

GM crops team
Prime Ministers Strategy Unit
Cabinet Office
Admiralty Arch
The Mall
London
SW1A 2WH

From the Biological Secretary and Vice-President Professor PPG Bateson FRS
12 March 2003
Our ref: PMSU/JC

Dear Sir/Madam,

Royal Society response to Strategy Unit's Working papers on GM crops

We have read with interest the various working papers concerning the economic strand of the GM crops debate.

When considering the significance of the potential costs and benefits of GM crops, which you have summarised in your working papers '*Potential impact on developing countries*' and '*Costs and benefits for the environment and human health*', we believe that any judgement should be based on sound science. We have published a number of reports that summarise the latest scientific knowledge in this field and I have highlighted two of these below. We would be happy to recommend relevant scientific experts that you could consult in more detail on specific issues.

I would like to draw your particular attention to two of the reports that we have published that deal with the issues relevant to your study. '*Transgenic plants and world agriculture*' gives an overview of all the issues concerning the use of GM crops including concerns about environmental impact and Intellectual Property. More recently we published '*Genetically modified plants for food use and human health – an update*', which focuses on the effects that GM foods may have on human health. The issues we address in this report are directly relevant to the impacts on human and animal health summarised in Table 3 on page 14 of the working paper '*Costs and benefits for the environment and human health*'.

In our report we considered the possible effects of GM food on human nutrition; the possible allergic responses to GM foods; the potential effects on human health resulting from the use of viral DNA in plants; and the fate of GM plant DNA in the digestive system. Having reviewed the scientific evidence we concluded:-

- that although one potential application of GM technology is to improve the nutritional quality of crops, it is possible that GM technology could lead to unpredicted harmful changes in the nutritional status of foods. However such alterations might also occur in the course of conventional breeding.
- there is at present no evidence that GM foods cause allergic reactions. The allergenic risks posed by GM plants are in principle no greater than those posed by conventionally derived crops or by plants introduced from other areas of the world.
- that the risks to human health associated with the use of specific viral DNA sequences in GM plants are negligible.
- that the very long history of DNA consumption from a wide variety of sources poses no significant risk to human health, and that additional ingestion of GM DNA has no effect.

The background working paper '*Analysis of the Costs and Benefits to Industry and Science*' gives a thorough summary of the major issues. When considering the effect of industrial sponsorship on public sector research projects, the GM crops team should also specifically consider any impact on PhD studentships (e.g. CASE awards) that are partly funded by industry.

I hope that you have found these comments useful. Please do not hesitate to contact us if we can provide further assistance. We look forward to seeing your report in June.

Yours,