with GM Mustard DMH-11:

The recent press reports have mentioned that the GM-Mustard Hybrid DMH-11 has been approved by GEAC for commercial cultivation which is very synonymous situation to Bt Cotton. The risks with DMH-11 are..., firstly the herbicide to be used in seed production is seen in the list of dreaded carcinogen. Secondly, Indian innocent farmers are likely to pass it to their fields indiscriminately for ease in weed control; which can lead to emergence of super weed resistant to such herbicides. Thirdly, the dominant male sterility gene inherited by hybrid from the mother plant, can disseminate to our indigenous high yielding varieties by out-crossing (15 per cent reported in Mustard) promoting the sterility in them and making them poor yielder. The sterility is likely to increase in progressing generations. Ultimately those high yielding varieties will be

thrown out of cultivation and will vanish. Fourthly, the dissemination of dominant male sterility to indigenous Brassica species is possible through natural out pollination, making a great threat to the indigenous biodiversity of Brassica species.

Thus, there are multiple threats to Indian Agriculture, if the Bar-Barnase-Barstar base hybrid technology is allowed via DMH-11 in food crops. If this technology is approved in mustard, there is no ground to avoid its use in other food crops. This can lead to following detriments and hazards.

- 1. Indiscriminate use of the herbicide in farmers' field may create new problems of resistance in weeds to evolve superweeds beyond control of the herbicide.*
- 2. Spread of dominant male sterility will endanger the indigenous germplasm including high yielding varieties of all crops.*
- 3. Farmers will be attracted to such hybrids from the point of ease in weed control. Other varieties will not find place in monopolized market.*
- 4. The seed production will be directly licensed by the MNC holding IPR for the herbicide BASTA. Thus, the seed of many food crops will be monopolized by the MNC.*
- 5. Innocence in respect of carcinogenic character of the herbicide will be very harmful for the health of the agricultural labourers. The entry of the carcinogenic herbicide in food chain will affect other rural and urban population as well.*

*Thus, patent owner of herbicide 'BASTA' will have many fold benefits. Hence, there is ground to doubt the integrity of our own people interested in **promotion of the new system in DMH-11, as a technology and hiding the presence of gene for herbicide tolerance carried through the female parent of the hybrid.***

Sir, we are aware about the Indian Haldi and Basmati-Rice which were successfully refuted from the patent regime of Western World; by Dr Mashelakar the then steward leader of CSIR. We are well informed that 21st century is the era of Science and Technology and we cannot neglect the technologies emerging through use of science. *However, it is very painful to see that few learned scientists in India positioned in higher hierarchy in Government administration, tries to induce the technology harmful to Indian farmers and to our assets of biodiversity in indigenous improved varieties of commercial as well as food crops. Moreover, they have hidden agenda to exhaust indigenous seed of the crops over powering with those under patent regime of foreign multinationals. There is sufficient ground to doubt their integrity towards Indian farmers, who are being made more dependent on monopolized seed under IPR regime of Foreign multinational companies like Monsanto , Byer India Ltd etc.* The members from ICAR participating in GEAC also ignored the evaluation for agronomic superiority of DMH-11 as per the norms of Central Seed Committee under Seed Act, 1966 Moreover, recently DG, ICAR addressed the press as if the conventional breeding failed in Mustard and GM Mustard is only the solution to substitute the import of edible

oil. It is very biased and hence, we suspect nexus between the promoters of DMH-11, GEAC and ICAR for detailed enquiry.

We therefore sincerely pray you Sir, to intervene in the matter and direct the concerned authorities to investigate and stop the release of HT transgenic hybrid to save the Indian farmers from the clutches of MNC's, to avoid indiscriminate use of the herbicides in near future, to save indigenous high yielding varieties of crop plants and to save the Indian Brassica germplasm. We are always with you Sir, as soldiers in nation building.

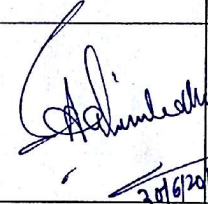
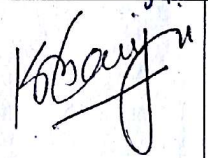
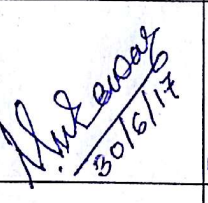
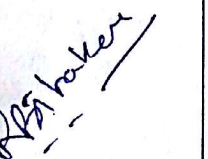
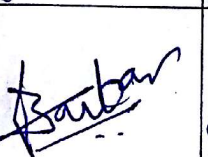
With best regards.

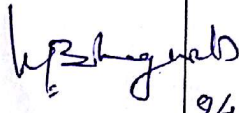

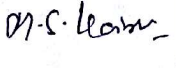





Enclosers:

Appendix 1: Letter by Dr. S.E.Pawar to Environment, Forest and Climate Change Ministry on 8th of June 2017.

Remain yours'

Indian Scientists (Nagpur Chapter)

Sr No.	Name	Designation	Signature	Cell/Phone number
1	Dr. Sharad Numbalkar	Ex-Vice - Chancellor Dr. PDKV, Akola		9422160 955
2	Dr. K. B. Wanjari	Ex-Pulses Scientist PDKV Akola		9921811499
3	Dr. A. M. Mukewar	Ex. Prof & Head Dr. P. D. K. V., Akola.		9822690275
4	Dr. R. B. Thakare	Farming System Specialist, World Bank, Vice President Bharat Krishi Samaj		9372791484
5	Dr. D. B. Bunker	Ex-Prof & Head Environmental Chemistry		9422152551

Sr No.	Name	Designation	Signature	Cell/Phone number
6	DR V. Y. BHAGWAT	Ex Associate Dean College of Agri. NAGPUR		9403119844
7	Dr. N. D. RAUT	Ex. Associate Director Research JNKVV, Jabalpur		9423221982
8	Dr M. S. KAIRON	Ex-Director CIAR (Central Institute For Cotton Research) Nagpur		9422110808
9	Dr. Shantilal Kolkari	President, Academy of Nutrition Improvement, Nagpur.		9890343686 9890343686
10	Dr R. Fulzele	Ex. Professor of Botany, A.C. Nagpur		8806142286
11	DR B. S. Chimmurkar	Exp Prof of Agronomy DR P. D. KV Akola		9422123842 9422123842
12	Dr. J. T. THAKRE	Ex Sr. Res. Scientist (Cotton) Dr. P. D. KV. Akola		9763189394
13	Dr. A. M. Dhopte	Ex. Professor of Botany Dr. P. D. KV. Akola.		9372035538

Sr No.	Name	Designation	Signature	Cell/Phone number
14	Prof. B.K. Sharmapat	Ex Professor of Entomology, College of Agriculture Nagpur	<u>B.K. Sharmapat</u>	0712-2230308 0942214688
15	Dr. S.N. Potkile	Ex-Asso. Prof. of Botany A.C. Nagpur	<u>Potkile</u>	0712-2544655
16	Prof. B.N. Patil	ex. sr. scientist (AF) Dr. P.D. K. V. Akola	<u>B.N. Patil</u>	9850341114
17	Prof. A.D. Chaudhary	Ex HOD and prof. Dept. of Botany, RTM, Nagpur University, Nagpur	<u>A.D. Chaudhary</u>	9923087052
18	Prof. A.M. Ichusad Ex-HOD & prof. Dept. of Zoology & Entomology, RTM, Nagpur	Ex-HOD & prof. of Dept. of Zoology, & entomology, RTM Nagpur University, Nagpur.	<u>A.M. Ichusad</u>	9665371753

Copy for information:

1. Hon'ble Renuka Chaudhari, Chairperson, Parliamentary Standing Committee,
2. Hon'ble Shri Radha Mohan, Minister of Agriculture, GOI
3. Vice Chairman, Niti Aayog, New Delhi
4. Dr. Harsha Vardhan, Ministry of Science & Technology, Environment, Forest and Climate Change.
5. Director General, ICAR, New Delhi