

Submission to the EFRA Committee Inquiry on Food Security

10 December 2013



1. GM Freeze is submitting the following to the discussion on “The potential value and contribution of science and GM technology to UK food security”.

Summary

2. GM Freeze believes that the bias in UK policy towards GM technology is actually dangerous to UK food security because it is leading the UK to neglect the fundamental issues that underpin robust food security including:

- Protecting agricultural biodiversity and farmer varieties and investing in this much neglected area.
- Working with farmers to encourage and support them to continue to use a diversity of crops and farm animals.
- Fresh thinking on how to feed people without causing major damage to the planet.
- Protecting the health of soils, water supplies and ecosystem functions.

3. Emphasising knowledge-based systems, the application of appropriate technologies and the enforcement of strong regulations are the answer to these weaknesses.

GM Freeze

4. GM Freeze is a not-for-profit company limited by guarantee originally established as the Five Year Freeze in 1999 to achieve and maintain a national moratorium on:

- Growing genetically modified plants and the production (for any purpose) of genetically modified farm animals.
- Importing genetically modified foods, plants, farm crops and farm animals and foods/feeds from genetically modified plants and animals.
- Patenting genetic resources for food and farm crops.

5. The alliance of organisations that forms GM Freeze seeks to give expression to the public's deep concern about the pressure to introduce genetic modification in food and farming. The aim is to inform the public, media and politicians accurately about GM organisms, especially crops, their impacts and to encourage public participation in making decisions about them.

6. The GM Freeze has produced many briefings and reports on issues connected with GM, for example most recently:

- [GM Nitrogen Fixing Cereals: No silver bullet](#), October 2012
- [Monarch Butterflies: If GM Bt doesn't get them, Roundup will](#), 25 June 2013
- [Old Fashioned Greenwash: Sainsbury's and GM animal feed](#), 6 July 2013

7. It has also responded to [many consultations](#) in the US and EU, and has produced [many news releases](#) on a wide variety of subjects.

The failure of GM technology to contribute to food security

8. GM Freeze has particularly highlighted the failure of GM research to produce viable answers or useful products after many years of promising them. We note, however, that we and many other progressive organisations around the world have moved beyond the limitations of the “food security” concept and instead work with a food sovereignty model. We urge the EFRA committee to do the same.

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9. The endless promises of the GM industry have helped to draw the UK down the path of GM technologies and have at the same time led the UK to neglect the many alternatives to GM, such as strategies to deal with pests through border planting to attract predators, intercropping and working with farmers to conventionally breed or recover old varieties of seed that is drought and salt tolerant.

10. Furthermore current GM crops are now beginning to fail, with the emergence of serious problems including resistant weeds and insects and massively increased use of pesticides. GM crops reveal a clear pattern: initially they seem to save work and reduce applications of toxins, but this does not last. GM crops lead to worse problems than the ones they claim to alleviate, whereas many of the alternatives are already tried and tested over many years.

11. Finally, and perhaps most importantly, emerging scientific evidence shows that European GM-free farming performs better than GM farming in United States.¹

12. GM Freeze therefore does not believe that GM can or will contribute positively to UK food security. We note that the President of the European Natural Soyfood Manufacturers Association recently called for better consumer information on GM foods, potentially using GM-free labels across the food industry, saying, “Current EU policy does not sufficiently support the cultivation of GMO-free soy products, despite a clear demand for GMO-free food by the consumer.” This move acknowledges the considerable public resistance to GM food, which is a clear barrier to GM playing any meaningful role in UK food security.²

EFRA appears to conflate science with GM

13. The GM issue as stated by this EFRA consultation itself appears to conflate science with GM technology. GM Freeze believes that this is problematic. There are plenty of essential areas for the application of science for UK food security that do not involve GM. These include:

- Long neglected work on rebuilding UK soils which are heavily degraded.
- Dealing with pests by using well-tried methods of attracting predators and understanding these mechanisms in more detail.
- Better understanding and urgently restoring ecosystem functions.
- Marker assisted breeding and other emerging high tech plant breeding options.

14. We have suffered for years from declining nutrient levels in our soils and our food. UK food security needs to be built up from the base of healthy soils, through healthy seeds, plants and animals in order to help ensure a healthy population. However it appears that the UK Government does not believe that agroecological approaches to food security are worth pursuing, and we wonder if this is because they are less likely to attract patents and are therefore less interesting to business.

“Potential” value of GM technology to UK food security

15. We have been told since the 1990s that GM technology was the future for agriculture. We are constantly promised new GM crops for drought resistance and salt tolerance. However these are still promises unfulfilled, and this does not surprise us because drought resistance and salt tolerance are complex issues involving multiple genes whose functions and interactions we do not yet fully understand.

16. We believe these unfulfilled promises for future GM “solutions” are used to draw research down the costly, risky path of GM, so neglect other approaches that are far more likely to yield results.

The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)

17. Fifty-seven governments approved the summaries of the IAASTD report in a final plenary in Johannesburg on 12 April 2008, with the UK approving them two months later on 9 June 2008. We are glad to note that DFID contributed over £500,000 to the Assessment. Immediately before the Plenary, DFID and DEFRA issued a joint press statement which endorsed the IAASTD

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process:

“The IAASTD is a unique assessment involving governments, civil society and academics. The IAASTD reports are a very valuable and important contribution to the debate and understanding on agricultural knowledge, science and technology and its potential to reduce poverty and hunger around the world.”

18. However the UK Government has since neglected the recommendations of this landmark report, which states:

“The purpose of IAASTD is to assess agricultural knowledge, science and technology (AKST) in order to use AKST more effectively to reduce hunger and poverty, improve rural livelihoods, and facilitate equitable, environmentally, socially and economically sustainable development.”

19. The IAASTD Global Synthesis for decision makers sets out 22 key findings, which we recommend highly to the EFRA Committee as a sound basis for deliberations. Important here is that IAASTD did not endorse GM crops as a solution to food insecurity:

“The application of modern biotechnology outside containment, such as the use of genetically modified (GM) crops is much more contentious. For example data based on some years and some GM crops indicate highly variable 10-33% yield gains in some places and yield declines in others.”

These are not the only problems emerging from GM cultivation.

Existing problems with GM crops

20. In addition to the yield variability noted in the IAASTD report, we now see growing problems with current GM crops. Commercialised GM crops basically consist of herbicide tolerant (HT) crops in Argentina, Brazil, Paraguay, Uruguay and the US and insecticide expressing crops such as GM cotton planted in India, China and parts of Africa.

21. Instead of reducing levels of herbicide applied as promised, chemical usage is increasing in GM HT crops, and more recently even with the insecticide expressing crops.³ The industry response is to offer new GM crops that are “stacked” with genes supposedly conferring tolerance to multiple herbicides or expressing different versions of insecticidal Bt genes. This is a pesticide treadmill that should be avoided at all costs.

22. There are also well-documented negative social and environmental impacts of GM cultivation, which include impacts on the health of local populations in countries where local people are exposed to spraying (eg, in Argentina, Brazil and Paraguay⁴).

23. Now we are being promised GM crops with increased nutritional elements, the most famous of which is “golden” rice. Here again a little investigation reveals that there are many sound alternatives to the use of genetic modification to produce crops with increased levels of nutrients, many of which could contribute significantly to local food sovereignty.

24. We therefore do not believe that GM technology has anything to contribute to UK food security. We are weary of the constant claims made for GM technology, and would request that those making them are challenged to justify them. For example Secretary of State Owen Paterson said on 20 June 2013:

“Used properly the advanced plant-breeding technique of GM promises effective ways to protect or increase crop yields. It can also combat the damaging effects of unpredictable weather and disease on crops. It has the potential to reduce fertiliser and chemical use, improve the efficiency of agricultural production and reduce post-harvest losses.”

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25. GM Freeze asks where the evidence is that GM increases yields. No GM crop has been bred for that purpose. Instead GM Freeze notes:

- Some GM crops may reduce losses to weed competition and insect attack at first for differing periods of time.
- Application of herbicides and insecticides may be reduced for a short period before increasing to higher levels than before when pest and weed resistance emerges.
- It has been established since 2001 that in fact GM crops suffer a significant yield drag.⁵

The rest of this consultation response

26. Below we set out some of our previous work that relates to this consultation. We begin with the UK Agri-tech Strategy, which demonstrates the same techno-fix bias towards GM crops and foods that we note above. We then discuss the Red Tape Challenge and finish with issues around animal feed.

The Government's Agri-tech strategy

27. GM Freeze was clear that in our view the success of any UK Agri-tech Strategy depends on how it meets the real needs of people and the environment, rather than how well it just serves industry.

28. Modern intensive farming systems have failed to produce a balanced diet for everyone but have polluted our air and water, degraded soils and produced huge losses of biodiversity. The strategy needs to improve on this and come up with the best, most sustainable approaches drawing on knowledge-based systems, the application of appropriate technologies and the socio-economic and political reforms needed to get food to hungry people without excessive wastage or food miles.

29. GM crops fail to meet these basic requirements because their existence is based on an attempt to patent and control seeds. This meets the “need” of companies to achieve repeat seed sales, but it does not further the cause of sustainable food production – as is shown by the rapid rise in weeds resistant to the chemicals used on GM crops and the subsequent rise in herbicide use and damage to species like the Monarch butterfly.⁶

30. In our response to the BIS consultation “Shaping a UK Agri-tech Strategy”⁷ GM Freeze recommended re-issuing the Agri-tech consultation because:

- The consultation was based on the wrong approach to agricultural development both in the UK and in the Global South.
- The full range of knowledge-based agroecological solutions should be considered as the consultation makes it clear that restoration of agroecosystems to full health and function is a principle of objective of the strategy. There should to be special emphasis on the need to restore the soil to its full multi functionality.

31. We fear that this consultation may be flawed in the same way, as the questions and topics do not address what we consider to be the fundamental issues around food security in the UK. These relate, for example, to:

- Rebuilding soils.
- Securing access to land for food producers (especially younger ones).
- Access to seeds and the right to save, breed and exchange them.
- The right kind of government support frameworks to encourage these developments.

32. We are confining ourselves here to addressing the issue of GM, and will leave it to others to elaborate on these other vital issues.

Cabinet Office “Red Tape Challenge”

33. GM Freeze responded to the Cabinet Office consultation on its “Red Tape Challenge”, focusing

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on GMOs.⁸ We emphasized that regulation is *not* red tape, and that defining it as such must not be used as a pretext to water down essential regulation. Regulation, with associated “red tape”, plays a key role in protecting health, the environment and making society fairer. It could also be argued that the state of the economy is, in part, due to the underregulation and the unregulated behaviour of companies and individuals within the financial sector.

The Red Tape Challenge ignores the crucial role regulation plays in protecting the health and welfare of future generations and the planet. Lack of regulation causes huge problems for future generations (and other species) who derived no benefit from the past use of poorly regulated technology, products or practices (eg, the impacts halocarbons on the ozone layer, the role of asbestos in lung disease, the BSE crisis and long-term ecological damage due to commercial activity such as the decline of fish stocks).

34. GM Freeze believes “red tape” is an unhelpful term, which is poorly defined and can mean different things to different audiences. What are required are procedures to enforce regulations correctly, effectively and efficiently in order to achieve their objectives.

35. GM Freeze is concerned that the attempt to conflate regulation with red tape will be used to confuse the public and facilitate bad practice. Fundamental to this is the precautionary principle, which applies to all EU environmental legislation. Failure to apply the Precautionary Principle can transfer the burden of the risk of a new technology, technique or product from the developer/permit holder to the citizens and environment. The potential harm caused by authorising a harmful product or technology could result in costs that far outweigh any economic benefits derived from the product or technique. In such situations the costs would be borne by people affected, the environment and taxpayers (eg, the National Health Service treating illness caused by the technology or the loss or severe reductions in populations of affected species). Gaps in data and scientific uncertainty should trigger the use of the Precautionary Principle, and no approval should be made until these deficiencies have been satisfactorily resolved. The use of Post Market Monitoring conducted by consent holders should not be used as a way to avoid thorough risk assessment before approval is made.

36. Finally it is clear that attempts to denigrate regulation as red tape serves the interests of the companies that have been trying to introduce GM crops to the EU for many years but have found their progress blocked. Now we see that these crops are failing where they have been grown. This is all the more reason not to adopt them, but rather to be thankful for the clear demonstration that these are short-term “solutions” with negative long-term impacts.

No evidence that public consultations have ever influenced policy in this area

37. GM Freeze noted in its response to the Agri-tech strategy consultation, as we believe it still holds, that:

- Evidence that public consultations have ever influenced policy in industry, food or farming is lacking.
- The public funds a great deal of agricultural R&D in the UK (£400 million), as well as supporting industrial policy, and so has every right to an explanation as to how its views will be taken into account.
- The Agri-tech Strategy lacks any mechanism for public or consumer engagement or accountability.

GM animal feed

38. In July 2013, GM Freeze issued a briefing⁹ and a series of news releases¹⁰ regretting the fact that Sainsbury's, Tesco, Marks and Spencer and other UK supermarkets all broke promises regarding GM-free animal feed. For example Sainsbury's moved from a clear position in 1999 against using GM animal feed to saying that it could no longer guarantee access to supplies of non GM feed.

39. GM Freeze believes that if the major supermarkets made long-term commitments to obtain

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non-GM supplies they would be able to guarantee such access because plenty of non-GM soya is being produced (eg, in Brazil and India) or can be produced if farmers have the security of forward contracts for non-GM crops. The UK, and the EU more widely, is already far too dependent on imported GM feed and must take steps now to secure non-GM supplies as an interim measure while developing alternative breeds and feeds for the longer term.

Conclusion

40. GM Freeze believes that the bias in UK policy towards GM technology is actually dangerous to UK food security because it is leading the UK to neglect the fundamental issues related to food security including:

- Protecting agricultural biodiversity and farmer varieties and investing in this much neglected area.
- Working with farmers to encourage and support them to continue to use a diversity of crops and farm animals.
- Fresh thinking on how to feed people without causing major damage to the planet.
- Protecting the health of soils, water supplies and ecosystem functions.

41. Emphasising knowledge-based systems, the application of appropriate technologies and the enforcement of strong regulations are the answer to these weaknesses.

Notes

¹ Heinemann et al, 14 June 2013. "[Sustainability and innovation in staple crop production in the US Midwest](#)" *International Journal of Agricultural Sustainability*

² EurActive, 6 December 2013. "[Soyfood chief calls for harmonized GM food labels](#)"

³ Benbrook, CM, 28 September 2012. "[Impacts of genetically engineered crops on pesticide use in the US – The first sixteen years.](#)" Centre for Sustaining Agriculture and Natural Resources

⁴ *Aurora Advocate*, 18 October 2013. "[Argentines link health problems to agrochemicals](#)"

and

[Declaration of Caroya](#). 30 September 2008

and

Faculty of Medical Sciences, National University of Cordoba, 27-28 August 2010. [Report from the 1st national Meeting of Physicians in the Crop-sprayed Towns](#)

and

National Catholic Reporter, 29 July 2013. "[Cardinal Turkson, Say 'No' to GMOs](#)"

and

Instituto Humanitas Unisinos, 3 June 2013. "[A transgenia está mudando para pior a realidade agrícola brasileira](#)". [Entrevista especial com Leonardo Melgarejo](#)"

and

El Grupo de Reflexión Rural, March 2006. "[Un Nuevo Informe Sera Presentado en la Cumbre de Biodiversidad: Violaciones a los derechos hermanos y al medio ambiente relacionados con la expansion de la soya GM en Paraguay](#)"

and

El Grupo de Reflexión Rural, undated. "[Paraguay – fotos](#)"

and

BBC, 6 June 2005. "[Soybean fever transforms Paraguay](#)"

and

The Argentina Independent, 25 July 2012. "[Terra-I: Mapping Latin America's Disappearing Forests](#)"

⁵ GM Freeze, 30 June 2008. [Feeding the World with GM Crops: Myth or reality?](#)

⁶ Pleasants JM, Oberhauser KS (2013) Milkweed loss in agricultural fields because of herbicide use: effect on the monarch butterfly population. *Insect Conservation and Diversity* 6(2):135–144

and

Hilbeck A, Schmidt J, 2006. "Another view on Bt-proteins - how specific are they and what else might they do?" *Biopesticides Int.* 2:1–50

and

Lang A, Otto M, 2010. "A synthesis of laboratory and field studies on the effects of transgenic *Bacillus*

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thuringiensis (Bt) maize on non-target Lepidoptera.” *Entomologia Experimentalis et Applicata* 135(2):121–134

⁷ GM Freeze, 6 November 2012. [BIS consult on “Shaping a UK Agri-tech strategy”](#)

⁸ GM Freeze, 3 September 2013. [Cabinet Office: Red Tape Challenge](#)

⁹ GM Freeze, 8 July 2013. [Old Fashioned Greenwash: Sainsbury’s and GM animal feed](#)

¹⁰ GM Freeze, 27 June 2013. [Tesco Broken Promise on GM: Customers and shareholders let down](#)”

and
GM Freeze, 5 July 2013. [Breach of Faith: Marks & Spencer GM feed undermines Plan A reputation](#)”

and
GM Freeze, 8 July 2013. [Sainsbury’s GM Betrayal: Dodging the ‘difficult question’, breaking promises](#)”

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