THE ROYAL SOCIETY

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Royal Society submission to the Government's GM Science Review

The regulatory process and environmental issues

The genetic modification of plants raises important issues for science and the public, and the Royal Society encourages debate, informed by sound science, about the potential benefits and risks of this technology. We have been offering policy-makers advice on GM plants during the development of this branch of science and we have published a number of reports during the last five years. Further details and the latest information of the Society's work can be found at http://www.royalsoc.ac.uk/gmplants/.

In 1998 and 1999 we published 'Genetically modified plants for food use' and 'GMOs and the environment', respectively. In these reports we considered the scientific evidence concerning the risk of transfer of genes from GM crop plants to wild-species and non-GM crops and the current state of the regulatory system. We recommended that the government should appoint an over-arching body to monitor biotechnology in the UK and it was envisaged that such a body would monitor inter-departmental, and inter-disciplinary issues in biotechnology. Therefore, we welcomed the setting up of the Agriculture and Environment Biotechnology Commission (AEBC). We have appreciated the opportunity to comment on the draft workplan of the AEBC and also welcome the move toward greater consultation with interested parties.

In our 1998 report we found that several points were not adequately covered by the, then current, regulatory and advisory committee system:-

- We recommended that a review of the mechanisms by which GM crop plants could be monitored in the environment should be carried out and recommendations made for long-term monitoring of impact on ecosystems. Although this review has not yet been carried out, this month the Advisory Committee on Releases to the Environment (ACRE) issued a consultation on guidance on post market monitoring (http://www.defra.gov.uk/environment/acre/postmarket/index.htm). We hope that ACRE will address our recommendation in their consultation and look forward to the outcome of this.
- We recommended a review of the available methods for minimising gene transfer to crops, where such transfer may cause concern, and the current guidelines for isolation of specific crops e.g. oilseed rape. The Advisory Committee on Releases to the Environment (ACRE) has reviewed research on gene transfer and survival studies of GM oilseed rape and issued guidelines on the basis of this review. In addition, ACRE has issued best practice guidelines to minimize gene transfer. At present, a sub-group of the AEBC is considering issues concerning the co-existence of GM and non-GM crops and we look forward to the publication of the findings of this sub-group.
- We recommended that applications for herbicide use on a crop should be considered in conjunction with applications for release of herbicide tolerant crops and there should also be a mechanism by which the long-term impact of such crops on agricultural practices could be monitored. The Government set up the Farm-Scale

Evaluations (FSEs) to study the effects on some species of wildlife of the way some weed-killers are used on herbicide resistant GM maize, oilseed rape and beet in certain environments. Given that the FSEs are the only large scale study of this kind, we hope that the Science Review Panel will have the opportunity to consider the results when they are published later this year (for further details see http://www.royalsoc.ac.uk/gmplants/intro.htm#gmfarm). More generally, there should be a mechanism for periodically reviewing national and EU regulations in the light of advancing scientific knowledge.

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References:

Genetically modified plants for food use, The Royal Society, September 1998
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