

Symposium Synopsis

Ethical Issues in the use of Genetically Modified Organisms in Food Production in South Africa

Introduction

The Unit for Environmental Ethics at the University of Stellenbosch hosted a symposium on the ethical issues of genetically modified organisms and their use in food production, on the 25th of October 2006. Representatives from academia, industry and civil society attended the symposium and identified and discussed their perspectives on aspects of import.

The symposium was chaired by Professor Johan Hattingh, Director of the Unit for Environmental Ethics, and was facilitated by Leanne Seeliger and Peter Esser, Fellows at the Unit. The participants were:

1. Professor Douglas Rawlings, Head of Department of Microbiology, University of Stellenbosch
2. Dr. William Stafford, Lecturer and Researcher at the Advanced Centre for Applied Microbiology, University of the Western Cape
3. Dr. Hennie Groenewald, Senior Lecturer, Institute for Plant Biotechnology, University of Stellenbosch
4. Bishop Geoff Davies, Head of the Southern Africa Faith Communities' Environment Institute
5. Mr. Leonard Mead, Chief Executive at Allganix (Pty) Ltd., an organic food company.
6. Dr. Johan Ferreira, Head of Food Technology, Woolworths (Pty) Ltd.

This synopsis sets out in brief terms the contents of the participants' discussions and highlights some of the debates emerging from their discussions.

Discussions

Peter Esser introduced the discussions by way of a short [Report on a Panel Discussion on Genetic Engineering](#) held at the University of the Witwatersrand, on October 18, 2006. Although a host of questions were raised during that discussion, which shed some light on the concerns regarding GMO's, the process was rendered chaotic by heated emotive responses to the views expressed by the panel of experts. This highlighted the political sensitivity of the 'GMO debate', and the test it provides for our confidence in biotechnology and our ability to deal with issues of relatedness and power.

In his [Viewpoint on Genetically Engineered Organisms](#), Professor Rawlings offers the opinion that a general debate is of little value and that sense can only be made of for-and-against arguments on a case-by-case basis. As such, there are cases of virtually zero risk associated with substantial benefit, like the genetic engineering of bacteria to produce human insulin. In other cases organisms are constructed that express selected

characteristics, such as herbicide resistance in crops or greater growth potential in animals, which carry varied degrees of uncertainty regarding impacts on environmental and human health. The point is made that organisms are not harmful simply because they are transgenic, but should be assessed based on the confidence in techniques on the one hand, and objective risk assessment regarding potential impacts on the other. However, public perception of GMO's is critical inasmuch as it affects both consumers' and investors' behaviour.

Dr. William Stafford addresses the issue of [Biosafety of Transgenic Plants Released for Human Consumption](#). In his view the ability to create transgenic organisms – crossing species barriers when transferring genes – does not pay heed to the limitations imposed by nature itself. While gene manipulation *within* particular species might be an extension of processes that happen naturally and through facilitated breeding programmes, transgenic technology represents a radical break from natural processes and begs caution. Yet, such caution is not on display when considering the activities of GMO proponents. The uniqueness of each bioregion should be taken into account when considering the introduction of GMO's. It is not. The relative costs and benefits involved in alternative methods of crop optimisation should be considered along with GMO interventions. It is not. Further, GM crops have failed to produce promised benefits, for complex reasons. There is also a lack, and suppression of independent scientific evidence of biosafety risks, whilst contamination of natural crop varieties and loss of diversity have been documented. Direct and indirect effects on environmental and human health are also not fully known. Calls from the scientific community and the public for a comprehensive enquiry into the risks associated with GMO's have been made, but remains unheeded.

In an [Opinion Paper: Ethical Issues in the Use of Genetically Modified Organisms in Food Production in South Africa](#), Dr. Hennie Groenewald identifies the key ethical issues regarding GM food as being: (i) access to and dissemination of information, (ii) potential impacts on environmental and human health and safety, (iii) consumers' right to choose whether to purchase GMO products, and (iv) accessibility to the technology and its benefits. Each of these issues gives rise to practical points of contention. From a view supportive of GMO's role in food production, these are: (i) unfair generalisation and misrepresentation regarding GE, (ii) exaggeration of risk and unrealistic expectations from GE, (iii) singling out GM food over the issue of labelling, and (iv) restrictive regulatory systems limiting access to benefits through escalation of development costs. These issues and their manifestations illustrate that GMO debates are characterised by differing practical interpretations of agreed upon ethical, that is rule-utilitarian, principles. Clear definition and honest communication should characterise the approaches of supporters and detractors alike.

Bishop Geoff Davies addressed [Ethical Issues and GMO's](#) from the perspective of the faith communities. The issue of central concern, which sets GMO technology apart from other forms of technology and the tradition of plant and animal breeding, and which places a special burden of responsibility on those promoting it, is the fact that humans are altering the basic structures of life. As such, the precautionary principle is not heeded and this is cause for deep concern. In addition, power and wealth in relation to GMO's are

concentrated in a few multinational corporations to which small scale farmers are in danger of becoming subservient and indebted. A parallel issue is the resistance of the producers of GMO's to demands for clear labelling, which might damage product confidence. At the root of these concerns is the sole economic ethic of powerful players seeking fair profits in a free market. The issue of GMO's in food production demands greater emphasis on caution, respect and responsibility toward life itself.

In his [GM Position Overview](#), Mr. Leonard Mead expresses concern regarding an apparent dearth of industry oversight, big business monopoly and a lack of scientific responsibility regarding GMO's in food production. Exaggerated claims of benefits and a downplaying of concerns over risk are accompanied by weak or non-existent evidence and exacerbated by vested financial interests. Reports of actual failures of GMO production schemes and relative strengths of other forms of agriculture are marginalized while undue influence is exercised by business over policy. Scientific endorsement of new technology of this scale is to be considered with circumspection where technological advancement is driven by direct financial incentive. The onus is on the GE industry to be more transparent and to engage consumers in a spirit of openness.

Dr. Johan Ferreira addresses the scientific community's inadequate response to consumer concerns over safety issues in his [Paper for Ethics Symposium](#). The failures of scientific opinion over the safety of tobacco and the conditions that led to 'Mad Cow disease' have led to distrust of the scientific community. GE is now hampered by this pernicious history and a disregard for public relations. The problem is amplified by distrust in multinational corporations, whom science now serves, in the aftermath of massive fraud scandals such as the ENRON and WorldCom cases. The GMO debate is therefore not about technology, but about the scientific community's failure to take care of the 'softer' needs of society.

Emerging Debates

The following points were raised during the conversations in between and after the structured discussions:

It remains unclear where the onus of responsibility for addressing concerns about GMO's lie. Government, business and civil society are all involved, but not agreed over how responsibility is to be concentrated or shared. The issue of power is raised and needs to be addressed.

Further, there is a lack of, and need for better differentiation of fact and meaning, as for example between mutogenetic and transgenic technologies. This points to the important role of language in debate and the potential abuse of discourse as an ideological power tool by supporters and detractors alike.

The credibility of science itself has become a stake in GMO debates, being accused of self-serving appropriation by economic interests. Yet, such a framework of conflict

inevitably leads to a certain kind of debate, and excludes others. Particularly, self-reflective thinking becomes suppressed. Given the role of language alluded to above, discursive analyses may be useful ways of 'opening up' debate. As such, it might become possible to rethink basic assumptions and structures *within* which our conflicts arise, for example economic systems.

Another example is that of rationality itself, and a consideration of value rationality alongside instrumental rationality as frameworks of understanding. The notion of an intrinsic value ascribed to life and living systems remains obscured within instrumental rational thinking, and can only be made sense of on value rational grounds.

Finally, much of the problems in the GMO debate would seem to hinge on *uncertainty*. Here too, a more fundamentally critical approach may overcome impasse over facts (or the lack of them) concerning risk, benefit and appropriate actions. Such a fundamental analysis may enquire into *who we are*, specifically *what we can know*, *what we could hope for*, and *what our duties might be*, irrespective of the particular case.