

Genetic Engineering. Where does Science End and Lobbying begin? A Response to a Prominent pro-GMO scientist

By [Colin Todhunter](#)

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Theme: [Biotechnology and GMO](#)

Writer and researcher Colin Todhunter responds to Dr. Anthony Trewavas below.

The following is in response to an open letter published on the AgBioWorld Facebook page by Professor Tony Trewavas of Edinburgh University. He wrote it after reading my article ["So You Want to Help Africa Mr Paterson? Then Stop Promoting Ideology and Falsehoods to Push GMOs"](#) published by Global Research.

Professor Trewavas is a prominent supporter of GMOs in Britain.

His original letter is provided in full below Colin Todhunter's response.

* * *

Dear Professor Trewavas

I find your response to my piece disappointing. You failed to address many of the issues I discussed (not least that the world can feed itself without GMOs and that hunger and poverty are due to structural factors and not a lack of food, which GMOs have merely exacerbated) and have decided to indulge in the same type of smear-scare tactics that Owen Paterson employed in his Pretoria speech.

You forward the baseless assertions that GMOs are safe, even though there has not been one long-term epidemiological study conducted to show this.

While condemning Greenpeace and other groups for somehow being authoritarian and anti-choice, you say nothing about agribusiness corporations whose financial clout has brought them political influence that allows them to exert huge control over the WTO and capture regulatory bodies and public research institutions. These corporations have had a key role in driving trade policies from India to Europe, not least in terms of the secretive Knowledge Initiative on Agriculture and the world's largest secretive, pro-corporate trade deal, the proposed TTIP.

Where is the choice and democracy here?

You have nothing to say on that but proceed to lecture me on the virtues of choice and democracy.

In your opening paragraph alone, you make four fallacious assertions.

First of all, I did not say GMOs would be a disaster for “any” farmer. In India’s Punjab state, for example, some farmers have done quite well from the introduction of petrochemical farming (‘green revolution’). But water tables are falling drastically, pesticides have contaminated the water supply, there is a big cancer problem and many farmers are experiencing economic distress. In Punjab, this form of agriculture is unsustainable. There is now an agrarian crisis and it is a health, environmental and social disaster. My point is that GMOs would similarly be bad for agriculture in general and would have a systemic, detrimental impact on the environment and human health.

Second, you claim that I fear GMOs will not be a disaster for African farmers but a success. Not true. You have ignored the fact that a number of GMO projects in Africa to date have indeed been failures and in my article I provided a link to a report to highlight this (which you go on to conveniently dismiss as a “biased” source).

Third, you say that the word “choice” is conspicuously absent from my article. Any objective reader would appreciate that the concept is central to it, not least where I discuss the “choices” imposed on Ethiopia via the West’s ‘structural adjustment’ of agriculture (which I refer to at the end of the article). That was not a case of farmers “choosing” to restructure their agriculture, but a case of policies being forced on them at a macro policy level. And this is one of the issues that I have with GMOs.

Although you conveniently do not mention that part of my piece, Michel Chossudovsky’s analysis takes account of the way by which agribusiness conglomerates can and do set rules at the WTO, manipulate market forces and restructure agriculture in foreign countries for their own ends. That is very much related to “choice” and its denial. You talk a great deal about “democracy” but fail to address how this situation fits with your ideas of giving choice to farmers and not imposing authoritarian agendas on people.

You say I should buy a farm and exert my choice to farm as I wish. Talk about exercising such a choice to the people in South America who Helena Paul wrote about (described in my piece). They are being driven out as agribusiness and the planting of GMOs (mainly for export) takes hold. She describes this as ecocide and genocide. Tell it to the peasant farmers who are being forced from their lands by speculators and corporations as described by reports by GRAIN and the Oakland Institute last year. These are the people who feed 80 percent of the “developing world”, without GM technology, yet are being squeezed out. Where is choice and democracy? Certain words are used cheaply by some.

The issue of choice not only concerns the options made available to people, but those which have been closed off. Owen Paterson’s claims that “primitive, inefficient” farming techniques would condemn “billions” to hunger, poverty and underdevelopment is ridiculous. He engages in hyperbole in order to denigrate credible alternatives that are forwarded by the groups he is attacking and thus trying to deny those alternatives.

Fourth, nowhere do I say that only agroecological farming should be implemented to feed the world, as you claim I do. However, there are many studies and official reports that demonstrate the efficacy of organic and agroecological approaches that are well publicised. In my article, I referred to some of these studies and reports. But rather than regurgitating references, I would say that no matter what data is presented, certain people seek to marginalise agroecological approaches and prefer to focus on external input-intensive ‘solutions’ and proprietary technologies, such as GMOs.

I find it strange that supporters of GMOs talk so much about choice when the GMO biotech industry has spent £100 million in the US to deny choice by preventing labelling of GM food.

Where is the choice for the farmer who uses non-GM crops but has his field contaminated by GMOs? Where was the choice when parts of the US wheat crop were contaminated as a result of open-field trials or when contamination took place because of Liberty Link 601? Where is the choice in West Bengal where GMOs from Bangladesh have been found?

Where is the choice for farmers when the only ones that end up on the market are company seeds, or where thousands of varieties have been reduced to a relative handful?

In my piece, Daniel Maingi and Mariam Mayet mentioned the squeezing out of alternatives as a result of the impact of Western agribusiness in Africa. Are they to be dismissed as “biased” sources too?

You say the following:

“Most objectors in this area have a political programme not a scientific one but they like to bend science to their own political point of view. Science is by its nature not politics or political propaganda or anything like it. It deals with evidence not superstition, or political or social philosophies. If you have a political programme then please stop trying to justify it by claiming it has scientific support, it does not.”

First of all, I provided valid references which referred to peer-reviewed science in the article (and have again below), but all you can say is that my “political programme” has “no scientific support”. I say to you: please stop justifying your own pro-GMO stance by smearing critics and rejecting any evidence because it does not fit your own agenda. Please do not talk about “choice” and “democracy” when your own agenda is to support powerful corporations who via the distortion of science and the capture of strategic national and international bodies deny choice.

Your view of science is either deliberately misleading or simply naïve. And for someone in your position, I find it difficult to believe it could be the latter. From acquiring funding and formulating the questions to be addressed, to conducting research, interpreting findings and peer review, politics are present in science throughout. The manufacture of scientific knowledge involves a process driven by various sociological, methodological and epistemological conflicts and compromises, both inside the laboratory and beyond. Writers in the field of the sociology of science have written much on this. I refer you to the following link, which contests your lofty view of science and scientists: [Monsanto wants to know why people doubt science](#).

The very fact you have responded to me in a certain manner discredits your view of scientists, not least because it becomes difficult to appreciate where the line between science and lobbying is in your case.

There is an authoritarian, political agenda behind the GMO project – not set by some environmental group (as you say) that you like to use as a whipping boy – but by the agribusiness concerns behind GMOs and petro-chemical industrial agriculture. Focusing on Greenpeace with its supposed agenda serves as a convenient diversion.

It is not NGOs, groups, activists, and campaigners that have failed to provide convincing arguments. And, by the way, to conflate such groups with intolerance, authoritarianism, and killings by brutal regimes or groups is ludicrous and smacks of desperation on your part. You are a scientist but are using all the cheap smears and tactics of a lobbyist!

When peer-reviewed science is provided by critics to support their claims, the onslaught by the GMO agritech industry and its mouthpieces against those who legitimately and scientifically contest the claims about the efficacy of GMOs is relentless. Just ask Arpad Pusztai, P. M. Bhargava, Judy Carman, Terje Traavik, Andrés Carrasco, Ignacio Chapela, Allison Snow, Marc Lappé, Britt Bailey, Bela Darvas, and G. E. Seralini.

These scientists have all either been threatened, smeared, or hindered in their work because their research called into question the safety and/or efficacy of GMOs or associated products.

The hypocrisy of those from the pro-GMO lobby who call for sound science to inform the debate on GMOs is glaringly obvious. Those who argue against GMOs are accused of not having science or facts on their side and of engaging in propaganda, while it is clear the pro-GMO lobby that hurls such allegations is itself guilty of all such things. This tactic goes hand in glove with a strident populist agenda whereby the pro-GMO lobby portrays itself as on the side of the people, while its opponents are “elitists” and are “stealing food from the bellies of the poor”.

If you really do value democracy as much as you say and wish to call to account those who show contempt for it, you would do better by reading Steven Druker’s new book “Altered Genes, Twisted Truth”. Instead of attacking Greenpeace and other groups, you should be more even handed (and employ just a little “scientific objectivity” in your approach) by looking at the fraudulent practices and processes in US government departments that led to the commercialisation of GMOs in that country.

As far as your point on there being a scientific consensus is concerned, it has been well established in recent months by over 300 scientists in a peer reviewed journal that there is no consensus. Furthermore, you bring the issue of climate change into the debate. If I am to accept your claim that there is overwhelming consensus on climate change then I certainly reject your assertion that the same applies to the GMO issue.

What you claim to be “biased” sources have demonstrated that the claims made on the back of many studies on GMOs are not supported by the evidence and that in many instances certain findings are marginalised as not being significant when they actually are (I supply these two links which provide reference to support my claims, the first of which you have already dismissed as being from a biased source, without addressing the issues raised therein: [An evidence-based examination of the claims made for the safety and efficacy of GM crops and food](#) and [Adverse impacts of transgenic crops/food: a compilation of scientific references with abstracts](#)).

Moreover, climate change is fundamentally different to the GMO issue. Climate change may or may not be anthropogenic, but scientists are deliberately genetically engineering food and adopting a wait and see attitude towards the impact. Wouldn’t it be better to prove safety beforehand?

But let’s get one thing clear, as Druker shows, GMOs were placed on the commercial market

due to political arm twisting and official bodies in the US ignoring science that pointed out the dangers of this technology. The decision to commercialise GMOs was not based on scientific evidence; in fact, it ignored such evidence. Yet you are still placing the onus on scientists to prove that GMOs are safe – and when they show they are not, they are attacked. It seems science is only called on when it suits.

Releasing GMOs onto the commercial market is not like boarding a plane, as you suggest. The genetic engineering of food affects every member of the population. It presents a widespread, systemic risk to the human population. Most planes are safe and have been tested. Moreover, we have a choice to board a plane. We have no other choice than to eat (unlabelled) food. GMO food has not been proven safe.

The GMO biotech industry carries out inadequate, short-term studies and conceals the data produced by its research under the guise of “commercial confidentiality”, while independent research highlights the very serious dangers of its products. It has in the past also engaged in fakery in India, bribery in Indonesia, smears and intimidates those who challenge its interests and distorts and censors science by restricting independent research. If science is held in such high regard by the GMO agritech sector, why engage in such practices and why in the US did policy makers release GM food onto the commercial market without proper long-term tests?

Despite its claims to the contrary, the sector cannot win the scientific debate, so it resorts to co-opting key public bodies or individuals to propagate various falsehoods and deceptions. Part of the deception is based on emotional blackmail: the world needs GMOs to feed the hungry, both now and in the future. This myth has been blown apart. In fact, the organisation GRAIN highlights that GMOs have thus far have actually contributed to food insecurity!

You say:

“If agroecological approaches can currently match yield that can be attained by using modern farming methods then by all means use it.”

Why doesn't Paterson adopt this attitude? He denigrates such alternatives, and you deem it necessary to jump to his defence by responding this way.

“But if not and my understanding is that currently it cannot, then they should not be the farming method of recommended choice at present.”

Perhaps you need to do some more reading and consult a few more UN and scientific reports.

You say that:

“No-one with any concern for humanity or the welfare of its population should currently consider any other alternative. The groups that campaign for this kind or that kind of farming method and destroy crops to try and bounce others into their point of view have lost that fundamental concern for their own species.”

Why do you persist in attacking those who clearly do have compassion? Environmental groups have not engaged in decades of massive criminality, in decades of cover ups and serious environmental pollution. You would do better by focussing on one particular leading company whose record clearly shows that it has no regard whatsoever for humanity, yet which claims it wants to 'feed the world' with altruistic intent.

If you really do believe in dispassionate, objective discourse, then adopt an even-handed approach. You talk so much about democracy and choice yet there is no mention whatsoever of the crimes, cover ups, and decades of environmental pollution that a certain company that forms part of the pro-GMO lobby has been involved in.

You talk about choice and democracy but say nothing about how big agribusiness has at international and national levels captured policy making bodies to effectively impose 'choice' on US consumers and poorer nations and devastate local economies. Where is your condemnation? Where is your condemnation of "big list" studies and fallacious claims made by the likes of Jon Entine about safety and efficacy on the back of them? Or are your condemnations, attacks, misrepresentations and ridiculous assertions reserved for those who flag up such things?

While powerful corporations have instant access to policy makers who work closely together, ordinary people and groups have to resort to Freedom of Information legislation to ascertain what happens behind closed doors. They have to rely on whistleblowers or leaked documents or must go through the courts to gain access to studies that formed the basis of regulatory bodies' approvals for commercial agribusiness products. And you talk to me about democracy and of how I or some campaign group have scant regard for it?

Your response is full of warm sounding notions about democracy and choice and some high-minded words about science and scientists (of course, only the science that fits your paradigm). Rhetoric, platitudes and clichés do not constitute a considered response. Projecting the pro-GMO lobby's deficiencies onto its critics is not valid. It's disappointing from a scientist.

You indulge in cheap, fallacious attacks on critics, which is symptomatic of a very transparent and predictable propaganda campaign aimed at critics.

In finishing, I would like to make clear that I do not belong to any environmental or campaign group. I received no payment for the article you responded to. This is why I refer to myself as an 'independent' (not freelance) writer.

I wonder how many scientists can claim such a level of independence from for-profit corporate entities.

With kind regards,
Colin Todhunter

Open letter from Professor Trewavas

Dear Mr Todhunter

I read your article against GM crops (So You Want to Help Africa Mr Paterson? Then Stop

Promoting Ideology and Falsehoods to Push GMOs; <http://rinf.com/alt-news/editorials/want-help-africa-mr-paterson-stop-promoting-ideology-falsehoods-push-gmos/>) but I searched in vain for one small word, 'choice'. It seems never to enter the commentaries of Greenpeace, Friends of the Earth or WWF or the other odd environmentalist/activist groupings that appear now and again. Your claim is that Africa can do very well just on agroecology. Well, put your money where your mouth is. Buy a farm in Africa and farm it in the way that you want. But allow others to farm as they wish and if they wish to use GM crops that is their right to do so just as it yours, not to. According to you any African farmer using GM crops will be a disaster so in that case they will stop using them. If it's not a disaster, which I suspect is what you fear most, then they will reap the benefit and perhaps persuade you in due course to farm like them. Do you want to impose your opinions on others without allowing them to make their own minds up and choose how they wish to farm?

It is an unfortunate situation that in our present world many environmentalist groups have become typically authoritarian in attitude. Greenpeace notably decides its opinions must prevail regardless of others, so it arrogates to itself the right to tear up and destroy things it doesn't like. That is absolutely typical of people who are unable to convince others by debate and discussion and in the last century such attitudes, amplified obviously, ended up killing people that others did not like. But the same personality type the authoritarian, 'do as I tell you', was at the root of it all. Such groups therefore sit uneasily with countries that are democracies. It would be nice if you could say you are a democrat and believe that argument is better than destruction but argument that deals with all the facts and does not select out of those to construct a misleading programme. Misleading selection of limited information is causing considerable problems in various parts of the world that leads some into very violent behaviour, particularly in religious belief. I am sure you agree that this is not a good way forward.

There is a consensus amongst scientists, at least those that have made themselves aware of all reasonable scientific facts, that GM is both safe for consumption and with appropriate regulations for the environment too. Do you agree with that consensus or not? There is another scientific consensus over climate change that is impelling governments to take action. The consensus over GM food safety is stronger amongst scientists than that over climate change, according to a current survey. I assume you accept the one over climate change, most do. But science and scientific fact is not a pick and mix situation, if you accept a scientific consensus on one then you have to accept it for the other. I am sure you will be aware that there are minorities of scientists, different in both cases, that object to both. But I have found that those that do object to the consensus on GM crops always fail to provide an acceptable balance of information in their objections. They select out only the very limited data they consider supports their view and neglect everything else that does not. That is not science that can be used to construct policy. It's like claiming flying is unsafe because several planes a year crash whilst ignoring the hundreds of thousands every day that haven't. If you want unbiased information on GM crops go to the many university personnel who can provide it for you. But please do not quote the so obviously-biased publication which you have, as though it were scientific fact.

Most objectors in this area have a political programme not a scientific one but they like to bend science to their own political point of view. Science is by its nature not politics or political propaganda or anything like it. It deals with evidence not superstition, or political or social philosophies. If you have a political programme then please stop trying to justify it by

claiming it has scientific support; it does not.

All human activities have costs and benefits, that will include agroecological approaches that you apparently favour, but at the start both costs and benefits have to be drawn up to see what is appropriate to the particular circumstance. Given the rapidly increasing African population I would say that currently yield is crucial but that can change just as farming methods are changing in Europe towards increasing environmental concerns. Farming methods that do both such as no-till or integrated farm management currently offer the best compromise. Malawi, I understand, subsidizes minerals for crop growth and has turned the country from a food importer into a food exporter. That seems an excellent approach at present to solve a pressing problem.

If agroecological approaches can currently match yield that can be attained by using modern farming methods then by all means use it. But if not and my understanding is that currently it cannot, then they should not be the farming method of recommended choice at present.

When Africa has got its population increases under control and producing sufficient to feed everybody then alternatives like agroecology may come to the fore. No-one with any concern for humanity or the welfare of its population should currently consider any other alternative. The groups that campaign for this kind or that kind of farming method and destroy crops to try and bounce others into their point of view have lost that fundamental concern for their own species.

I am not dogmatic about the methods that farmers use since I consider that decision is the province of individual farmers themselves. Whatever their choice is their right in the framework of their country but they must be allowed to make that decision in full knowledge of all the scientific information and advice, not the tiny amount available to support alternative points of view. That is the nature of every democracy that I hope all will finally live under.

Good science is not set in stone or concrete, the current view on GM crops is simply based on the wealth of the factual and reproducible evidence that all good scientists recognise. But if the evidence indicates change then scientists change with it. Why not join those whose job it is to provide farmers and the populace with unbiased evidence constructed by independent university personnel? You have nothing to lose but the constraints of closed thinking and everything to gain that comes from reasoned and open scientific debate.

With my best wishes
Professor Tony Trewavas FRS
University of Edinburgh

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