

India: Genetic Engineering, the Commercialization of GM Mustard and the Future of Agriculture

Prominent Lawyer Prashant Bhushan Urges Indian Government to Stop Commercialisation of GM Mustard

By [Colin Todhunter](#) and [Prashant Bhushan](#)

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The environment ministry in India will make the final call after the Genetic Engineering Appraisal Committee recently gave a positive recommendation for the commercial cultivation of GM mustard. Whether the crop is commercially cultivated could depend on the Supreme Court, which is hearing a case seeking a moratorium on its commercial release. The government has stated it will abide by the court's decision (although that remains to be seen and some question the court's impartiality). The final hearing will probably take place in July. The case before the Supreme Court was brought by Aruna Rodrigues who accuses various officials and the regulatory authorities of unremitting fraud and regulatory delinquency.



The importance of GM mustard should not be underestimated. It is central to the whole debate about the future of agriculture in India and the wider development paradigm. GM mustard is a Trojan horse that would help pave the way for ripping up the economic and social fabric of India and recast for the benefit of powerful Western corporations, not least Bayer-Monsanto (see [GM Mustard in India](#) to read my numerous articles on this issue).

GM mustard is being promoted on the basis of the lie that it will increase yield. However, the government itself admits there's no evidence that it will do so. In a letter to Anil Dave, India's environment minister, presented below, advocate Prashant Bhushan says that conclusions were drawn and disseminated to mean that GM Mustard DMH 11 is a superior hybrid-making technology that will out-yield India's best non-GMO hybrids and varieties. But he adds that non-GMO hybrids and varieties out-yield HT DMH 11 hands down.

Bhushan reminds the Indian government that it has admitted that there is no evidence that GM mustard out-yields non-GM. In an affidavit to the Supreme Court, the government stated,

"No such claim has been made in any of the submitted documents that DMH 11 out-performs Non-GMO hybrids."

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Dated: May 13, 2017

Shri Anil Dave
The Hon'ble Minister of MoEF and Climate Change
Paryavaran Bhavan
Lodhi Road
New Delhi

COMMERCIAL APPROVAL BY THE GEAC OF HT MUSTARD HYBRID DMH 11 ON 11 MAY 2017

Dear Shri Dave

I express a deep disquiet and anxiety at the opaque and unscientific regulatory oversight of this GM mustard, which is also an herbicide tolerant (GM) crop. It has resulted yesterday, in its undoubtedly flawed approval for 'Commercialisation' by the GEAC. I write to request you to please withhold your approval of such a move on three grounds.

The first is that the CJ, based on the assurance given by the AG Mukul Rohatgi that the Union of India will not release DMH 11 "*without the prior approval of the Supreme Court*", accordingly, gave a verbal Order of an interim injunction till the case is heard comprehensively and the issue of HT mustard in substance. This was widely reported in the newspapers, two examples of which are referenced ([1]).

The second is the grave matter of the independence, surety and rigour of the oversight of the biosafety of HT Mustard DMH 11, which is critical for India's agriculture in mustard, its food safety (both as a vegetable and seed oil), and furthermore, and of outstanding importance, the certain contamination that will occur of India's mustard germplasm. These matters are of course, of central concern to your Ministry's 'regulating' function and mandate for India.

The third is the requirement and my personal plea to you, to take note of the lessons of history of GMO regulation in India, embedded as it is in the most serious conflicts of interest and lack of expertise, where regulation has become farcical. For this reason, self-assessed safety dossiers by crop developers are kept secret by our Regulators and governing Ministries. Four official reports attest to the prevailing, utterly dismal state of regulation.

May any government treat its citizens with such willful disregard, despite Constitutional provisions?

The Bt brinjal Biosafety-Dossier remained unpublished for 16 months despite a SC order, but

eventually, the Regulators had to comply with its full publication (with the raw data), which then revealed its fraudulence when examined and appraised by independent scientists of international stature. Studies said to be done were not done, as many as 36 of 37 environmental studies, leaving aside other risk assessment protocols. The moratorium which followed was also in large part influenced by the fact that India is the world's Centre of brinjal diversity with 2500 varieties and wild species, which would certainly be contaminated. This is what the 37th PSC of 2012 (on GMOs) had to say on Bt brinjal and regulation. I quote very briefly. I would urge you to read the full recommendations of just 3 pages:

“—Convinced that these developments are not merely slippages due to oversight or human error but indicative of collusion of a worst kind, they have recommended a THOROUGH PROBE INTO THE BT. BRINJAL matter from the beginning up to the imposing of moratorium on its commercialization by the then Minister of Environment and Forests (I/C) on 9 February, 2010 by a team of independent scientists and environmentalists”. **(Recommendation - Para No. 2.79).**

“The Committee after critically analyzing the evidence — the gross inadequacy of the regulatory mechanism, — the absence of chronic toxicology studies and long term environment impact assessment of transgenic agricultural crops; the virtual non-existent nature of the oversight bodies like National Biodiversity Authority, Protection of Plant Varieties and Farmers' Right Authority, Food Safety and Standards Authority of India, etc., recommended that till all the concerns voiced in their Report are fully addressed —, to put in place all regulatory, monitoring, oversight, surveillance and other structures, further research and development on transgenics in agricultural crops should only be done in strict containment and FIELD TRIALS UNDER ANY GARB SHOULD BE DISCONTINUED FORTHWITH”. **(Recommendation - Para Nos. 8.116, 8.121 & 8.125)**

“Noting with concern the grossly inadequate and antiquated regulatory mechanism for assessment and approval of transgenics in food crops; the serious conflict of interest of various stakeholders involved in the regulatory mechanism; the total lack of post commercialization, monitoring and surveillance, the Committee have felt that in such a situation what the Country needs is not a bio-technology regulatory legislation but an all-encompassing umbrella legislation on bio-safety ——. The Committee have also cautioned the Government that in their tearing hurry to open the economy to private prospectors, they should NOT MAKE THE SAME FATE BEFALL ON THE AGRICULTURE SECTOR, as has happened to the communications, pharma, mineral wealth and several other sectors in which the Government's **facilitative benevolence preceded setting up of sufficient checks and balances and regulatory mechanisms**, thereby, leading to colossal, unfettered loot and plunder of national wealth in some form or the other, incalculable damage to environment, bio-diversity, flora and fauna and unimaginable suffering to the common man”. **(Recommendation - Para No. 3.47 & 3.48)**

But till date, the GM mustard dossier remains unpublished in willful Contempt of Court. Prof Pental is the Chair of the DBT's Agricultural Biotechnology Task Force. SR Rao, Member GEAC is over-all in-charge of the DBT's Agri Biotech programmes. The DBT also funds Pental's GM mustard.

Does anything more need to be said to underscore the implications of this cosy 'arrangement' of partnership in the Regulatory oversight of HT mustard DMH 11 and GMOs in general?

Data that has 'leaked' around the edges demonstrate that we have ample reason to be greatly concerned of gross cover-up and misconduct. Furthermore, this HT mustard DMH 11 and its two HT

variants are doubly barred by the unanimous 5-member TEC recommendations: ie this is an HT crop and a crop in a Centre of genetic diversity.

The further contents of this letter below, make clear in the simplest possible way, from, and it has to be said, curious admissions of your Apex Regulator and the Union of India in their 'Reply' Affidavit submitted to the SC, which effectively demolish wholesale, any sound basis for the release of HT DMH 11 for commercial cultivation. I make 3 short points, to alert you to the veracity of this statement, as you will not be briefed correctly on these matters by your Regulators and indeed by the Ministries of S & T and Agriculture, both of which promote HT DMH 11 and even fund it (DBT) as stated above:

(a) HT hybrid mustard DMH 11 has failed the first criteria of a test risk protocol of a GM crop: '*Is the GM Crop required in the first place?*' The answer in "No" based on the admission of the Union of India itself in their 'Reply' Affidavit in the SC. They said:

"No such claim has been made in any of the submitted documents that DMH 11 out-performs Non-GMO hybrids. The comparison has only been made between hybrid DMH 11, NC (national Check) Varuna and the appropriate ZC (zonal checks) — MSY of 2670 Kg/ha has been recorded over three years of BRL trials which is 28% and 37% more than the NC & ZC respectively" (At 88, pg.56).

Unfortunately, the whole truth uncovered, is that no valid comparators were used and the field trials themselves stand voided on the basis of serious anomalies and violations in field testing, inconclusive results and even statistical fraud. Yet, conclusions were drawn and disseminated to mean that DMH 11 is a superior hybrid-making technology that will out-yield India's best Non-GMO hybrids and varieties. The fact is, Non-GMO hybrids and varieties out-yield HT DMH 11 hands down.

(b) We know, based on the AG's assertion in Court that the Union of India holds that this GM mustard will displace imported edible oil-seeds in a significant way (reduce our oilseeds bill). However, such an assertion in the light of the above submission is to say the least ludicrous, entirely lacking any semblance of logic. Moreover, the nearest equivalent to Indian mustard (*Brassica juncea*) is rape-seed oil (Canola), imported from Canada (which is essentially GMO) and represents just 2% of India's edible oil imports! Rs 68,000 Cr is the total import oil-seeds bill, not Canola alone, as the AG mistakenly stated in Court. Can this be the basis for the Commercialisation of HT mustard DMH 11?

It gets murkier still when the U of I also admits that:

"Heterosis is due to the careful selection of parents and not due to the three transgenes" — "The developers have nowhere claimed that the yield increase is due to the three transgenes"(At 65, page 45)

This is exactly the issue that there is no trait for yield in HT DMH 11. It is good indeed that on this point we are all in agreement. Yet, somehow, the opposite story prevails, the 'story' to the media, and the PMO. The stand of the Niti Aayog is particularly curious in that their National Agri policy requires GMOs in agriculture to meet India's food security as they are better yielding! Where in this statement is the basic science governing the trait for yield in GMOs and Mustard in particular? It is very troubling that the Niti Aayog has failed to do some basic homework.

(c) Therefore, we draw the conclusion that the stated regulatory intent is to **deregulate HT DMH 11 as a policy agenda based on no science**, and to convert India's mustard agriculture, in a massive and dangerous experiment, to (GM) HT hybrid mustard, (variants of DMH 11). Imagine our

consternation when your Regulator admitted to precisely this:

“Once the GE mustard events Varuna bn 3.6 and EH2 modbs 2.99 are approved and deregulated, these would be immediately used by the National net-work programme” —
“Once a robust pollination control mechanism is in place, yield of hybrids can be further improved by breeding better parental lines” (at 63, pg. 43).

The statement is pure spin, dissimulation. Unless deconstructed, it conveys that HT Hybrid DMH11 is a superior hybrid-making technology (which it is not); that will (alone) provide 25 to 30% higher yield and even better, (not true, as admitted), because on the contrary, India’s best Non-GMO hybrids and varieties are already significantly outperforming HT DMH 11. Unfortunately and regrettably, the plain truth is that decades of good work already being done by our agri institutions and the DRMR[2] in Non-GM hybrid technology and superior-yielding varieties will be laid waste in this dangerous plan for the country via HT Hybrid DMH 11 and its variants.

AND OUR GERMPLASM WILL BE THOROUGHLY CONTAMINATED AND IN A CENTRE OF MUSTARD DIVERSITY.



India is a centre of diversity in mustard with **9720 Accessions** in our gene banks (The NBPGR[3]). With a commercialised GM crop, contamination of non-GMO is certain. That is the evidence.

In closing, I’d like to emphasise that GMO contamination is neither remediable nor reversible and is the outstanding concern. The genes in HT hybrid DMH 11 are toxic genes: being an HT crop also means that DMH 11 is a pesticidal crop. Its nationality doesn’t change the science. It stays this way whether foreign or Indian! How do we get carried away on such a band-wagon?

The issue also is that with GMO contamination, our mustard will be changed at the molecular level. Any toxicity that there is will remain in perpetuity. Are we prepared to be the agents for such monumental risk and put India and its people in jeopardy without any recourse and remedy?

For these reasons among others, and there are decidedly ‘others’, I would urge you on behalf of our Nation not to endorse this outrageous and anti-national approval, but reject it in the public interest. You will be doing India a noble service in posterity.

Thank you,
Yours sincerely,

Signed/

Prashant Bhushan

* * *

Notes

[1] **LiveLaw News Network**: ‘No GM Mustard Without SC Approval’ October 24, 2016;

www.dnaindia.com report-will-not-release-gm-mustard-crop-commercially-without-supreme-court-s-

permission-centre-

[2] Directorate of Rape-Seed Mustard

[3] National Bureau of Plant Genetic Resources (NBPGR)

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