

The response reproduced below was submitted further to an invitation to comment on the draft Discussion Paper by the Nuffield Council on Bioethics: *The use of genetically modified crops in developing countries*, during June to August 2003. The views expressed are solely those of the respondent(s) and not those of the Council.

GeneWatch UK

GeneWatch UK is a not-for-profit public interest group that aims to ensure that genetic technologies are developed and used in the public interest and in a way which promotes human health, protects the environment and respects human rights and the interests of animals. Ensuring public involvement in the decisions that are made about if or how genetic technologies are used is also an important goal for GeneWatch.

GeneWatch welcomes the opportunity to comment on the Nuffield Council's draft paper on '*The use of genetically modified crops in developing countries*'. Our comments are divided into two sections. The first contains general observations on the report and the second specific comments on the text.

General comments

GeneWatch UK was pleased to see that the first recommendation of the report was the need to undertake comparative evaluations of GM crops in the light of alternatives (p ix). Whilst we do not agree that this should be restricted to a crop specific level, the principle of comparative assessment with alternatives is an important one and we welcome that.

However, and this forms our major criticism, the rest of the report fails to work according to this recommendation. If the Nuffield Council had taken such an approach it would have represented a considerable step forward in the debate. It would have required systematic comparisons of options across a set of identified criteria, and ideally would have involved different constituencies – particularly from developing countries (whose voices are noticeably absent from the document). There are methods, such as multicriteria mapping¹, available for comparative evaluations which could have been utilised. These methods could have included criteria such as opportunity costs, feasibility, impacts on labour and other issues identified in the draft report as relevant but not systematically and transparently explored in the report.

It is disappointing, therefore, that having made such commitment to an assessment of alternatives, that the draft falls back on conventional risk assessment techniques which simply cannot deal either with alternatives or the breadth of criteria that are needed. Maybe this is because, as revealed in paragraph 164, the Council appears to have no real respect for the knowledge local communities could bring to establishing the appropriate criteria for assessments and is quick to find an excuse for excluding them. Centralised risk assessments alone, as espoused in the draft, are ideal tools for maintaining the exclusion of poor people from decision making and cementing established power relations. So rather than challenging exploitation as the draft tries to claim, exactly the opposite effect will be obtained with influence remaining with elites. As a result, the report takes a stance which is profoundly anti-democratic and will result in assessments which are poorly informed by those well equipped to comment on the problems faced – poor farmers. It perfectly possible to bring communities into decision making systems and utilise other scientific and technical expertise at some level. This

¹ Stirling, A. & Mayer, S. (2000) Precautionary risk appraisal of a genetically modified crop. *International Journal of Occupational Health and Environmental Medicine* 6(4): 296-311. Stirling, A & Mayer, S. (2001) Multi-criteria mapping the genetically modified crop debate: A pilot study of a genetically modified crop in the UK. *Environment and Planning C: Environment and Planning C* 19: 529-555. Mayer, S. & Stirling, A. (2002) Finding a precautionary approach to technological developments – lessons for the evaluation of GM crops. *Journal of Agricultural and Environmental Ethics*. *Journal of Agricultural and Environmental Ethics* 15 (1) 57-71.

need not be via an assessment of each and every GMO, but rather to establish the framework under which evaluations are made.

Because the Nuffield Council has not undertaken any systematic comparative evaluation, its main finding that there should be a major expansion of public GM-related research is not supported by a rational scientific assessment. Such an assessment may lead to a different conclusion about how resources should be invested.

Furthermore, because the report takes such a narrow and restricted view, its section on the impacts of European regulations is made completely out of context of either what is necessary for food security in developing countries and other issues, such as food dumping, which exert much more harmful effects.

Therefore, the report should be redrafted in a way which explores how comparative assessments might be made and who should be involved at what stage. It could take this forward in the case studies to illustrate what might emerge. The approach would be made much more authoritative if it drew in people from developing countries to establish the framework for evaluation. To do this the Council should call on those people with expertise in participatory methods suitable for developing countries.

The Nuffield Council should also pay attention to the tone of the report and the gratuitous and often unsupported aside comments about NGOs and critics littered throughout it. The impression is given that the Nuffield Council has been hijacked by pro-GM interests which reflects very poorly upon it and GeneWatch feels sure this is something it would want to correct.

Specific comments

Para 27 – the AEBC report is not an authoritative reference for the point made.

Para 35 – the statement is made that '*once transferred, transgenes behave like any other genes*'. This does not take account of issues including transgene silencing.

Para 48 – speeches are not a suitable reference for scientific data, they should only be used for referencing opinions. The original source should be given to enable readers to consider the evidence even where this may not seem contentious.

Para 49 – have the Council examined the original patents relating to GURTs and the intended uses and scope explained therein? Rather than making unreferenced comments on who said what, examining the primary material would give more substance.

Para 67 – in considering the Monarch butterfly evidence, the Council should examine the review by the National Research Council (2002) Environmental effects of transgenic plants: the scope and adequacy of regulation. National Academy Press: Washington pp 72-75 and amend the presentation of the evidence on the impacts of Bt on Monarch accordingly.

Paras 59+ - Bt cotton case study – should refer to the potential changes in spectrum of insect pests. Whilst bollworms may be controlled to varying degrees, pests which are not affected by *Bt* may increase in numbers and require control. Damage due to the green and brown stink bugs (which are not affected by *Bt*) is now increasing in the USA, with stink bug damage sometimes being three to five times higher in *Bt* than non-*Bt* cotton

fields². These pests are benefiting from the decline in bollworms and the spectrum of pests is starting to change. In South Africa, the pest spectrum has also been noticed to change since *Bt*-cotton cultivation began. For example, although not confined to *Bt*-cotton fields, the vegetable stink bug (an insect resistant to *Bt*) has reappeared after 50 years and local scientists are concerned that another *Bt* resistant group of insects, jassids, could pose a serious threat in the future³.

In Australia, scientists warn that the addition of a second *Bt* gene to address the problem of declining season levels of *Bt* and variable susceptibility in the bollworm/budworm pests, will further alter the balance of insect pests with increases in insects such as aphids⁴, green mirids and two-spotted mites which will demand more complex control measures. The increases in insecticide use on such pests is not usually included in estimates of changes in insecticide use on *Bt* cotton.

Para 84 – the original PAHO reference should be included here not a secondary source. Paras 94 –96 these do not form an adequate comparative evaluation and are too superficial to be very useful in coming to a conclusion.

Paras 106 –109 – the recommendation that other approaches should be considered is important. It would have helped in this section to map out rice eating areas on to areas where vitamin A deficiency exist to get potential area of benefit into proportion. It should be asked why, when the WHO's plan to eradicate Vitamin A deficiency by 2000 has failed, what problems golden rice addresses to help put its potential in perspective. It should also be explained how Vitamin A deficiency is only one of many micronutrient deficiencies which is a reason a mixed diet is the best option and GM solutions with one, two or three added extras will never be a proper substitute. The Council should also explain why what is likely to be considered a wholly inadequate (and unethical) response to extremely poor diet in the UK is acceptable for the developing world.

Para 114 – this is one of the many examples where the Nuffield Council seem to prefer to take a 'pop' at NGOs rather than critically and impartially examine the data. Whilst the suggestion that transferred genes were unstable when gene flow to native varieties occurred has indeed been controversial, the other finding of gene flow between GM and native varieties remains uncontested.

Paras 118 -120 this is a very impoverished examination of the precautionary principle which the Council should consider seeking expert advice upon. The people being referred to in paras 118 and 119 should be referenced. The Council may wish to consult the Science Review recently published as part of the GM debate for a more authoritative analysis.

Para 121 – comparative analysis should form an important part of a precautionary approach. It would be helpful here if the report could point to ways of undertaking this and identify the guiding principles that should be followed rather than the false and overly simplistic characterisation of, GM vs 'doing nothing'.

Para 122 – the Science Review report considers the limitations of substantial equivalence which should be referred to here.

² Bachelor, J.S. (2003) Managing insects on cotton. Chapter 11 in *2003 North Carolina Cotton Production Guide*. http://ipm.ncsu.edu/Production_Guides/Cotton/chptr11.html

³ Joubert, G.D. *et al* (2001) South African experience with Bt cotton. International Cotton Advisory Committee. Technical Seminar of the 60th Plenary Meeting, Victoria Falls, Zimbabwe, 16-21 September 2001. www.icac.org/icac/cotton_info/tis/biotech/documents/techsem/SAexperience_tis01.pdf

⁴ Limited refuge options for dryland – Gary Fitt. Cotton World 26th September 2001 <http://www.cottonworld.com.au/cworld/print.php3?type=story6&title=Cotton+Wor>

Para 169 – if a statement is to be made about ‘some NGOs’ and their failings, this should be substantiated. There are no references included which appear to support this claim. Some of the earlier paragraphs also have such references to ‘it has been reported (e.g para 167) and ‘it has been alleged’ but have no reference. These sound like gossip and have no place in such a document.

Para 169/170 – GeneWatch welcomes the recommendations

Paras 178-191 – Section 6 – whilst this is an important section, there is only one recommendation which does not get to the core of the problems identified earlier. Giving additional funds to public sector research will not be effective if access to germplasm remains restricted. The Council should go further and recommend restrictions on the scope of patentability and MTAs.