

This response was submitted to the consultation held by the Nuffield Council on Bioethics on Emerging biotechnologies between April 2011 and June 2011. The views expressed are solely those of the respondent(s) and not those of the Council.

Responses to Questions

by

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Question 1.

My teaching, research, and lecturing are related to agricultural biotechnology. My responses to the consultation questions are all in the context of agricultural biotechnology.

I am confident that biotechnology, particularly agricultural biotechnology, is considered an “emerging technology” and thus fits within the consultation. However, I add that it strikes me as rather odd or strange to continue to classify agricultural biotechnology as an “emerging technology” when the technology came into existence in experimental laboratory work in the 1970s, into commercial laboratory work in the 1980s, into product commercialization in the 1990s, and into the fields of millions of farmers upon hundreds of millions of hectares of agricultural lands since the mid-1990s. Agricultural biotechnology has been used safely, effectively, and beneficially for almost 40 years. Agricultural biotechnology ought to be recognized for what it truly is – a successful, ordinary, accepted technology; we ought move away from the inaccurate and (maybe) frightening adjective “emerging.”

Farmers have adopted agricultural biotechnology more rapidly than any other technology ever presented to the farming community. Farmers know their interests and their fields and they do not consider agricultural biotechnology to be “emerging.” Farmers clamour for access to agricultural biotechnology because farmers consider agricultural biotechnology important, even essential, to their agronomic, economic, social, and environmental well-being.

Question 4.

A very good example of a social, cultural and geographical factor affecting agricultural biotechnology has been the European use of the precautionary principle to agricultural biotechnology. Leaving aside the “philosophical” or “jurisprudential” arguments, as articulated in books and articles by Cass Sunstein (a special advisor to President Barack Obama of the United States), of the incoherence and inconsistency of the precautionary principle, Europe has used the precautionary principle to impede and delay and stigmatize agricultural biotechnology.

As a practical matter, Europe has abandoned agricultural biotechnology not only in its fields but in its laboratories and research programs for agriculture. Any principle that leads to the abandonment of an entire field of scientific endeavour ought to be questioned and challenged carefully. Yes, I agree that just because something can be done in science does not mean that it should be done by individuals or societies. The “is” does not ethically or morally control the “ought.” But the Pontifical Academy of Science has gotten the ethics and morality correct when the PAS has twice issued Proceedings from Study Weeks on agricultural biotechnology in which the Study Week participants concluded that the use of

agricultural biotechnology is a moral imperative for the improvement of human life, health, and nutrition while protecting the global environment.

Question 5.

A very good example of a social, cultural and geographic factor affecting public acceptance of agricultural biotechnology is the inordinate and negative influence of public campaigns by anti-biotechnology groups, especially in Europe but actually in every country of the world – e.g., Greenpeace, Friends of the Earth, Sierra Club, and the various GM-Free organizations.

These organizations have been successful in manipulating public opinion with false and misleading information and “scare” campaigns. These organizations have been successful for many reasons but I will mention what I identify as particularly important.

1. Politicians who are afraid to challenge the false and misleading information of these organizations. Politicians who have allowed these groups to hijack the public debate, apparently because doing so allows the politician to maintain their individual political power and influence.
2. Governments that have misused government funds by giving large grants to these organizations so that these organizations, at taxpayer expense, can continue to manipulate the public and to lobby the government itself.
3. Refusal by police and governmental agencies to uphold the rule of law when acts of vandalism have been perpetrated time and again against scientists, companies, and farmers who are using agricultural biotechnology in their laboratories, field tests, and farms.
4. Sloppy, lazy, and ideologically-based reporting by media outlets and their science journalists.

One of the significant ethical and moral issues that has not been adequately discussed in this on-going controversy about agricultural biotechnology is how relatively small groups have been allowed to spew false and misleading propaganda so successfully into the public policy debate.

Question 11.

Obviously there are many ethical principles that should be taken into account when considering emerging biotechnologies. I want to highlight one ethical principle that has been consistently under-appreciated or ignored in the discussion of agricultural biotechnology.

The ethical principle to which I refer is the principle of “lost opportunities.” This principle can be thought of primarily in economic terms – i.e, lost opportunity costs. But I think “lost opportunities” has a broader dimension – an ethical dimension.

Due to the on-going, never-ending debate about agricultural biotechnology, we (the human community) have lost opportunities to improve the lives and well-being of millions of our fellow human beings, both in developed and developing countries. I consider these lost opportunities to be particularly egregious for the poorest of our fellow human beings in developing nations.

I could give many examples, but I will only give two examples of lost opportunities.

Golden Rice should long ago have been offered to subsistence farmers to improve their nutrition and to prevent death and blindness. Ideological opposition by anti-biotechnology groups coupled with discriminatory and unscientific regulatory systems have prevented the adoption of Golden Rice.

Transgenic rice for the cheap production of an effective anti-diarrhea medicine has similarly been impeded and demonized. Children who could be easily rehydrated and brought anew to health have died because of this opposition and regulatory complexity.

By refusing to pay attention to lost opportunities, we have created a “Kafkaesque” world of bizarre and indefensible barriers to the implementation of foods and medicines that would most help the poorest among us. Even in developed countries, our own self-interest for improved medicines and foods to deal with obesity and rising health care costs has been impeded and demonized whenever agricultural biotechnology has offered a plausible, sensible solution.

With respect to developed nations, I find particularly interesting the recent report from Sweden entitled “Study on the Impacts of EU Policies towards Biotechnology,” a research project headed by Torbjörn Fagerström.

Question 13.

What roles have ‘risk’ and ‘precaution’ played in policy decision concerning agricultural biotechnology? The answer to this question is simple – these two concepts have played extremely negative and unjustifiable roles in policy decisions concerning agricultural biotechnology.

I am thinking particularly of the Cartagena Protocol on Biosafety that uses the term “risk” approximately 67 times in its text to the term “benefit” that is used twice. Both uses of the term “benefit” are in the preamble as “potential benefits.” While the Cartagena Protocol was egregious in its attitude towards agricultural biotechnology, maybe even worse was the UN-GEF implementation of the Cartagena Protocol whereby developing nations were enticed by large grants to draft biosafety laws that adopted the most restrictive and prohibitory interpretations of the Cartagena Protocol possible.

There are ways to interpret the Cartagena Protocol so as to allow breathing-room for agricultural biotechnology to expand and to prove its benefits for developing nations, particularly resource-poor and subsistence farmers. It is time for the international community to refocus the Cartagena Protocol as an enabling document for agricultural biotechnology and to bring to an end the use of the Cartagena Protocol as an impediment to agricultural biotechnology.

Forty years of experience with agricultural biotechnology has proven agricultural biotechnology to be safe, beneficial, effective. The international community should not longer ignore the evidence of forty years and should no longer allow nay-sayers to shout down science, sensible public policy, and the desires of farmers around the world. Farmers are asking for access to a technology that the farmers know will improve their lives and the

lives of the families and communities for whom they produce food, fiber, fuel, medicines, and environmental services.

Bioethics, properly understood and articulated, should respond to the farmers' request for access to agricultural biotechnology with an affirmation of their desires. Bioethics, properly understood and articulated, should encourage and demand public policies that promote agricultural biotechnology – for this generation and the generations to come.