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# Biotech Giants Using GMOs to Build Food Tyranny

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**The article below was written the day before India's state-run biotech regulator, the Genetic Engineering Appraisal Committee (GEAC), approved genetically modified (GM) mustard for commercial cultivation. This decision was taken on 26 October 2022.**

**The regulatory clearance for GM mustard means the crop is fit for environmental release. However, the Supreme Court has yet to rule on the matter and government stated a while back that it would wait until that ruling is in.**

**What follows provides insight into the deceptions and scientific fraud that underpin this decision as well as the consequences for food and agriculture.**

We are currently seeing rising food prices due to a combination of **an engineered food crisis** for geopolitical reasons, **financial speculation** by hedge funds, pension funds and investment banks and **profiteering**by global grain trade conglomerates like Cargill, Louis Dreyfus, ADM and Bunge.

In addition, agri firms like Bayer, Syngenta (ChemChina) and Corteva cynically regard current circumstances as an **opportunity** to promote their agenda and seek commercialisation of unregulated and improperly tested genetically engineered (GE) technologies.

These companies have long promoted the false narrative that their hybrid seeds and their GE seeds, along with their agrichemicals, are essential for feeding a growing global population. This agenda is **orchestrated** by **vested interests** and **career scientists** – many of whom long ago sold their objectivity for biotech money – lobby groups and **disgraced politicians**and journalists.

Meanwhile, in an attempt to deflect and sway opinion, these industry shills also try to depict their critics as being Luddites and ideologically

driven and for depriving the poor of (GE) food and farmers of technology.

This type of bombast disintegrates when confronted with the evidence of a failing GE project.

As well as this kind of emotional blackmail, prominent lobbyists like **Mark Lynas**– unable or unwilling to acknowledge that genuine food security and food sovereignty can be achieved withoutproprietary products – trot out other baseless and absurd claims that industry critics are Kremlin stooges, while displaying their ignorance of geopolitics.

Indeed, who would you turn to for an analysis of current US-Russia relations? An **advocate for GE foods and pesticides** who makes inaccurate claims from his perch at the Gates Foundation-funded **Cornell Alliance for Science.** Or a renowned academic like Professor **Michael Hudson**whose specialist field covers geopolitics.

But it would not be the first time that an industry activist like Lynas has ventured beyond his field of claimed expertise to try to score points.

However, dirty tricks and smears are par for the course because the agri biotech emperor has been shown to have no clothes **time and again** – GE is a failing, often detrimental technology in search of a problem. And if the problem does not exist, **the reality of food insecurity will be twisted** to serve the industry agenda, and regulatory bodies and institutions supposedly set up to serve the public interest will be placed under **intense pressure or subverted**.

The performance of GE crops has been a hotly contested issue and, as highlighted in a **2018 piece** by PC Kesavan and MS Swaminathan in the journal Current Science, there is sufficiently strong evidence to question their efficacy and the devastating impacts on the environment, human health and food security, not least in places like **Latin America**.

A **new report** by Friends of the Earth (FoE) Europe shows that big global biotech corporations like Bayer and Corteva, which together already control 40% of the global commercial seed market, are now trying to cement complete dominance. Industry watchdog GMWatch notes these companies are seeking to increase their control over the future of food and farming by extensively patenting plants and developing a new generation of genetically modified organisms (GMOs).

These companies are moving to patent plant genetic information that can occur naturally or as a result of genetic modification. They claim all plants with those genetic traits as their "invention". Such patents on plants would restrict farmers' access to seeds and impede breeders from developing new plants as both would have to ask for consent and pay fees to the biotech companies.

Corteva has applied for some 1,430 patents on new GMOs, while Bayer has applications for 119 patents.

Mute Schimpf, food campaigner at Friends of the Earth Europe, says:

> *Big biotech's strategy is to apply for wide patents that would also cover plants which naturally present the*

> *same genetic characteristics as the GMOs they engineered. They will be lining their pockets from farmers and plant breeders, who in turn will have a restricted access to what they can grow and work with.*"

For instance, GMWatch notes that Corteva holds a patent for a process modifying the genome of a cell using the CRISPR technique and claims the intellectual property rights to any cells, seeds and plants that include the same genetic information, whether in broccoli, maize, soy, rice, wheat, cotton, barley or sunflower.

The agri biotech sector is engaged in a corporate hijack of agriculture while attempting to portray itself as being involved in some kind of service to humanity.

And this is a global endeavour, which is also currently being played out in India.

## GM MUSTARD

A **recent report** on the Down to Earth website stated that the Genetic Engineering Appraisal Committee (GEAC), India's apex regulatory body, might approve the commercial cultivation of GM mustard. In response, concerned citizens have written to the government, objecting to the potential approval of unsafe, unneeded and unwanted GMOs.

The decision whether to allow the commercialisation of what would be the first GE food crop in India has been dragging on for years. COVID delayed the process, but a decision on GM mustard now appears to be close.

However, serious conflicts of interest, sleight of hand and regulatory delinquency – not to mention outright fraud – could mean the decision coming down in favour of commercialisation.

The bottom line is government collusion with global agribusiness, which is trying to hide in the background, despite much talk of Professor Pental and his team at Delhi University being independent developers of GM mustard (DMH 11).

GM mustard presents an opportunity to make various herbicide tolerant (HT) mustard hybrids using India's best germ plasm, which would be an irresistible money spinner for the seed and chemical manufacturers.

In 2016, campaigner Aruna Rodrigues petitioned India's Supreme Court seeking a moratorium on the release of any GMOs into the environment pending a comprehensive, transparent and rigorous biosafety protocol in the public domain conducted by agencies of independent expert bodies, the results of which are made public.

In her writ, Rodrigues stated:

> *"In 2002, Proagro Seed Company (now Bayer), applied for commercial approval for exactly the same construct that Prof Pental and his team are now promoting as HT*

*Mustard DMH 11. The reason today matches Bayer's claim then of 20% better yield increase (than conventional mustard). Bayer was turned down because the ICAR [Indian Council of Agricultural Research] said that their field trials did not give evidence of superior yield."*

The petition says that 14 years later invalid field trials and unremittingly fraudulent data now supposedly provide evidence of a superior yield of 25%.

Rodrigues continues:

> *HT DMH 11 is the same Bayer HT GMO construct – a herbicide tolerant GMO of three alien genes. It employs, like the Bayer construct, pollen sterilisation technology BARNASE, with the fertility restorer gene BARSTAR (B & B system) (modified from the original genes sourced from a soil bacterium) and the herbicidal bar gene in each GMO parental line. The employment of the B & B system is to facilitate the making of hybrids as mustard is largely a self-pollinating crop (but outcrosses at rates of up to 20%). There is no trait for yield. HT DMH 11 is*

> *straightforwardly an herbicide tolerant (HT) crop, though this aspect has been consistently marginalised by the developers over the last several years."*

In order to produce a hybrid, two parent lines had to be genetically modified. Barnase and barstar technology was used in the parent lines. And the outcome is three GMOs: the two parents and the offspring, DMH 11, which will be ideal for working with glufosinate (Bayer's 'Liberty' and 'Basta').

According to Rodrigues:

> *"... the plan is that the official route for the first-time release of a HT crop and a food crop will be through HT DMH 11 and/or its two HT parental lines by stealth. Since the claimed YIELD superiority of HT DMH 11 through the B & B system over non-GMO varieties and hybrids is quite simply NOT TRUE..."*

In her numerous affidavits submitted to India's Supreme Court, Rodrigues has set out in some detail why GE crops are a threat to human health and the environment and are unsuitable for India. She briefly communicated some of her concerns in a 2020 interview titled **GMO Issue Reaches Boiling Point in India: Interview with Aruna Rodrigues**.

Moreover, various high-level reports have advised against introducing GM food crops to India: The 'Jairam Ramesh Report' of February 2010, imposing an indefinite moratorium on Bt Brinjal; The 'Sopory Committee Report' (August 2012); The 'Parliamentary Standing Committee' (PSC) Report on GM crops (August 2012); and The 'Technical Expert Committee (TEC) Final Report' (June-July 2013).

These reports conclude that GM crops are unsuitable for India and that existing biosafety and regulatory procedures are inadequate. Appointed by the Supreme Court, the TEC was scathing about the regulatory system prevailing in India, highlighting its inadequacies and inherent serious conflicts of interest. The TEC recommended a 10-year moratorium on commercial release of GM crops. The PSC also arrived at similar conclusions.

**According to eminent lawyer Prashant Bhushan**, these official reports attest to just how negligent India's regulators are and to a serious lack of expertise on GM issues within official circles.

Aruna Rodrigues long ago noted the abysmal state of GMO regulatory oversight in the country and the need for the precautionary principle to be applied without delay. But not much has changed and the regulatory position basically remains the same.

Rodrigues asserts that the two parent lines and the hybrid DMH-11 require full independent testing, which has not occurred. And it has not occurred because of a conflict of interest and regulatory delinquency.

Rodrigues notes:

> *India is suddenly faced with the deregulation of GMOs. This is disastrous and alarming, without ethics and a scientific rationale."*

GM mustard is said to out-yield India's best cultivars by 25-30%. The choice of the correct 'comparators' is an absolute requirement for the testing of any GMO to establish whether it is required in the first place. But Rodrigues argues that the choice of deliberately poor 'comparators' is at the heart of the fraud.

In the absence of adequate and proper testing and sufficient data, no statistically valid conclusions of mean seed yield (MSY) of DMH 11 could be drawn anyhow. Yet they were drawn by both the regulators and developers who furthermore self-conducted and supervised the trials. Without valid data to justify it, DMH 11 was allowed in pre-commercial large scale field trials in 2014-15.

For an adequate basis for a comparative assessment of MSY, Rodrigues argues it was absolutely necessary for the comparison to include the cross (hybrid) between the non-modified parental lines (nearest isogenic line), at the very start of the risk assessment process and throughout the subsequent stages of field testing, in addition to other recommended 'comparators'. None of this was done.

Deliberately poor non-GMO mustard varieties were chosen to promote prospects for DMH 11 as a superior yielding GMO hybrid, which then passed through 'the system' and was allowed by the regulators, a classic non-sequitur by both the regulators and Dr Pental.

The fraud continued, according to Rodrigues, by actively fudging yield data of DMH 11 by 15.2% to show higher MSY. In her various Supreme Court petitions, she has offered a good deal of evidence to show how it was done.

Rodrigues says:

> *It matters not a jot if HT DMH 11 is not approved. What does matter is that its two HT (GMO) parental lines are: HT Varuna-barnase and HT EH 2-barstar will be used 'for introgressing the bar-barnase and bar- barstar genes into new set of parental line to develop next generation of hybrids with higher yields" (according to the developer and regulator).*"

She says this extraordinary admission confirms that the route to any number of 'versions' of HT mustard DMH 11 is invested in these two GMOs as parents – India will have hundreds of low-yielding HT mustard hybrids, using India's best mustard cultivars at great harm to farmers and contaminating the country's seeds and mustard germ plasm irreversibly.

In effect, according to Rodrigues, India faces a three-in-one regulatory jugglery in a brazen display of collusion to fraud the nation by regulatory institutions of governance.

Moreover, HT mustard DMH 11 will make no impact on the domestic production of mustard oil, which was a major reason why it was being pushed in the first place. The argument was that GM mustard would increase productivity and this would help reduce imports of edible oils.

Until the mid-1990s, India was virtually self-sufficient in edible oils. Then import tariffs were reduced, leading to an influx of cheap (subsidised) edible oil imports that domestic farmers could not compete with. This effectively devastated the home-grown edible oils sector and served the interests of palm oil growers and US grain and agriculture commodity company **Cargill**.

It came as little surprise that in 2013 India's then Agriculture Minister Sharad Pawar accused US companies of derailing the nation's oil seeds production programme.

Whether in India, Europe or elsewhere, the industry's agenda is to use GE technology to secure intellectual property rights over all seeds (and chemical inputs) and thus gain total control over food and farming. And given what has been set out here – they seek to achieve this by all means necessary.

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