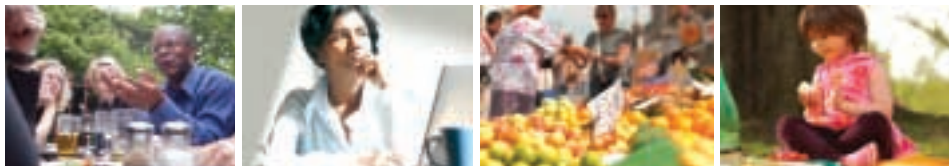


GM NATION?

The findings of the public debate



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Executive summary

This is the report of the Steering Board of the public debate on GM (genetic modification) and GM crops. Its structure is described briefly below, but first we present its seven key messages.

Key Messages

It was no part of our intentions in this report to say whether the public were right or wrong about any GM issue, even on matters of fact. With that in mind, we believe that the debate carries seven key messages about public attitudes.

1) People are generally uneasy about GM

Across the different elements of the debate, participants expressed unease about GM. They were uneasy not only about issues directly related to GM technology (is GM food safe to eat? What will GM crops do the environment?) but about a range of broader social and political issues. The mood ranged from caution and doubt, through suspicion and scepticism, to hostility and rejection. Despite the range of expression, among people who chose to take an active part in the debate these attitudes far outweighed any degree of support or enthusiasm for GM. These people expressed strongly the belief that GM technology and GM food carried potential risks and a majority rejected any suggested benefits from GM, except to the companies which promoted it. Such attitudes varied in intensity but they did represent the majority in all sections of the active participants in the debate.

Our analysis of the Narrow-But-Deep element suggests that among this sample of the general population people are less emphatic and less definite in their first response to GM issues. When asked to review their responses to the questions, people readily confirmed that they did not feel that they knew much about GM. Although they have strong anxieties about some risks from GM, particularly towards the environment and human

health, they are more willing to accept that GM may offer some benefits. However, their predominant mood is one of uncertainty towards GM. People said that they felt uninformed about GM and in the Narrow-But-Deep discussion groups they often felt unable to express an opinion on particular GM issues. Partly for this reason, they expressed little confidence in their own power to influence decisions about GM.

2) The more people engage in GM issues, the harder their attitudes and more intense their concerns

The Narrow-But-Deep sample also suggested that when people in the general population become more engaged in GM issues, and choose to discover more about them, they harden their attitudes to GM. Although they are more willing to accept some potential benefits from GM (especially medical benefits and other advantages for developing countries) they become more doubtful about the others and they express more concern/greater unease about all of the risks most frequently associated with GM. In particular, the more they choose to discover about GM the more convinced they are that no one knows enough about the long-term effects of GM on human health.

3) There is little support for early commercialisation

There is little support for the early commercialisation of GM crops. Among active participants in the debate just over half never want to see GM crops grown in the United Kingdom under any circumstances. Almost all the remainder want at least one new condition to be satisfied before this happens. They seek varying periods of delay so that new information, tests or research can identify and eliminate, or at least reduce to an acceptable level, the potential risks to the environment and human health.

The Narrow-But-Deep sample suggests that the general population does not share the unconditional opposition to GM of many active debate participants. However, it does suggest that the general population would prefer caution: GM crop technology should not go ahead without further trials and tests, firm regulation, demonstrated benefits to society (not just for producers) and, above all, clear and trusted answers to unresolved questions about health and the environment.

4) There is widespread mistrust of government and multi-national companies

Alongside arguments over the potential risks and benefits of GM itself, both the open debate and the Narrow-But-Deep element also highlighted a series of political issues, manifested in a strong and wide degree of suspicion about the motives, intentions and behaviour of those taking decisions about GM – especially government and multi-national companies. Such suspicion is commonly expressed as a lack of trust. Here, mistrust of government applies both to government in general and in particular and expresses itself through several avenues. One is the suspicion that the government has already taken a decision about GM: the debate was only a camouflage and its results would be ignored. In this way, GM links to a general mistrust of the motives and behaviour of modern governments, a general concern that they have secret agendas, and ignore the public's views. The GM debate also reflects a weakening of faith in the ability or even the will of any government to defend the interest of the general public. This was supported by the way in which people cited past disasters, especially BSE. They carried a double lesson, first, that government may not have adequate knowledge and advice to help them take the right decisions, and second, that government can be too close to producer interests.

The debate also highlighted unease over the perceived power of the multi-national companies which promote GM technology, and of such companies in general. People believe that these companies are motivated overwhelmingly by profit rather than meeting society's needs, and that they have the power to make their interests prevail over the wider public interest, both at home and throughout global society. Even when people acknowledge potential benefits of GM technology, they are doubtful that GM companies will actually deliver them. People are suspicious about any information or science which emanates from GM companies, or which is funded by them.

When given the opportunity to engage in GM issues, people do not rely exclusively on official sources or everyday media. They choose sources which they trust and which mean something in their personal life.

5) There is a broad desire to know more and for further research to be done

In all parts of the debate, both from active participants and the Narrow-But-Deep sample, people expressed a very strong wish – almost a longing – to be better informed about GM from sources they could trust. They wish to be able to resolve for themselves the contradictions and disputes, claims and counter-claims, in the existing body of information, science and research on GM issues. They want a corpus of agreed “facts”, accepted by all organisations and interests. They also want confidence in the independence and integrity of information about GM – the assurance that it does not reflect the influence of any group with a special interest for or against GM (including government and business). There was a general feeling that no one knows enough at the moment and that much more research is necessary.

6) Developing countries have special interests

There was a “debate-within-the-debate” on the potential role of GM for developing countries. This was acknowledged as a subject of special interest, to be judged on distinct arguments and values. In all parts of the debate, there was at least an initial assumption that GM technology might help developing countries produce more food and offer them medical, social and economic benefits. There was then a clear divergence between the views of active participants in the debate and those expressed in the Narrow-But-Deep sample. The former rejected, by a majority, the idea that GM technology would benefit developing countries: the latter supported it, and their support slightly increased after people got more engaged in GM issues.

However, in the context of the developing world opposition to GM was based less on negative feelings towards GM than on the view that there were better and more important ways to promote development, including fairer trade, better distribution of food, income and power, and better government.

On the issue of benefits to the developing world, people were particularly sceptical about the will of multinational companies to deliver them.

7) The debate was welcomed and valued

Although there was a widespread suspicion that the debate’s results would be ignored by government, people in all parts of the debate were glad that it had happened. People expressed their appreciation for the opportunity not only to express their own views, but to hear those of other people, including experts, to ask questions and acquire new information, and to take part in stimulating discussions. The debate generated a great deal of voluntary activity, which

deepened and multiplied as it got under way. The number of local meetings increased with each week of the debate, involving thousands of people across the country by the end of the process and an estimated total of over 600 meetings. People were inspired not only to organise meetings and debates of their own but to take other personal steps to get engaged in GM issues – first-hand research, getting in touch with their council or their MP, writing a letter or e-mail. In spite of their suspicions of government, people expressed a real hope that their efforts in the debate would influence future policy.

Structure of the report

- 1) This is a report on an unprecedented event – a special public debate before a potentially far-reaching change in public policy. It was a chance for the British people to come forward and say what they felt about a new technology – genetic modification (GM) – and the commercial growing of GM crops in this country. *Paragraph 1*
- 2) We describe the origins of the debate (*paragraphs 3 – 9*), as one of three strands, together with an economic and a science review, of a wider public debate on GM issues. We set out our aims and principles (*paragraphs 10 – 11*). It shows how we applied them, particularly the principle that the public should frame the issues (*paragraphs 14 – 18*). It outlines the innovative process and events which were devised for the debate (*paragraphs 19 -21*) and describes how and why, in parallel with these events, we decided to commission research based on discussion groups involving members of the public – the Narrow-But-Deep element (*paragraph 22*).
- 3) We briefly narrate the course of *GM Nation? The public debate* in June and July 2003, with an estimated total of over 600 regional, county and local meetings (*paragraphs 24 -28*).

- 4) We describe the sources of our evidence (*paragraphs 30 – 37*), distinguishing evidence from “self-selecting” participants in the debate (people who attended meetings, sent letters and e-mails and completed feedback forms) from the Narrow-But-Deep element of discussion groups involving the general public.
- 5) Under “The public agenda” (*paragraphs 38 – 77*) we describe issues, concerns and arguments which were common to all parts of the debate. We then examine separately the evidence we received from meetings and events (*paragraphs 78 – 94*), letters and e-mails (*paragraphs 95 – 103*), feedback forms (*paragraphs 104 – 140*), and the Narrow-But-Deep element (*paragraphs 141 – 193*). We then compare and contrast responses received in the open debate and in the Narrow-But-Deep element (*paragraphs 194 – 210*).
- 6) We briefly report the outcome of a number of other consultations on GM issues *paragraphs (211 – 230)*.
- 7) We make a brief statement about the relationship between our report and those of the economic and scientific strands.
- 8) We list the seven key messages we have identified from our report.

Introduction

A different kind of debate

1. This is a report on an unprecedented event – a special public debate before a potentially far-reaching change in public policy. It was a chance for the British people to come forward and say what they felt about a new technology – genetic modification (GM) – and the commercial growing of genetically modified crops in this country. Did they want GM and GM crops to happen at all? If they were prepared to consider them in the future, what information and evidence would they want to see first, and what conditions would they like to set first? What issues and arguments did they want decision-makers to hear? Who should be taking the decisions?
2. The United Kingdom has some customary rituals and methods for holding a public debate. The government might bring out a consultation paper on a policy issue, or announce a proposed change in the law through a Green or White Paper, and invite formal responses from interested parties and the general public. Or there might be a public inquiry or expert review. Special articles and features may be launched in the media. Public opinion may be sought through polls, interviews or focus groups.
3. This debate springs from a recommendation of the Agricultural and Environment Biotechnology Commission (AEBC), the independent body which provides strategic advice to government on biotechnology issues and their impact on agriculture and the environment. The AEBC thought that a different kind of debate was needed for GM crops. They felt that there should be a way for the public to guide the way in which the issue was debated, rather than respond to an agenda set by others. They wanted to offer people not only the chance to answer questions and express their views, but also an opportunity of seeking and discovering information and holding a dialogue amongst themselves and with experts. That is what they meant by a public debate and why they recommended, in September 2001, that there should be one¹.
4. The AEBC's specific recommendations in April 2002² drew on recent reports from the Parliamentary Office of Science and Technology³, and the Royal Commission on Environmental Pollution⁴. They also reflected advice from social science and public engagement professionals, lessons from similar debates in Europe and highly productive workshops with students and teachers.
5. The AEBC said that the debate should not be treated as a simple exercise to say Yes or No to GM crops. Instead it should establish the nature and full spectrum of the public's views on GM and the possible commercialisation of GM crops, and any conditions it might want to impose on this. In this way, the debate could influence decisions before they were taken. The debate would make people better informed – not only the relatively small number taking part in formal events or discussion groups but the wider population, who would become more aware of GM science and the wider issues and gain access to the information they felt they needed to discuss them.
6. The AEBC recommended a core programme with two main elements. The first would be a series of grass roots debates in local communities, stimulated by a specially made film and other material and linked to regional and national events involving representatives from local groups. Public views emerging from these events would be reported, and synthesised and assessed by independent professional experts.

1 Agriculture and Environment Biotechnology Commission. Crops on Trial. September 2001.

2 AEBC. Advice on the conduct of a public debate. April 2002.

3 Parliamentary Office of Science and Technology. Open Channels: Public dialogue in science and technology. POST Report No 153. March 2001.

4 Royal Commission on Environmental Pollution. Setting Environmental Standards. October 1998.

The second would be a research component based on a series of discussion groups, involving members of the public, to give more depth of analysis and to act as a “control” to test the information coming out of the set-piece debates.

7. The AEBC emphasised that the debate should be conducted by an independent body, at arm’s length from Government. Members of this body should come from a diverse range of background and perspectives on GM issues, to avoid the debate being perceived as unbalanced or a ‘propaganda’ exercise by one side or another, a risk that was always at the forefront of the AEBC’s mind. The AEBC also stressed that the public should be clearly identified as framing the issues for debate, not Government or other interested parties. The AEBC emphasised that a credible debate needed a commitment by Government to listen to it seriously.
8. In May 2002 the Secretary of State for the Environment, Food and Rural Affairs agreed to the principle of a public debate on GM issues. She announced that it would take place alongside an assessment of the overall costs and benefits of GM crops, by the Prime Minister’s Strategy Unit (PMSU) and an independent review of the science of GM to be chaired by the Government’s Chief Scientific Adviser.
9. In July 2002 the Secretary of State agreed to the AEBC’s recommendations for the debate to cover the full range of issues raised by GM technology, and set a budget for it of £250,000 and a timetable. She also promised that the UK Government would listen to the outcome of the debate – and respond to it in public. She invited Professor Malcolm Grant, the Chair of the AEBC, to lead the debate and to appoint members to an independent steering board along the lines envisaged by the AEBC. This is our report, as the Steering Board. Our members are listed at Appendix A, comprising people with different perspectives on GM and people with expertise in

public engagement. Some are members of the AEBC, some not. In August 2002, it was confirmed that the debate would also be conducted on behalf of the three devolved administrations, Scotland, Wales, and Northern Ireland, making it a UK-wide event.

Principles of the debate

10. In organising the debate, we agreed an overall aim, namely:

“to promote an innovative, effective and deliberative programme of debate on GM issues, framed by the public, against the background of the possible commercial production of GM crops in the UK and the options for possibly proceeding with this. Through the debate, provide meaningful information to Government about the nature and spectrum of the public’s views, particularly at grass roots level, to inform decision-making.”

Our detailed objectives are at Appendix B.
11. As the Steering Board, we wanted the debate to be a unique and innovative nationwide exercise. In developing its design, we kept four main principles in mind:
 - (a) the debate should give people new and effective opportunities to deliberate on the issues, with access to the information people may want and need in order to do so. It would not be an opinion polling exercise or a mini-referendum, although there would be an opportunity for people to register their views on the issues without attending deliberative debate events;
 - (b) the public should as far as possible frame the issues and questions for debate, to give people some confidence that Government or particular interest groups would not dictate what could or could not be discussed and to ensure that the issues would be expressed in terms accessible to the general public;

- (c) to try and involve people in debate activities, particularly, deliberative meetings, who had not previously expressed a view on GM issues; and
- (d) to throw light on the question of whether the open debate activities had been ‘captured’ by special interests, as some feared might happen. We recognised that the open debate activities might tend to attract people who had already made their views known on GM. While not wishing to exclude such people, we therefore planned in parallel a research component based on a series of deliberative reconvened workshops involving members of the public who had not before been actively involved in discussing GM issues. This component was intended to provide an element of depth to the analysis of public views on GM issues.

We also emphasised the importance of a Government commitment to listen to the debate, to make people think that it was worthwhile contributing. We were determined to make our decisions about the debate openly. Our meetings were held in public, and our agendas, papers and minutes were published on the web. Our communications with Ministers are in the public domain. This report is being published at the same time as it is being submitted to Government.

12. The AEBC had envisaged that a prime contractor would run the process, with the Steering Board taking a strategic overview. We appointed COI Communications to manage the debate programme day-by-day. We had to develop a programme urgently, and appointing COI allowed us to use their roster of suppliers to deliver debate activities rather than going through lengthy EU procurement procedures. Appointing COI was rather controversial, because it is a Government agency and the debate needed to be conducted at arm’s length from Government. We therefore quickly agreed with COI and

published a statement setting out the nature of the working relationship, making clear in particular that the Steering Board would make the key decisions about the debate process. Running this type of exercise was new to COI. At the very start of planning, desk research was undertaken on strategic considerations for designing the programme of debate, including comparisons with similar exercises overseas; and on existing information about public views on GM. COI Communications’ Strategic Consultancy team and an independent social researcher, John Kelly, respectively did this desk research⁵. The debate process is being evaluated by an independent academic team as part of the *Understanding Risk* programme of research supported by the Leverhulme Trust.

13. Throughout the debate we kept in close touch with the parallel economic and scientific strands. The PMSU in particular made regular presentations to us and took full account of public opinion as a major issue affecting the economics of GM. Professor Phil Dale was a member of the Science Panel as well as the Steering Board. Julie Hill, Deputy Chair of the AEBC, was also a member of the Science Panel. In November 2002, early in developing the process, representatives of all three strands met for an evening workshop to discuss whether and how the different strands could and should work together. Ideas and issues were thrashed out at this workshop and over subsequent months. The Steering Board secretariat, consulting those involved in the other two strands, drew up an explanatory note of the envisaged interactions between the three strands which was published on website a few weeks before the launch of the debate. This explanatory note, entitled “Statement of Relationships” can be read on the debate website www.gmnation.org.uk

5 John Kelly for COI Communications. Public Attitudes to the Commercialisation of GM Crops. December 2002. COI Communications Strategic Consultancy. Desk research for GM Public Debate Steering Board. December 2002.

The Foundation Discussion Workshops

14. The principle that the public should frame the issues was given effect by the creation of nine discussion workshops, organised by Corr Willbourn Research and Development⁶. They were held over a fortnight in November 2002 in Manchester, County Down, Ludlow, Reading, Wales, Norwich, Bromsgrove, Edinburgh and North London. Eight of the workshops involved members of the general public, representing four broad stages in life and two broad socio-economic groups. Their membership also gave a geographic spread for the United Kingdom, including Scotland, Wales and Northern Ireland. However, the Norwich workshop, for purposes of comparison, comprised participants who were “Actively Involved” in GM, half of them supporters and half opponents. Each workshop had 18 – 20 participants, with two facilitators, and lasted for three hours.
15. The eight grass roots workshops suggested that people rarely thought about GM in their daily lives and that many felt that they lacked not only information about it, but the technical and scientific knowledge to understand such information. They nonetheless could identify a wide range of key issues associated with GM and had strong feelings about them. Although GM (and its perceived promoters, government and multinational companies) evoked considerable anxiety and suspicion, people could still envisage positive benefits. They welcomed the idea of a debate but were suspicious of the government’s readiness to listen. People in the workshops wanted not only more information but the opportunity to assess whether GM was necessary, what benefits and losses it might produce (and for whom), and what would be the long-term consequences of accepting it or rejecting it. More facts alone would not provide this opportunity: it also required ethical, value and subjective judgements.
16. Participants in the eight grass roots workshops assessed GM in terms which were familiar from their daily lives, such as food, health, consumer choice and politics. Six broad themes emerged as a key framework for the debate: food; choice; need for information; uncertainty/trust; targets and intended trajectory; ethics.
17. The “Actively Involved” workshop produced agreement that the debate should disseminate “the facts” about GM but disagreement over what were the pertinent facts. They would have to cover a very wide range of environmental, health, economic, political and legal issues, both domestic and international.
18. Drawing on the results of all the workshops we identified 13 separate questions on the possible costs and benefits of GM crops, covering a range of environmental, economic, consumer, health, and ethical issues. These questions were used in the debate feedback forms and in the reconvened discussion groups which formed the “Narrow-But-Deep” element described below. The questions are listed in Appendix C. The results of the Foundation Discussion Workshops fed into both the economic and the science reviews.

The build-up to the debate

19. As the Steering Board we had frequent discussions about the relationship of the three strands, about funding and timing, about our freedom to make decisions about the debate programme, and about Government’s commitment to listen to the debate. We made and published representations to Government on all these points. In particular, it soon became clear to us that a credible debate needed more money and more time. We put these requests to Government in December 2002 and January

⁶ Corr Willbourn Research and Development. A report on the Foundation Discussion Workshops conducted to inform the GM Public Debate. January 2003.

2003, and in February the UK Government and the devolved administrations agreed to double the budget for the debate programme, to £500,000, and to extend the timetable for the debate to July, with the Steering Board reporting to Government in September. This was still intended to allow for the expected publication of the first results of the farm-scale evaluations of four types of GM crops which had been in progress since 1999 (the so-called “FSEs” or “crop trials.”) These covered three spring-sown crops – oilseed rape, beet and maize – and one winter-sown, oilseed rape, and were intended to assess whether the way the GM crops are grown had any different effect on farmland biodiversity and wildlife compared to weed control in conventional crops. The results are now due to be published by the Royal Society in the autumn after being peer-reviewed. Meanwhile on 1 February Dorset County Council, with our support and with Malcolm Grant’s involvement, staged the first event to form part of the public debate.

20. Based on the issues generated by the Foundation Discussion Workshops, we set out to devise a deliberative process for the debate and to prepare a range of materials to stimulate discussion. We commissioned a short video from a leading independent film-maker: it showed three sets of three people, farmers, scientists and consumers talking to each other about the possible effects of GM. We developed, consulting a number of organisations and individuals, a broadly representative summary of the views of people generally for and generally against GM. They were published on paper and CD-Rom and through an interactive website. We also included a range of further information and sources for people who wanted to dig deeper.
21. On 26 February we announced the final programme for the debate. Entitled *GM Nation? The public debate* it would be based on a series of public events, organised in three “tiers”. In Tier 1 would

be six national and regional events, three in England and one each in Scotland, Wales and Northern Ireland, directly organised by ourselves. These would not be set-piece debates, with formal speakers and votes. Instead participants would hold a series of round-table discussions based on the debate stimulus material. Tier 2 events would be based on partnership between ourselves and county councils and other public organisations to set up county-level or other large-scale meetings. These would not necessarily follow the same formula as the Tier 1 meetings: partners were free to have experts answering questions or debates around a motion. For Tier 3, local events, we would make available a “toolkit” for local organisers. Organisers could choose one or more of, the paper “stimulus material”, an interactive CD-Rom, and the video. For each meeting, in every tier, we would issue feedback forms, posing the questions generated by the Foundation Discussion Workshops and allowing participants to express further views. These forms would also be available through the interactive website, which gave users information about GM issues and questions, and forthcoming meetings, and an opportunity to express their own views directly.

22. We recognised from the start that all of the activities in the open debate might provide evidence of views from only a certain seam of British society – broadly speaking, people who are regularly engaged in public issues. As we note below, it is quite unusual for people to attend a meeting on a public issue or to write a letter about it (especially one such as GM which has not played a big part in everyday life). We therefore decided to commission in parallel research based on a series of reconvened discussion groups, conducted by Corr Willbourn Research and Development, to get a detailed picture of the response to GM issues from a typical cross-section of the wider population, who would be exposed to GM issues over a period of

two weeks. This was the so-called Narrow-But-Deep element⁷. In this report we shall indicate where our findings are drawn from evidence of the open debate or that of the Narrow-But-Deep element, or where they are common to both.

23. Very soon after announcing the programme of events, we learnt from the Royal Society that the first results of the FSEs, expected in summer, would not after all be published until the autumn, and probably after the deadline set for us for reporting on the debate to Government. We considered whether to postpone our programme, but decided on balance that we should not. We felt it unlikely that a second extension would be agreed. We also considered that in preparing the debate materials we had already drawn on information from research all over the world: we did not think the public should be made to wait for one more piece of evidence whose significance could not be foretold. Moreover, it later became apparent that both the economics and the science strands expected to report in July: we wanted the debate period to be integrated with their publication as far as possible, but again we ultimately had to accept that the formal programme of debate would conclude before or quite soon after their reports were published.

The course of the debate

24. We launched the debate under the title *GM Nation? The public debate* on 3 June 2003 with a press briefing in London, and the first of the Tier 1 meetings in Birmingham. The other Tier 1 events took place in Swansea, Harrogate, Taunton, Glasgow and Belfast over the next ten days. They were attended in total by over 1,000 people.
25. COI Communications estimated that between 16 June and 18 July there were a total of around 40 Tier 2 regional and county-level meetings and

629 local Tier 3 meetings, not including the one in Ambridge in **The Archers**. With the Tier 1 meetings, that makes an estimated 675 meetings in total. (The COI assessment is based on expressions of intent to hold a meeting: it is not certain that every intended local event actually took place). Tier 3 events had many different settings: they included small meetings in workplaces, larger meetings in local town halls, discussions at farmers' markets and agricultural shows, a special event at the Eden Project in Cornwall.

26. From 1 June to 16 July the website received over 2.9 million hits and 24,609 unique visitors, of whom 5,110 visited more than once. Each visitor's session lasted on average 11 minutes 5 seconds, and over 60 per cent of visitors submitted feedback forms: these figures compare very favourably to typical response rates on commercial websites.
27. Starting from when it was first announced in 2002, the debate received over 1200 letters or e-mails, nearly all from individual members of the public.
28. Despite some adverse and at times cynical media coverage of the launch of the debate, the volume of activity increased week by week. More and more local meetings were organised, requests for debate materials increased, and more and more letters and e-mails were received as the debate unfolded. Not only the quantity but the quality of response – all of it voluntary – was impressive. People put both effort and creativity into organizing meetings and events, and into expressing their views in letters, e-mails and feedback forms. Whatever its other results, the debate demonstrated the power of people to engage in complex policy issues if they are given the opportunity. We are grateful to all those who organised meetings and took part in them.

⁷ Corr Willbourn Research and Development. A report on the narrow but deep element of the GM Public Debate. September 2003.

“The public is always right”

29. In this report we attempt to reveal as best we can from our evidence what the British public thinks and feels about GM issues. It was no part of our intentions in this report to say whether they were right or wrong about any issue, even on matters of fact.

The sources of The evidence

30. This report summarises evidence from several different sources. Essentially it falls into two categories. The first is evidence from the open debate, through meetings, letters, e-mails, and feedback data. The second is evidence from the Narrow-But-Deep element of reconvened discussion groups. As already explained, the first category represents evidence from “self-selecting” participants in the debate, the second is from a cross-section of the general public who (as it turned out) were **not** participants. We also review a number of other events which were not formally part of *GM Nation? The public debate*.
31. As regards meetings, we studied first-hand verbatim comments from participants in Tier 1 and 2 meetings, accounts of Tier 3 meetings, reports of issues raised and formal votes, and reports by facilitators, rapporteurs, organisers, speakers and meeting-goers. Each of our Tier 1 meetings had an independent professional observer as a rapporteur, and we received many other reports of meetings from self-appointed observers or from regular speakers. We are grateful for the voluntary efforts of all those who sent us reports of meetings, many of them rich in analysis.
32. In studying the evidence of meetings, we were interested not only in people’s views on GM issues, but also in what they thought of the debate itself and its different processes. What did they think of different kinds of events and debate materials? How effective did they find them in achieving *their* objectives for the debate? Were events attended by a good cross-section of the local public? Might the form of an event have affected people’s expression of their views?
33. In evidence both from meetings and from letters and e-mails we analysed different kinds of arguments and views about GM issues, identifying common features and noting the broad frequency with which they occurred.
34. The feedback forms, based on the questions inspired by the Foundation Discussion Workshops, provided a detailed source of information about public views on particular GM issues and about attitudes from particular sections of the population.
35. We then examined the results of the Narrow-But-Deep element, and compared and contrasted them to those of the open debate.
36. All of this evidence represents two spectrums of response from the general public. One spectrum ranges from “totally self-selected” (letter-writers/meeting goers) to “not self-selected” (the reconvened discussion groups of the Narrow-But-Deep element). The other spectrum is about the amount of exposure which people had to the views of others and the amount of work they were invited to do in acquiring information about GM issues. At one end of this spectrum are letter-writers. They are free to express their views without necessarily listening to anyone else or acquiring any new information. In the middle are meeting-goers. Depending on the structure of the meeting, they hear other points of view beside their own and they may have to consider new information and deliberate about it. At the other end are the reconvened discussion groups. They took part in an organised deliberative process and were invited to engage actively with GM issues between the two sessions.
37. Our analysis is largely qualitative rather than quantitative. We use actual numbers and percentages only when they can be counted accurately and when we believe that they support qualitative results and make them easier to understand. We are confident that this report gives a reliable account of the broad opinions of those who participated in each section of the debate, and that it fairly reflects the broad priority given by the public to different issues, attitudes and arguments.

The public agenda

Common content

38. We found that the content of the debate was very similar right across each spectrum. Whether they write a letter or an e-mail, or visit the website, or express themselves at a meeting, or sit down with each other in a deliberative process, people raise the same types of issues and concerns about GM. They use the same kinds of arguments whether they are asked to think hard about the issues or choose to express themselves from the top of their head.
39. However, we did find some variations in the weight which people attach to issues and their willingness to accept or reject different arguments in the debate. This was particularly true of the Narrow-But-Deep participants. People also have different views about the debate process.
40. We shall be noting all of these variations in due course. But first, in the next sections, we draw together the **common content** of the debate. We analyse the main issues which make people concerned about GM crops or resistant to them, the main issues which make them favourable or potentially favourable, and the main issues where the jury is out: issues where people feel uncertain or uncommitted. Then we look at responses to the debate process.
41. However, before we begin this analysis one point stands out. Among the participants in the debate there are **many more people who are cautious, suspicious or outrightly hostile about GM crops than there are supportive towards them**. Very few would support their early introduction on a commercial scale. There is a spectrum of preferred alternatives, ranging from an outright and indefinite ban to (more frequently) a period of delay to allow more information to be gathered about GM crops and their effects, and for tighter regulatory conditions to be imposed.
42. We have three other general comments about the issues raised by the public. First, there are **so many of them**. The public do not view GM as purely a scientific, or environmental, or economic, or political or ethical issue. All of these aspects are important to them. It follows that the public accept no single arbiter of decisions to be made about GM. They do not regard science and scientific method, or economics and economic analysis, or academics or politicians, or any other discipline as a single source of evidence and guidance. The public seek and trust expertise and authorities which accords with their own arguments and values. We were struck in all parts of the debate by the range of source material which people referred to. They do not depend on the media or government but take information from the industry, academics and politicians, from non-governmental and campaign organisations, from friends and relations and from first-hand observation of the world.
43. This may reflect a general unwillingness by the public to accept received authority and their disenchantment and disengagement with the political system and all the processes which make important decisions in their lives. As part of this general feeling, we believe that the public are suspicious of the motives and behaviour of many of the key decision-makers in the GM debate, notably government (both in general and in the particular) and multi-national businesses. Such suspicion is commonly expressed as a lack of trust. It extends to people or groups thought to be in their pay or under their control, so that people are suspicious about any information or science which emanates from GM companies, or which is funded by them.
44. However, in counterpoint to this general suspicion we found a longing, repeatedly expressed, for some **reliable, independent authority** who could be trusted to establish “the facts” about GM crops, accepted by all organisations and interests and subject to no special influence. People see this as an essential step to ensure that the right decisions are taken about GM.

Opposition to GM: general

45. As was noted above, GM is a very broad issue. It is not only an issue in its own right but acts as a proxy for many other current concerns which provoke strong feelings. GM makes people examine not only its direct implications but also such issues as their own power as citizens and consumers to determine the future of their food and their environment, the influence of big business over national governments, science and research, and the media, the future of developing countries and the power of the United States and international bodies such as the World Trade Organisation thought to be under its influence. It also encourages them to express their value judgments about the best future for society and the environment, and about the right to modify the course of nature and to impose the consequences of such modifications on human beings, or other species, who may not have the power to resist them.

Opposition to GM: specific arguments

Risk of contamination

46. Most participants in the debate give more than one reason for being resistant towards GM crops. The discussion which follows gives a rough indication of the frequency with which they occurred in all parts of the debate. They are headed by the **risk of contamination** of non-GM plants and organisms and the consequent threat to organic farming and produce. People argue that in a small island, with mixed farming, co-existence of GM and organic is impossible.

Freedom of choice

47. The “contamination” argument is frequently associated with a wider argument that commercial GM crops would destroy **freedom of choice** for consumers and farmers and would

deprive people for ever of the chance to choose an organic future for British agriculture or that of nations and regions within the UK. (The freedom of choice issue also emerges strongly when people write or talk about labelling issues and the power of faith groups, or vegans, to avoid food which violates their beliefs). People who use the arguments about contamination, or freedom of choice, make no distinction between different GM crops: they regard them all as incompatible with organic and other possibilities for farming and food.

Not yet... if ever: caution and precaution

48. The second major argument against GM crops is the concept of **precaution**. This expression recurs often in the debate, although people use it in a slightly stronger and wider sense than its conventional usage in the discipline of environmental risk management. As most commonly used in the debate the concept is shorthand for saying that no major technological change should be introduced into the environment and into society until its impacts, including long-term ones, are known and measurable.

49. People accordingly suggest that it is too early to assess, let alone control, the long-term effects of GM on plant, animal or human health, or on the soil, or the environment, or the future of world agriculture and food supplies. Some favour a further delay in the large-scale introduction of GM crops (for lengths of time ranging from 5 to 25 years) to allow controlled research on a far more extensive range of its potential impacts. Others invoke the concept of precaution in support of an unlimited ban: they say that the risks of GM will always be greater than the potential benefits. People frequently say that there is a **lack of reliable, independent scientific evidence** to remove doubts about GM crops and GM food (the two are often used interchangeably). They seek to place the burden on GM proponents to

prove that GM products are safe, rather than accept the absence of apparent harm as proof that there is none. They also reject “substantial equivalence”, the concept used to structure the comparison of a novel food with its conventional counterpart to identify any differences in composition which can then become part of a more focussed safety assessment. They attack the idea that GM is no more than a process and that its products are no different from their non-GM counterparts. They call for tests specifically on GM products, reflecting that pharmaceuticals are subject to tight regulation and testing.

50. Within the debate, we found generally that lack of knowledge, and suspicion of government and multinational business, contribute to people's caution towards GM crops. Wait-and-see means wait, rather than see. However, the impact of deeper engagement appears to have varied effects. It does not reduce their general caution about GM, although it seems to make them more willing to recognise some potential benefits from it. On other points it seems to confirm suspicion of GM and in others still, particularly the long-term effects of GM on human health, the more people get to know about GM the more certain they become that no one knows enough. We will analyse these effects below, under the Narrow-But-Deep element.
51. Supporting the concept of precaution, although less often explicitly cited, is the memory of **previous unforeseen disasters**. The most common is BSE, followed by foot-and-mouth, tobacco, Chernobyl (and nuclear power generally), DDT, SARS, and many local and individual examples, including the grey squirrel, hedgehogs in Scottish islands and the spread of Japanese knotweed in Wales. They are all used, especially BSE, to suggest that government and scientists cannot be relied on when they say that some new phenomenon is safe, and that government cannot necessarily be trusted to act

in the interests of the general public rather than producers.

Why? There is no need for GM crops

52. The third common line of argument against the introduction of GM crops is that they **offer no benefits** for the United Kingdom. That argument is sometimes expressed purely negatively: UK consumers have already rejected GM food. However, it is more commonly linked to the argument that organic production offers a better future for agriculture and food either in the United Kingdom or in Scotland or Wales or in their own locality (this argument was particularly strong in the West Country). GM crops would compromise this organic future. In this way the GM debate often provoked discussion of devolution and the power of local government: could nations, regions and local authorities declare themselves GM-free zones or introduce their own controls on GM produce, beyond the terms of UK or EU policy or the rules of the WTO? Many proponents of organic farming argue that GM has distorted priorities in scientific research, and call for alternative approaches to be given equal attention and funding.

Environment at risk

53. Fourthly, people fear that GM crops could be a **threat to the environment, wildlife and biodiversity**. They argue that over time GM crops need **more pesticides**, not less, because of the development of resistant “superbugs” and “superweeds”. They refer to the potential contamination of native wildlife species, and the danger of extinction of weeds and insects, which might change the balance of nature. People suggest that GM crops are a further stage in the industrialization of agriculture, which in their view is already a catastrophe for the global environment.

Health at risk

54. Fifthly, people cite the unknown risks of GM food to **human health**. They argue that no specific health tests have been conducted on it and are unwilling to accept the evidence of consumption in the United States that it was free of health problems. Some object on ethical grounds to the use of American consumers as a gigantic testing laboratory for GM foods and this “guinea-pig” argument is also used about developing countries and poor people generally. Some suggest that health problems might not show up for 20 years or more, others suggest that they have already shown up, and that there might be a link between consumption of GM products and the rise in allergies and in diseases of the gut in the United States. Other health anxieties associated with GM food include stomach and colon cancers, and resistance to antibiotics.

Power of the multi-nationals: ownership of the technology

55. GM technology attracts resistance from people because it is owned and promoted by **multi-national companies** whose power, profits and motives they find objectionable. Such resistance is sometimes expressed by people who have no objections to the technology itself and even by people who see benefits from it. People suggest that these companies are using their ownership of GM technology to secure monopoly control within the food chain, to reduce farmers to dependency, especially in developing countries, and to gain control over consumers and even governments. They often claim that these companies have a hidden influence over the British government and a direct influence over the American. These companies are attacked for attempting to patent and assert intellectual property rights over “essential” seeds and crops. Monsanto is the company most frequently singled out by name.

Non-material values

56. Although all the above lines of argument contain value judgements, there is also a cluster of arguments which challenge GM on a different moral plane. They draw on non-material values and their proponents often attacked the “materialistic” way in which they felt the debate had been framed. Some of these arguments are religious: GM (especially trans-species GM) interferes with the Creation. More frequently, people suggest that the human species has no right to use GM technology to alter the course of nature and that the present generation has no right to make irreversible changes in the world environment for future generations.

Doing right by developing countries

57. There was a clear “debate-within-the-debate” about **the future of developing countries**. It was generally recognised that this subject raised its own distinct arguments and value judgements. In this context, people opposed to GM fall into two categories. One rejects claims that GM could benefit farmers in developing countries and help to feed the world. On the contrary, such people argue that GM would force developing countries into greater dependency on multi-national companies, encourage monoculture, and lead to the loss of essential knowledge and skills in agriculture. They accuse multi-nationals of attempting to foist on developing countries a technology and its products rejected by the West. The second category (which on the evidence of the debate is larger) comprises people who acknowledge that some GM crops might be of value in developing countries (particularly for nutritional benefits, medicine and other non-food applications) but who argue that other approaches – especially land reform, fair trade, better food and income distribution and organic and sustainable methods – are far more important.

Bad experiences overseas

58. There was another clear “debate-within-the-debate” over the **experience of the major GM producing countries**, particularly the United States and Canada. People claimed evidence that American and Canadian farmers were disenchanted with GM crops and had rejected their claims of higher yields or reduced pesticide use.

Labelling, liability

59. Issues of **labelling** and **liability** were often mentioned. Some people called for a very strict labelling regime, identifying GM products at every stage of the food chain, others claimed that no labelling regime could ever guarantee customers food “uncontaminated” by GM, particularly because of imports from outside the EU, and therefore called for an outright ban on all GM products. People also emphasised the apparent unwillingness of GM companies to accept liability for contamination or any other ill effects of the technology, and cited the refusal of insurance companies to cover risks from GM.

Most resistance to trans-species applications and GM food

60. People opposed to GM were generally far more opposed to trans-species applications than others, especially GM animals. There was far more resistance to GM food than to other applications of GM, which were less commonly mentioned by opponents.

Support for GM: general

61. Although outnumbered in the debate, people who favoured GM used as many and as varied arguments as its opponents. Some were rebuttals and others mirror-images of a case from the opposite side.

Support for GM: specific arguments

Safe and well-tested

62. Supporters of GM crops say that they are **safe and well-tested**, and that actual experience, particularly in the United States, disproves the threat of contamination and the alleged risks to human health. They sometimes accuse their opponents of scare-mongering, poor science or selective evidence.

Caution is wrong

63. They directly **attack opponents’ concept of caution**, which (they say) would have prevented almost any advance in technology, including agriculture itself. The word Luddite is often used.

Environment; developing countries

64. The next most frequent argument for GM crops is their **environmental benefits**, notably reduced use of pesticides and fossil fuels. This is closely followed by their **benefits to developing countries**, in the form of reduced costs, higher yields and crops which resist drought and poor soil. They suggest that GM crops have a vital role to play in providing food and income for a rising world population. They assert potential nutritional gains, including vitamin A-enriched golden rice, which provoked another debate-within-the-debate over the nutritional needs of developing countries. They cite the success of GM crops in India and China (both developed indigenously, rather than by multi-national companies).

Right to choose GM and obtain future benefits

65. Supporters of GM also argue that it is **wrong to deny anyone the benefits of scientific advance**. GM science and research have a long way to go, and Britain stands to lose much from

cutting itself off. They use a mirror-image of the choice argument: farmers and consumers have a right to choose GM. Some suggest that the organic movement is trying to protect its commercial advantage in its opposition to GM.

Non-food and current uses

66. Supporters of GM refer to **its potential non-food uses**, particularly drugs and biomass energy. Others note that it is in regular use already, in cotton and cheesemaking (at meetings, this occasionally shocked vegetarian cheese eaters) and suggest that GM is simply a more precise application of a technique, selective breeding, in use for many years.

Help farmers and UK compete

67. Supporters suggest that the United Kingdom would reduce its ability to compete with other nations if it refused to accept GM technology, and, in particular, that GM could **help British agriculture** survive against overseas competition, and reduce its dependence on subsidy.

Consumer has final say

68. Finally, supporters of GM argue that **the consumer has the final say** over its results, and that companies are not interested in developing products for which there was no market. They suggest that GM products deserve to compete in the market without being penalised by scare stories or impossibly onerous labelling regulations.

Other issues

69. A great number of participants in the debate are neutral or genuinely uncertain over the advent of commercial GM crops. They have a number of common observations or requests. The most frequent is that they do not have enough

reliable, independent information to make up their minds (a comment echoed by many declared opponents of GM.) They complain of conflicting evidence, and the instant contradiction of one authority by another. In one form or another they ask frequently for some authoritative source of facts and research on GM – independent of interested parties (especially government and multi-national companies).

70. Another frequent request is for GM trials and research to continue, but only in **closed conditions**.
71. There is much support for **tighter regulation** of GM products, especially in labelling and liability, and for an **independent regulator** to take over research, development and promotion of GM products, both in the UK and in developing countries. Some suggest a special tax on GM companies to pay for this regulation.

Comments on the debate

72. Comments on the debate were often coloured by suspicion over the motives for holding it. People attacked the debate as **“window-dressing”**, cover for a government decision already made. This was often compared to the government’s attitude to the protests against the Iraq war. Critics refused to accept the independence of the debate and its organisers from the government; in their eyes, both suffered a degree of guilt by association.
73. Supporting suggestions that the government was not interested in the debate, people criticised the **lack of publicity and funding** for it, the **shortness of time** and the **lack of local meetings**. This was echoed by people who did not express any strong view against GM. The timing of the debate was criticised because it did not allow people to consider the results of the crop trials and gave them little time to react to the parallel economic and scientific studies. (However, there were few comments on the

economics report even though it was reported in time to catch the final days of the debate).

74. The timing of the debate, towards the end of the school and university year, made it difficult for pupils and students to take part as we had originally wished. The relative scarcity of young people at meetings attracted comment from participants and observers.
75. There were other suggestions that attendance at meetings was not representative of the British population, which we note further below.
76. Despite criticisms of individual events or particular aspects of the debate, and suspicions over the government's response, people in all parts of the debate were glad that it had happened. Most were genuinely happy with the process of the debate, and pleased to be given chance to express their views. They saw it as a sign that these would be taken seriously.
77. Having outlined the common content of the debate as a whole, we will now review individual elements of the open debate: meetings and events; letters and e-mails; and debate feedback. Then we turn to the evidence of Narrow-But-Deep element, as a control on that of the self-selecting participants in the open debate. We then review the results of some other consultations which were contemporary with the debate. Finally, we draw together seven key messages.

Meetings and events

78. Going to a meeting on a public issue is an unusual activity for the British population. One indicator of this is a MORI survey, "Politics On The Canvas(s)", published on 3 August 2001, which found that only 1 per cent of respondents attended a meeting addressed by a candidate in that year's general election. It might be argued that going to a meeting on GM, which has yet to make much impact on daily life, is less urgent for people than going to a general election meeting. If so, this might suggest that GM meeting-goers were people who are highly interested and engaged in public issues generally and GM in particular.
79. Unusual or not, people who go to public meetings and events are self-selected. A few may be under some pressure to attend, from family or friends, or from the organising body. In the context of the GM debate, some people came to meetings because they felt it might be their only chance to go to an event in their own area or to get their views known before it was too late. But ultimately attending a meeting is an act of choice. In view of the competing attractions to going to any public meeting, the hot weather which prevailed for most of the period of the debate, and the admittedly short notice given for the events, it is impressive that so many people gave up their time for an issue which is so far remote from ordinary life and the mainstream of current politics.
80. Unlike other forms of participation in the debate, going to a meeting is a social activity and produces some kind of awareness of different views from those which the meeting-goer might have arrived with. We specifically promoted a deliberative process in meetings, to encourage people not only to be aware of different views but to engage with them.
81. In all of these ways, event-goers represent a special audience in the debate – sociable and prepared to be actively involved in public issues.
82. In total COI Communications estimated that there were 675 organised meetings. Six were the Tier 1 meetings, organised by ourselves, around 40 were Tier 2s, organised by local councils or national organisations in partnership with ourselves, and the remainder were Tier 3s, promoted by local organisations and individuals. The nature of the exercise meant that not all Tier 3 meeting organisers directly informed COI that they had held a meeting. A Tier 3 meeting was recorded by COI in the 629 total when a prospective organiser was sent 30 or more feedback forms. From the feedback forms returned, **at least** 8340 people attended some kind of meeting but this is probably a considerable underestimate. For example, only 351 feedback forms were returned from the Tier 1 meetings but at least 1,036 people are estimated to have attended. Given that 30 represented the minimum expected audience to qualify as a recorded meeting, the total attendance may have been nearer 20,000.
83. We studied accounts of the comments made at meetings by members of the public, and identified them as broadly supportive or broadly opposed or uncommitted. We had verbatim accounts of all six Tier 1 meetings and of a further nine Tier 2s, and detailed accounts in reported speech of about 30 others, mostly in Tier 2. We have briefer accounts of around 40 Tier 3 meetings, mostly from organisers.
84. In these accounts and reports, meeting-goers' recorded comments show a broad ratio of 5 "anti" GM to 1 "pro" to 0.6 "uncommitted". An "anti" comment is defined as any one expressing caution, suspicion, opposition or any kind of negative view of GM crops or technology, a "pro" comment is any one saying something good about them, even if the person voicing it is generally hostile. A question is classed as a comment if it clearly reflects a point of view. Meeting-goers were obliged to listen to other arguments about GM, and in many cases actually

deliberate about them. It appears that some “pro” comments were put forward as a theoretical possibility rather than as a personal belief. That is certainly true when people at meetings list a potential benefit of GM crops but express doubts that the companies in control of GM will deliver it. That said, no one was obliged, at any meeting, to say anything good about GM.

85. When informal votes were taken at meetings they almost invariably indicated heavy majorities against the early commercialisation of GM and slightly smaller ones against GM in general.
86. The recorded comments we have received from meetings expressed all the main arguments for and against GM crops, but assigned them a different priority from that we have identified in the debate as a whole. Their most common reason for resistance towards GM was belief that GM priorities were being driven overwhelmingly by the pursuit of profit by multi-national companies, followed closely by the view that GM crops were unnecessary and would have no markets, and the view that they were a threat to the environment.
87. There was a strong national and local component to many meetings, especially in Scotland, Wales, Northern Ireland and the West Country of England. There were debates-within-the-debate about the power of devolved administrations in relation to the UK, the EU and international organisations. (The Tier 1 meeting in Belfast also raised issues about the need for a common policy on GM with the Irish Republic. Some people asked if the public debate extended to the Republic: in fact it did not, since this was outside its terms of reference). People generally wanted devolved administrations and local councils to be able to follow GM-free policies.
88. Recorded comments in support of GM crops at meetings also show a different priority from that of the debate in general. The most frequent are

about their potential to lower costs for farmers and help them compete with overseas producers. The next most common arguments (of almost equal frequency) in support of GM crops are their potential benefits to developing countries, lower pesticide and fossil fuel use, and non-food uses, especially medical. People at meetings often expressed support for the long-term potential of GM research even if they were hostile to the immediate spread of GM crops.

- 89) “Uncommitted” recorded comments focused mainly on the search for reliable, accepted facts about GM, produced by independent authorities, and for trusted figures or bodies to act in the public interest. In recorded comments, meeting goers were generally suspicious of multi-national companies, government and international organisations such as the World Trade Organisation (WTO).
90. Recorded meeting goers often expressed views about the meeting they were attending or the public debate itself. The most frequent was the fear that the government would not listen to it, often supported by complaints of low publicity and budgeting for the debate. People complained of a lack of meetings either nationally or in their local area.
91. People commented that the audience at particular meetings was unrepresentative of the general or local population, often because they lacked young people or ethnic minorities. This point was expressed frequently in observers’ reports, both our own and self-appointed ones. Both meeting goers and observers commented on the number of people who went to meetings with established views on GM, and who felt themselves well informed about it, which prompted comments that meetings might be missing the general public. People complained that some local meetings were strongly polarised, and dominated by partisans for and against GM (generally against). Pro-GM meeting goers and

platform speakers suggested that some meetings had been hijacked by anti-GM campaign organisations, and at others there were complaints of excessive proselytising by individual anti-GM campaigners.

92. At Tier 1 meetings, and others arranged on a deliberative principle, some participants (generally strong anti-GM partisans) expressed a preference for formal debate, with speakers and votes and views from the floor.
93. Notwithstanding these criticisms, participants and observers also gave many vivid reports of lively, good-humoured events exploring many issues and points of view. People praised the debate in general and individual meetings for being highly informative and enjoyable, for making them aware of other views, and for giving them the chance to meet interesting people. They were glad that meetings had been organised and that the debate as a whole was taking place.
94. Although people praised events for being informative and revealing, they did not generally change their minds as a result of going. That was suggested by many show-of-hands votes at meetings and in the feedback analysis, which is discussed below at paragraph 126 and 131.

Letters and e-mails

95. In the year ended 31 July 2003 (which takes in the period from the decision to hold a public debate to the end of the formal debate itself) we received over 1200 letters and e-mails expressing views on GM issues.
96. We believe that some organisations, including the National Trust, Friends of the Earth, Greenpeace and the Soil Association encouraged their members to participate in the debate. However, we found no evidence of mass-produced letters with the same wording, as are often generated by campaigning organisations on other controversial issues. (A check on the feedback forms, described below in paragraph 107, produced almost no evidence of an organised response). We have therefore taken every letter or e-mail received as a personal statement of the sender's views. Almost without exception, letters and e-mails expressed these views clearly and energetically and they were often backed with personal testimony or abundant research. The written response to the debate was rich and diverse.
97. Like meeting-goers letter-writers are self-selecting participants in the debate. They are also unusual people. The MORI survey in July 2001 on "Attitudes to Voting and the Political Process", mentioned earlier, found that only 11 per cent of respondents had written a letter to a newspaper during the past two or three years. That 11 per cent figure of course covers all the issues on which people write letters to newspapers. People generally write about issues which are immediately important to them. GM is not a salient issue in most people's ordinary lives. If it is unusual to write a letter for publication about anything, it is fair to suggest that it might be even more unusual to write a letter about GM.
98. Letters and e-mails have another important characteristic. They are solitary activities. The writer is not required to engage with other people, or deliberate. He or she has a completely free choice over the time, energy, research and thought put into the letter or e-mail, and above all, over its content. It is therefore arguable that letters and e-mails represent a "raw", spontaneous response to GM issues. More than any other source of evidence in the debate, they represent the personal agenda of the contributor.
99. Of all participants in the debate, letter-writers are those most hostile towards GM. Analysis of comments in letters and e-mails showed a proportion of 13 "anti" to 1 "pro" and 1 "uncommitted". An "anti" comment is again defined as any one expressing caution, suspicion, opposition or any kind of negative view of GM crops or technology. The "anti" letters and e-mails show the highest proportion of support for an indefinite ban on GM crops, as opposed to a delay. It is interesting that meeting goers produce a far higher proportion of "pro" comments than letter-writers. Meetings may not change minds, but they do open them.
100. The majority of writers of letters use more than one argument against GM in the same letter or e-mail and range over more than one aspect of GM (e.g. health, environment, suspicion of multinationals). Between them they cover all the arguments referred to previously under "the public agenda". The most common argument in letters and e-mails is the risk of contamination (allied to the potential loss of the right to choose not to consume GM food or produce GM crops). The next most common are:
- versions of the concept of precaution (characteristically a "tough" variation – rejecting GM unless and until there is proof that GM is clear of risk and is shown to have benefits)
 - GM crops not needed/have no market/organic is a better choice
 - threat to environment/wildlife/biodiversity
 - human health risks
 - opposition to multi-national producers' profits and power.

101. As is common throughout the debate, writers often express suspicion of government, multi-national companies (especially Monsanto) and international organisations, even if they do not have strong views on GM itself. Writers are sceptical about the government's willingness to listen to public opinion on GM (usually assumed to be identical to their own) and make frequent comparisons with the Iraq war.
102. Letters and e-mails in support of GM also cover the full range of arguments mentioned above under "the public agenda". The predominant themes are (in order of priority):
- rejection of scares and alleged risks of GM/US experience proves safety
 - opposition to the concept of precaution/Luddism
 - environmental benefits/reduced pesticide use
 - proven benefits to developing countries
 - right to choose GM/wrong to prevent people obtaining present and future benefits.
103. By far the commonest theme in "uncommitted" letters is the desire for more reliable information about GM from some trusted independent source. There is also a degree of support for some kind of mechanism to remove GM research, development and profits from the hands of multi-national companies.

Debate Feedback

Forms returned

104. During the six weeks of the *GM Nation?* debate, about 70,000 feedback forms were sent out in response to requests from members of the public and interested organisations. In total 36,557 feedback forms were completed. The results are analysed below.
105. The feedback forms invited people to complete the questions inspired by the Foundation Discussion Workshops. Thirteen were “closed” (listed in Appendix C) and invited respondents to choose between Agree Strongly; Agree; Disagree; Disagree Strongly; Don’t Know/Unsure. Two were open-ended and invited respondents to answer in their own words. The first asked under what circumstances they would find it acceptable for GM crops to be grown in the United Kingdom. The second invited them to express any additional views. The feedback form also asked them to show their gender; their age group and whether they had children or grandchildren; the region where they lived; and the debate activities (if any) in which they had taken part. It also identified how each respondent had received it (at a meeting or by other means). The entire feedback form is reproduced as Appendix E.
106. In the following section, analysis of the “closed” questions is based on the total sample of 36,557. The analysis of the open-ended questions is based on a random sample of 2,045 submissions, demographically matched to the total sample.
107. To check the possibility of an organised response to the feedback form we used a random sample of 200 open-ended responses to Question 15 (any additional views) to develop a code frame. Within that sample of 200 a total of three respondents reproduced an identical list of ten questions for government. We found no other evidence of any organised response.

Feedback respondents: involvement in the debate

108. Of the 36,557 responses 18,771 (51 per cent) were submitted in hard copy and 17,786 (49 per cent) on the website. An online response is more likely than a paper one to have been a solitary activity: paper responses resulted from going to meetings, or receiving a form from an organisation or individual who had requested it, so that they involved some interaction with others.
109. We wondered whether we could detect any difference in the feedback responses which was related to the way in which they received the form or their degree of involvement in the debate. The forms showed that 51 per cent of respondents had visited the website, and 28 per cent had read the booklet. Nearly a quarter (23 per cent) had attended a meeting, but only 7 per cent had seen the video and only 3 per cent viewed the CD-Rom. Nearly a quarter of respondents – 22 per cent – had done none of these things. In other words, they had received the form from another person. These were potentially a different set of respondents – selected by others rather than themselves. Would they show a different pattern of response to the rest?
110. In the event, our analysis showed no significant difference in views between them and other groups of respondents. It suggested that **the means** by which people took part in the debate made very little difference to the views they expressed in the debate. For example, people who went to Tier 1 meetings produced very similar feedback responses to people who went to those in Tiers 2 or 3 or to none at all. People who read the booklet produced the same kind of response as people who had not. However, as we note in paragraph 131 below, people who went to a meeting for the first time were more likely to have changed their minds about GM before arriving at their final views. So were the

relatively small number who had watched the video. They were less likely to be hostile or suspicious towards GM crops than all the rest. (But this may be due to their composition: video-watchers included fewer women and people in the middle age group – those least favourable towards GM. Moreover, video watchers were generally highly involved in other elements of the debate as well. All in all, we do not think that there was a special “video effect” on attitudes towards GM.)

111. However, in our cluster analysis, discussed below, we found one set of attitudes which we identify as “no fixed position on GM”, which we compare to two others – “implacably” and “somewhat” opposed to GM. People in the “no fixed position” cluster showed the lowest general involvement in the debate.
112. It is worth noting that simply completing the feedback form made respondents consider many different aspects of GM crops, potential benefits as well as potential risks, however briefly they lingered on a question or even if they chose not to answer it. Compared to letters and e-mails, feedback forms were not a “raw” response to GM crops. People who completed them had to debate the issues, at least with themselves.
113. The form also asked respondents whether they had attended other meetings to discuss GM issues before the public debate. Over two thirds – 69 per cent – said they had not; 28 per cent said that they had; and 3 per cent were not sure or did not answer. There are two ways to look at these figures. The 69 per cent suggests that the debate made many people actively engage in GM issues for the first time. The 28 per cent figure suggests that many people in the debate were already interested and committed. Previous engagement did not seem to affect attitudes: there were no statistically significant differences between the responses of the 69 per cent and the 28 per cent.

Feedback respondents: gender, age, residence

114. More than half the respondents, 54 per cent, were women (compared to 51 per cent in the UK population) and 44 per cent were men (compared to 49 per cent). The remaining 2 per cent did not identify their gender.
115. The age range of respondents is shown below, next to UK population figures (1 per cent did not identify their ages).

Age range	GM Nation Sample	UK Population
16-19	2%	6%
20-24	4%	6%
25-34	18%	14%
35-44	21%	15%
45-54	21%	13%
55-64	18%	11%
65+	13%	16%

As can be seen, our sample under-represents the age groups under 35 and over-represents those over 35. Our analysis below uses three broad age groups: under 35; 35-54; 55 and over.

116. Nearly one in five – 19 per cent – had children under 18 and over a quarter – 27 per cent – had grandchildren under 18. However, most respondents – 54 per cent – had no children or grandchildren. The remaining 2 per cent did not answer the question.
117. Respondents in England were 86 per cent of the total (compared to 84 per cent of the UK population). Scotland was slightly under-represented (6 per cent of respondents compared to 9 per cent of the UK population). Wales had 4 per cent of respondents (compared to 5 per cent). Northern Ireland had only 130 of the 36,577 total respondents – less than 0.5 per cent compared to 3 per cent.

118. Of English regions, the South East had 26 per cent of respondents, exactly matching its share of the UK population. The South West was significantly over-represented, with 22 per cent compared to an 8 per cent share of the UK population. The West Midlands had 13 per cent of respondents compared to 9 per cent. Under-represented regions were East Anglia (7 per cent compared to 9 per cent); East Midlands (5 per cent against 7 per cent); the North (1 per cent against 4 per cent); the North West (6 per cent against 12 per cent) and Yorkshire and Humberside (5 per cent against 8 per cent).

Feedback responses: general summary

119. The feedback responses show a general pattern of caution, suspicion or outright hostility towards GM and GM crops or foods. People were more willing to accept that there were potential risks of GM, or make a negative response to it, than to accept that there were any potential benefits, and they were far more certain in their “negative” responses than in their “positive” ones. Although some groups of people were less suspicious or hostile than others, every single group was broadly negative in its feelings about every GM issue.

120. Responses to the open-ended Question 14 indicated that over half – 54 per cent – never want to see GM crops grown in the United Kingdom. Nearly a fifth – 18 per cent – would find GM crops acceptable only if there was no risk of cross-contamination and 13 per cent wanted more research before any decision was taken. Just under half the responses – 49 per cent – wanted some condition to be satisfied before GM crops were grown, some listing more than one. Only 2 per cent thought GM crops would be acceptable “in any circumstances.”

121. There were emphatic majorities in support of the questions which referred to risks from GM or made some negative comment about it. As many as 95 per cent agreed about the risk of contamination of non-GM crops compared to 5 per cent who disagreed. There were comparable majorities on other questions as follows:

- not enough known about long-term health effects of GM foods 93 to 5
- GM technology driven more by profit than public interest 93 to 6
- Potential negative effects of GM crops on environment 91 to 7
- GM crops would mainly benefit producers not ordinary people 85 to 8
- Unacceptable interference with nature 84 to 10.

122. Only 8 per cent of feedback respondents declared themselves happy with the idea of eating GM food, compared to 86 per cent who were not. Only 7 per cent were confident that the development of GM crops was being carefully regulated, compared to 87 per cent who were not.

123. Feedback respondents generally rejected the potential benefits of GM crops, although these questions produced a higher response of Don’t Know/Unsure than the “negative” ones. Only 9 per cent agreed that GM crops could help British farmers compete with farmers around the world: 79 per cent disagreed and 11 per cent responded Don’t Know/Unsure. (In this and subsequent figures any remainder from 100 per cent represents those who did not answer). On other questions the responses were

- could benefit developing countries 13 agree; 75 disagree; 12 DK/Unsure
- less pesticides and chemical fertilisers than traditional crops 14 agree 71 disagree 13 DK/Unsure
- could help to provide cheaper food for consumers 14 agree; 70 disagree; 15 DK/Unsure

124. One question alone – number 9 – produced no outright “anti-GM” majority. Nearly a quarter – 23 per cent – agreed that some GM non-food crops could have useful medical benefits, compared to 41 per cent who disagreed. Over a third – 35 per cent – were uncertain.
125. The open-ended Question 15, inviting respondents’ additional views, produced a range of concerns about GM: most people listed more than one. The most frequent were concerns about environmental damage, followed closely by suggestions that not enough was known about GM and more research was needed, and concerns that GM development was driven by profit. Respondents also expressed their preference for organic or sustainable farming methods, and their concerns about cross-contamination and the need to protect consumer choice. They also mentioned the prospect of GM companies controlling food production.
126. On Question 22, nearly three quarters of feedback respondents said that their views had remained the same after taking part in the public debate, compared to 15 per cent who had changed their minds a little and 4 per cent who had changed them a lot. The remainder – 7 per cent – did not answer: this was by far the highest proportion of non-answers to any question.

Feedback responses: group variations

127. Two groups of people were more likely to be concerned, suspicious, or hostile about GM than others: women and people aged 35 – 54 of either sex.
128. Two groups were *by comparison* less likely to be concerned, suspicious or hostile: men and East Anglians. (People in Northern Ireland were also more favourably disposed towards GM but they were significantly under-represented among respondents. However, it is interesting to note that of all the Tier 1 meetings, Belfast was the most balanced in its range of comments between “pro”, “anti” and “uncommitted.”)
129. For each of the closed questions women and the middle age group were a few percentage points more hostile towards GM than all respondents. The greatest difference for women was on Question 12 (GM interferes with nature in an unacceptable way): 89 per cent of women agreed compared to 84 per cent of all respondents. Women and the middle age group were those most likely to oppose GM crops in the UK under any circumstances: 58 per cent in each case compared to 54 per cent for all respondents.
130. Men were much happier than women about eating GM food: 12 per cent against 5 per cent for women and they were more willing to believe that British farmers could benefit from GM crops: 12 per cent against 6 per cent. Men were generally a few percentage points more favourable or less resistant towards GM on each of the closed questions than all respondents. East Anglians were a slightly more sympathetic group towards GM on all the closed questions. One in seven – 14 per cent – declared themselves happy to eat GM foods compared to 8 per cent of all respondents (however, the 130 Northern Irish respondents were even happier, at 24 per cent).
131. Although only about a fifth of all feedback respondents said that they had changed their minds as the result of the debate, the figure was significantly higher for people who attended a meeting on GM *for the first time*, who represented over two thirds of all respondents. Among these people, 24 per cent said that they had changed their minds a little and 8 per cent a lot, compared to 15 per cent and 4 per cent for all respondents. (Video watchers showed an identical variation). But the 28 per cent of respondents who had been to a GM meeting

before were less likely to change their minds as the result of going to another one: 80 per cent said their views had remained the same after the public debate compared to 74 per cent of all respondents. East Anglians and the few Northern Irish respondents were more likely to have changed their minds than people elsewhere in the UK.

Feedback: attitudinal clusters

132. Analysis of the feedback data identified three statistically robust “attitudinal clusters” towards GM – three broad groups of people whose responses tended to match. We have identified them as follows:

Cluster 1	Implacably Opposed to GM 47 per cent of sample
Cluster 2	Somewhat Opposed to GM 32 per cent of sample
Cluster 3	No Fixed Position on GM 12 per cent of sample

133. In Cluster 1 almost nobody agrees that GM crops have any potential benefits or that they are willing to eat them or that they are well regulated. They agree by enormous majorities, in some cases near unanimity, to the questions about the risks of GM foods or containing negative statements about them. Nearly three quarters of them – 72 per cent – are opposed to GM crops under any circumstances, compared to 54 per cent of all respondents.
134. Cluster 2 have broadly the same attitudes as Cluster 1 but tend to be less emphatic. They agree almost as strongly on the “negative” questions as Cluster 1, and are almost as unhappy about eating them and about their regulation. However, they are more willing to accept that there are potential benefits from GM crops, especially medical ones, where 35 per

cent agree against 20 per cent who disagree and 45 per cent Don’t Know/Unsure. Just under half – 49 per cent – are opposed to GM crops under any circumstances, while 24 per cent would agree to them only if there were no risk of cross-contamination and 16 per cent would like to see more research first.

135. Cluster 3 have a different attitude. Their answers to questions are spread more evenly and they record more Don’t Knows/Unsure than the other two. On four questions they share the suspicion or scepticism towards GM of the other clusters: impact on the environment; driven by profit; long-term effects of GM food on health; difficult to keep other crops GM free. However, in spite of their doubts on long-term health, they are far happier about eating GM food (20 per cent agree). They are also far more willing than the other two clusters to agree to potential benefits from GM crops, especially benefits to developing countries (51 per cent agree) and lower pesticide use and medical benefits (53 per cent each). Only 19 per cent were opposed to GM crops under any circumstances. Over a quarter – 27 per cent – wanted to ensure that there was no risk of cross-contamination and 21 per cent wanted more research to be done.
136. The implacable cluster 1 is more female than male: 60 per cent against 40 per cent. Just under half – 47 per cent – are in the middle age group. This cluster also has the highest proportion of people with children, 30 per cent. By comparison, the total sample has 54 per cent women and 44 per cent men, 42 per cent in the middle age group, and 19 per cent have children. Cluster 3, of no fixed position, has more men than women (52 per cent against 47 per cent) and higher proportions of those under 35 or over 54 (33 per cent and 35 per cent against 25 per cent and 31 per cent in the total sample). Cluster 2 is in line with the total sample. There are no significant regional variations in the clusters.

137. Cluster 3 were far less involved in the debate than the other two. Although 22 per cent attended a meeting (in line with the figure for all feedback respondents) only 41 per cent visited the website (compared to 51 per cent for all respondents and cluster 1 and 55 per cent for cluster 2). Only 22 per cent of cluster 3 read the booklet compared to 28 per cent for all respondents (31 per cent of cluster 1 and 27 per cent of cluster 2). Nearly a third – 31 per cent – of cluster 3 had taken no part in any debate activities, apart from filling out the form. This compared to 22 per cent for all respondents.
138. Cluster 1 were those most likely to have attended a previous GM meeting (33 per cent) and cluster 3 those least likely (18 per cent). However, cluster 3 were those most likely to have changed their mind: over a quarter – 26 per cent – thought their views had changed a little. The comparable figure for all respondents was 15 per cent. In cluster 3, a further 4 per cent thought they had changed their minds a lot – the same proportion as for all respondents.

Summary: the more engaged, the more likely to oppose GM

139. The last result seems paradoxical. The group which takes least part in the debate is the group most likely to change its mind about GM, at least a little.
140. However, in our view it confirms a general finding from all the evidence of the open debate. Broadly speaking, it reflects the views of people who are regularly engaged in politics and current affairs. Such people are far more likely to be uncertain, suspicious or hostile towards GM and to have made up their minds about it.

Narrow-But-Deep

A silent majority?

141. The evidence we have presented so far reflects the views of people who took a conscious decision to get involved in the GM debate. We knew that they **might** not be representative of the general population. Was there “a silent majority” with different views?

Further group discussions

142. We tested this possibility through a research component, the “Narrow-But-Deep” element of the debate. We asked Corr Willbourn, who had conducted the original Foundation Discussion Workshops, to set up ten further Group Discussion exercises amongst the general public. The sample was constructed to give broad coverage across the general public population. Thus, four broad life stage and two broad socio-economic groupings were adopted, while the locations gave broad geographic coverage of the United Kingdom, including Scotland, Wales and Northern Ireland. This sample construction has been used successfully on many previous projects and has been shown to provide a good understanding of the public’s views and levels of engagement with various complex issues. A total of 77 people took part.
143. All the groups specifically excluded people who were employed, or did research in biotechnology and/or GM or who did any active campaigning for or against GM. They did not exclude people who took part in the *GM Nation?* debate, but as it happened none of them did.
144. Each group met twice during June or July 2003 with a facilitator, using a very similar approach to the Foundation Discussion Workshops. In their first session, the participants were introduced to the issue of GM and the debate, and provided with the *GM Nation?* booklet and CD-Rom. They were invited to devise ways for them to continue to engage in issues about GM, and think and talk

about it before meeting again in about two weeks’ time. They were given a daily diary to use as they pleased to collect their findings and record their thoughts. As will be seen, participants used the time between sessions in different ways, collecting information from a variety of sources. At their second session, they reported the results of their activities on GM and discussed and debated the issues they thought most important.

145. At the beginning of each session, before any discussion, each group was asked to complete the thirteen “closed” questions of the debate feedback questionnaire. Their replies, and their discussions in each session, give broad “before and after” pictures of their views on GM and suggest whether and how the general public might change their responses to GM issues in the light of greater engagement.
146. A sample of 77 people is too small to generate **quantitative** data representative of the UK population, particularly in view of the construction of the separate groups, which means, for example that Wales and Northern Ireland are statistically over-represented in the 77. However, we are confident that it is **qualitatively** reliable. Furthermore, the data do show reliable changes and differences between the sessions. All in all, we believe that it is possible to compare qualitatively responses in the Narrow-But-Deep element to those of other parts of the debate. We believe that the Narrow But Deep element provides evidence of grass roots views and attitudes which might otherwise have been unheard during the debate. If there is a silent majority, it would show itself here.
147. We quote numbers in analysis of the Narrow-But-Deep element when they make it easiest to grasp the qualitative responses under discussion and any changes in them.

First response to GM: uncertainty

148. Participants were asked to complete the thirteen “closed” questions **before** they had taken part in any new discussion about GM or acquired any new information about it. They were guided only by their contact with GM issues in their personal lives. In that sense they are a “raw” response from representatives of the general population, just as letters represent a “raw” response from the “engaged” population. Neither has been forced to confront any new views or information.
149. That first response suggests that the general public have a great deal of uncertainty about GM and feel that they lack information about it, but are still capable of forming strong views about it.
150. The responses by group participants show a high proportion of Don’t know/Unsure. No fewer than 56 per cent responded in this way to Question 9 (potential medical benefits), with 42 per cent for Question 1 (cheaper food) and 37 per cent for Question 3 (help British farmers). As many as 12 per cent responded Don’t know/Unsure to Question 8 (long-term effects of GM food on our health) which actually opened with the words “I don’t think we know enough...” The high percentage of Don’t Know/Unsure is consistent with the findings of the Foundation Discussion Workshops.
151. When asked to review their responses to the questions, people readily confirmed that they did not feel that they knew much about GM. They admitted that they did not know exactly what was meant by genetic modification (many thought it meant it was a chemical process, rather than a biological one) and many also thought that GM foods were already in wide circulation in the United Kingdom. The great majority did not recognise the formal title *GM Nation? The Public Debate*, although quite a number were aware that some kind of debate was in progress.

152. These initial responses are not in the least surprising. For the overwhelming majority of people, GM has made no practical impact. Almost no one has been prompted by experience to get interested in GM in the same way that he or she might be prompted to be interested in say, education or the NHS or transport.
153. Although the general public might feel uncertain or uninformed about GM they can still have clear attitudes about it and strong views on particular aspects.

Initial attitudes towards GM

154. The first discussions in the Narrow-But-Deep groups suggested the same range of attitudes as those in the Foundation Discussion Workshops, namely a mixture of passivity, anxiety, suspicion, fatalism and expectancy.
155. Many participants suggested that the issue of GM simply did not mean very much to them in their everyday routine. They had not formed any strong view on it, nor had they tried to find out much about it. However, GM did make many of them anxious. People feared either that it would lead to a repeat of some well-known disaster (BSE and thalidomide were mentioned, as they were frequently in letters and meetings), or simply that it would have some unforeseen terrible result, especially for health.
156. Participants frequently expressed their suspicions of key decision-makers in GM, especially the government and multi-national companies, and their view that the debate was window-dressing, used to cover secret decisions to go ahead with GM crop development. There was also suspicion that vital evidence was missing or even suppressed, and a/the desire for trusted independent sources of reliable information. Those who expressed suspicion were fatalistic about the results of the debate: the government would ignore it, and push ahead with GM no matter how strongly people objected. They made

comparisons with the way the government ignored mass protests over Iraq.

157. In contrast to these suspicions and concerns was the attitude of expectancy. Participants in the Narrow-But-Deep element were willing to acknowledge potential benefits from GM. They identified promising GM products which they had heard about or cited GM's general potential to help developing countries. However, they were suspicious as to whether these benefits would actually happen, or would be delivered to ordinary people. They believe that profits for multinational companies, and the preservation of power for those who have power in the world, will take priority over their own needs and interests, and those of developing countries.

158. In the initial discussions, participants were introduced to the six key general questions which we had identified as important for the public debate. These were:

- the issue of GM
- what future would you like to see for GM?
- the possible commercialisation of GM crops in the UK
- what do you think might be the impact of GM on our world?
- what benefits and risk do you see GM bringing?
- the options for proceeding with this.

159. This produced three common reactions. First, people said that they simply did not have enough information to answer these questions. Second, people wondered why GM technology was being introduced at all. Third, people thought that more evidence about GM ought to be made available. If unknown it should be researched and discovered, if known and suppressed it should be brought to light.

160. Narrow-But-Deep participants did not put their thinking about GM into one particular conceptual box. They took in scientific, economic, social and ethical arguments. They recognised GM as a complex, multi-layered issue and although they sought reliable information on scientific issues they did not accept science, or any single authority, to answer all their questions.

Initial responses to feedback questions

161. The Narrow-But-Deep element showed large majorities for or against particular questions in the debate questionnaire. Their initial response showed net agreement (all agrees minus all disagrees) of 73 per cent on Question 8 (I don't think we know enough about the long-term effects of GM food on our health). Discussion suggested that the "we" in this response meant not only the respondents but also the developers and promoters of GM foods.

162. There were other high scores of net agreement: 60 per cent on Question 4 (technology driven by profit not public interest), 47 per cent on Question 11 (risk of contamination) and 43 per cent on Question 2 (potential risk to the environment).

163. In initial responses, the Narrow-But-Deep participants accepted that GM had some potential benefits. They agreed on Question 6 by more than four to one that it might lead to lower pesticide and chemical use. On Question 13 they agreed by about three to one that GM crops might benefit people in developing countries.

164. The Narrow-But-Deep participants also had a majority – of over 5 to 2 – in favour of Question 9 (potential medical benefits), although those who agreed were heavily outweighed – by 7 to 4 – by the Don't Knows. They also had majorities in favour of Question 1 (cheaper food for UK consumers), and Question 3 (helping British farmers to compete).

165. On two particular propositions the Narrow-But-Deep participants were almost evenly split between Agree, Disagree and Don't Know/Unsure. These were Questions 5 (happy to eat GM food) and 12 (GM interferes with nature in an unacceptable way). Detailed analysis of the data suggests that this might be explained by socio-economic and gender factors. Social Classes A, B and C1 were notably less happy to eat GM food than the rest, and women were notably more concerned than men about GM interfering with nature.

166. These are the main features of the initial response by the Narrow-But-Deep participants. Would these attitudes and views be changed by two weeks' immersion in GM issues? If so, would these changes suggest how the general public might respond to deeper engagement with GM and the acquisition of greater personal knowledge?

Two weeks' immersion in GM

167. All the participants were invited to continue to explore GM issues between the two sessions, tackling whatever questions and using whatever sources they wished.

168. People took up this invitation with varying degrees of apparent commitment. Some daily diaries were packed with information and comments, others were less brimming. But no one ignored the invitation. Apart from one participant who was taken ill, every member of the groups came back to the second session with more personal knowledge and some stronger views to express than in the first.

169. People drew on a wide range of sources to inform themselves about GM. They included not only published material but first-hand research from family and friends and in their immediate personal world. People used the *GM Nation?* booklet and CD-Rom, and looked out for stories

in conventional media. But they also made many more personal choices of published material, including Internet searches, specialist books and magazines, and exploring libraries. Many enlisted family and friends for discussion, information and help in research. Some sought information from supermarkets, shops and restaurants, and inspected their labels and menus. Some contacted specialists they knew, including farmers and a salesman of agricultural chemicals, and specialist organisations. Two participants actually convened debates of their own. One contacted the local MP.

170. The variety of these activities tells its own story. People decide for themselves the information they want about GM. They do not rely exclusively on official sources or everyday media. They choose sources which they trust and which mean something in their personal life. However, it should be noted that very few Narrow-But-Deep participants went to primary sources for research data on GM. Instead most people relied on secondary reports of research, often from interested parties, without checking back to see if the research had been reported accurately.

Second response to GM: more information, firmer views

171. At the beginning of the second group sessions, participants were asked again the thirteen closed questions of the debate feedback form.

172. With extra information they had given themselves in their two weeks, people were more ready to commit themselves to a view on GM issues. It consolidated some initial views and challenged others. Although participants became more willing to accept three potential benefits from GM (cheaper food, medical benefits, help for developing countries) they became more sceptical about the others and they expressed more concern about all of the risks identified in the "closed" questions. In particular, with their

extra knowledge they became all the more convinced that no one knows enough about the long-term effects of GM on human health.

173. The changes in response to each question are summarised in Table A (page 45). These percentages should be read with caution, since they relate to a sample of only 77. However, Table A gives a convenient snapshot. We are confident that the size of the changes recorded between the sessions is reliable and meaningful.
174. Table A shows that Question 9 (medical benefits) produced the greatest fall in Don't Knows from participants in the Narrow-But-Deep element, from 56 per cent to 25 per cent. Belief in the potential medical benefits of GM crops almost doubled, although it is not clear whether this derived from additional knowledge or from greater desire.
175. On Question 1 Don't Knows fell from 42 per cent to 16 per cent, and there was stronger agreement rose that GM might bring cheaper food for consumers. But at the same time, the response to Question 7 showed a 21 per cent increase in those who believed that GM crops would benefit mainly producers rather than ordinary people. This gain is not explained by attitudes hardening from Don't Knows: they fell by only 9 per cent. People changed their minds and became more convinced that producers would gain most from GM. Taken with other comments in group discussions, this response suggests that support for cheaper food through GM rests on hope rather than belief.
176. After the two-week immersion there was a 23 per cent reduction in Don't Know responses to Question 13. More people believed that GM crops could benefit people in developing countries, although group discussion identified many other factors besides GM technology which would determine whether this would happen.

177. There was slightly reduced belief in two potential benefits from GM crops, although they still enjoyed majority support. On Question 3 (helping British farmers to compete), Don't Knows fell by 23 per cent, but there was a 16 per cent increase in those disagreeing. On Question 6 (lower pesticide and chemical use) Don't Knows fell by 15 per cent and those disagreeing rose by 12 per cent.
178. If participants in the Narrow-But-Deep element had negative feelings about GM in their first response to the questions, these were all strengthened after the two-week immersion. Table A shows this pattern:

Question 2

(potential negative effect on the environment):
Don't Know down 24 per cent,
total agree up 28 per cent.

Question 4

(driven by profits):
Don't Know down 19 per cent,
total agree up 19 per cent.

Question 7

(producers benefit, not ordinary people):
Don't Know down 9 per cent,
total agree up 21 per cent.

Question 10

(regulated carefully):
Don't Know down 15 per cent,
total disagree up 17 per cent.

Question 11

(hard to ensure other crops GM free):
Don't Know down 13 per cent,
total agree up 15 per cent.

Question 12

(unacceptable interference with nature):
Don't Know down 21 per cent,
total agree up 29 per cent.

179. After the two-week immersion group members were far less happy about the idea of eating GM foods. Don't Knows on Question 5 fell by 15 per cent and total disagreement rose by 24 per cent.
180. However, the most dramatic effect was shown in the response to Question 8: I don't think we know enough about the long-term effects of GM food on our health. Uncertainty on this topic virtually disappeared, and almost everyone came to agree.

Stage 2 Discussions: Wait At The Amber

181. The general theme which emerged from the reconvened discussion groups was a preference for **caution**: GM technology should not go ahead without further trials and tests (preferably in closed conditions), firm regulation, and, above all, clear and trusted answers to unanswered questions about health and the environment.
182. As to the issue of GM, some group members gave it a low priority even after two weeks of concentrated study. They expected GM to go forward regardless of the debate and they did not care about the consequences. However, more group members did care about GM because they linked it to a range of other issues which were important to them, including other scientific developments (such as cloning animals), and health, economic and political issues, notably the power of multi-national companies and international institutions.
183. Many were puzzled by the national debate. Why had GM produced one when other big issues, including the war in Iraq had not? This increased suspicion that a big decision had already been taken, for which the debate was only a smokescreen. However, there was also widespread agreement that the debate had been worthwhile and informative, and genuine hope that it would influence decisions.
184. People were generally sceptical about the benefits of GM. Even when they identified a potential benefit in the feedback questionnaire in discussion they often expressed doubts that it would actually be delivered. This happened on the issues of cheaper food for UK consumers and benefits for the developing world.
185. Most important, even after two weeks' immersion, no one felt that he or she knew enough about GM to be certain of the right decision about it. This feeling encouraged people to be very cautious about the future for GM.
186. The cautious approach expressed itself in demands for continued debate, further trials for GM in closed conditions, clear and reliable information, and proof that GM crops were safe for human health and the environment. Many also wanted clear proof that GM would produce benefits for the final consumer in the UK, and for developing countries. There were also demands for vigilant regulation for GM crops. Some thought that GM should be limited to medical applications (in the form of gene therapy rather than the creation of pharmaceutical crops) or to developing countries. A determined minority favoured an outright and indefinite ban on GM crops. No one at all wanted to see the immediate unconditional commercialisation of GM crops, although, as already noted, some thought that the decision had already been taken.
187. Other grounds for caution were expressed when the groups discussed the future they wanted for GM crops. People wanted to see careful controls on GM crops, either from state regulation or from the application of existing health and safety rules. They wanted to be certain that consumers could go on buying non-GM and organic produce, by somehow ensuring a clear separation of GM crops from the rest. A few people took that argument one step further by suggesting that the entire UK, or some nations and regions within it, might become a separate non-GM growing

environment and promote themselves in that way to consumers and tourists.

188. Moving on to the possible commercialisation of GM crops in the UK, no one wanted this to happen immediately but many thought that it was bound to happen regardless, particularly because of pressure from the United States. In general, people wanted delay until GM crops could be proved to be safe, but there was no agreement on how long a delay or what would constitute proof.
189. In discussion, most people took a negative view of the impact of GM on the world. It would add to environmental problems and it might even produce some uncontrollable disaster for the course of nature. People also suggested that it would accelerate the industrialisation of agriculture and the control of big business over the food chain.
190. Discussion showed a general lack of confidence in the benefits of GM crops, especially benefits which would be seen in everyday life. People expressed the greatest interest and belief in medical benefits from GM, including the possibility of nutritionally enriched rice and new crops as sources for pharmaceuticals and biomass energy. The biggest risk was identified with human health, followed by the environment.
191. Finally, groups were invited to discuss options for proceeding with the commercialisation of GM crops. This created some confusion and protest. Did it assume that commercialisation was bound to happen?
192. Again, the key message from this part of the discussion was caution. Most people wanted delay in the commercialisation of the GM crops to allow for more debate and research, and case-by-case testing of individual crops, followed by strict policing. People wanted proof that GM crops would be safe for human health and the environment and many wanted an additional proof that GM crops would produce some benefit for the consumer.

193. During their reconvened discussions, two of the groups, in King's Lynn and Sheffield, agreed that they should produce a formal letter to express their views to decision-makers on GM. In King's Lynn this was initiated by a participant, in Sheffield it was prompted by the facilitator. In both cases, this is an unusual result from group discussions of this kind. Because of this, because the views expressed had widespread support from all the groups and above all, because the two groups asked us to, we have published the two letters at Appendix F.

Open debate and Narrow-But-Deep: a comparison

194. As we said earlier, the Narrow-But-Deep element was devised as a control on the evidence of the open debate. It was intended to give a qualitative idea of whether the general population might respond differently to GM issues to the self-selecting people who became active participants in the *GM Nation?* programme.
195. The Narrow-But-Deep element suggests that in some ways they do and in some ways they do not. However, we can say that they are **not** a "silent majority" in the original Nixonian sense of being a completely different audience with different values and attitudes from an unrepresentative activist minority.
196. Narrow-But-Deep participants shared with those in the open debate the recognition that GM encompasses many overlapping scientific, economic, social and ethical issues. They also have in common suspicion about the agenda and motives of the key decision-makers in GM – the government and multi-national businesses.
197. For both groups of people, mistrust of government applied both to government in general and in the particular and expressed itself through several avenues. One was the suspicion that the government has already taken a decision

about GM: the debate was only a camouflage and its results of the debate would be ignored. Both groups of people cited Iraq as a similar example of how the government ignored the public's views. Both groups reflected a weakening of faith in the ability or even the will of any government to defend the interest of the general public. They cited past disasters, especially BSE, to carry a double lesson, first, that government may not have the knowledge and advice to help them take the right decisions, and second, that government can be too close to producer interests.

198. In both groups people voiced suspicion or resentment at the perceived power of the multi-national companies which promote GM technology, and of such companies in general. They suggested that these companies were motivated overwhelmingly by profit and that they had the power to make their interests prevail over the wider public interest, both at home and throughout global society. Although people in both groups were prepared to identify benefits from GM, they expressed frequent doubts that GM companies would actually deliver them.
199. In both groups people consistently expressed a very strong wish – almost a longing – for more information about GM from sources they could trust. They wanted such information partly to resolve the contradictions and disputes, claims and counter-claims, in the existing body of information, science and research on GM issues. They wanted information which serves as a corpus of agreed “facts”, accepted by all organisations and interests, and independent of any special influence.
200. Perhaps a consequence of that common attitude, people in both groups seek information from a wide range of personally trusted sources when they engage in GM issues.

201. People in both groups were prepared to examine GM issues in a different light for developing countries than in the United Kingdom, to be judged on different arguments and different values, although they diverged on their ultimate conclusions.

202. In both groups people were suspicious about the motives for the debate and its influence on actual decision-making but also glad that it had happened and glad that they themselves had taken part.

203. In other respects, the Narrow-But-Deep participants took a distinct approach to GM, particularly in their first response. They differed from the majority of participants in the open debate but had characteristics in common with those we identified in attitudinal cluster 3: no fixed position on GM.

204. Compared to the majority in the open debate, they generally expressed themselves as far less knowledgeable about GM issues and less able to express an opinion about them. This feeling emerged clearly both in initial comments in group discussions and in initial responses to the closed questions. Within the Narrow-But-Deep element the initial response to GM issues was generally characterised by uncertainty: although they shared many of the concerns of people in the open debate there was more doubt in their views.

205. The most important difference between the two groups is that the Narrow-But-Deep group were generally more prepared to acknowledge potential benefits from GM crops, both in their initial response and after two weeks' engagement. In spite of their scepticism about the companies controlling GM, they consistently accepted the possibility that GM might offer cheaper food, help British farmers, reduce pesticide and fossil fuel use, provide medical benefits and help developing countries. Every single one of these potential benefits was overwhelmingly rejected in the open debate.

206. As we have already noted, greater engagement in GM issues hardened opinions and attitudes among the Narrow-But-Deep element. They became more willing to agree to three potential benefits (cheaper food, medical benefits, developing countries). But conversely they became less willing to agree to other potential benefits, expressed higher degrees of concern about all the identified risks of GM and developed an almost total uncertainty about its long-term effects on human health.
207. As to the immediate issue: very few people in either group want to see the early commercialisation of GM crops, although the groups differed in the intensity of their expressed resistance to this. Among participants in the open debate, just over half never wanted GM crops grown in the United Kingdom under any circumstances. Almost all the remainder wanted at least one new condition to be satisfied before this happened. They sought varying periods of delay so that new information, tests or research could identify and eliminate, or at least reduce to an acceptable level, the potential risks to the environment and human health.
208. Narrow-But-Deep participants did not express the same unconditional opposition to GM. However, they had a preference for caution: GM technology should not go ahead without further trials and tests, firm regulation, demonstrated benefits to society (not only producers) and, above all, clear and trusted answers to unresolved questions about health and the environment.
209. In general, the Narrow-But-Deep element suggests that the general public is likely to have a lower degree of outright opposition to GM than the self-selecting component who involved themselves in the debate. They appear more willing to accept that there are potential benefits from GM, and more willing to accept that there could be circumstances, in the future, when at least some GM crops might go ahead, in the UK or in developing countries.
210. However, it also suggests that the general public is likely to share all of the main concerns about GM, particularly when they become more engaged in GM issues, and that they have as little basic confidence in those who take decisions about GM. On the evidence of the Narrow-But-Deep element the general public – just as much as the self-selecting debate participants – want new, convincing, trusted evidence to establish the benefits from GM and dispel the risks.

TABLE A Closed questions responses in the Narrow But Deep element

1 Initial Response 2 Repeat Response

	NBD 1	NBD2	change
	%	%	%
Q1 Cheaper food			
Total agree	43	60	+17
Total disagree	14	24	+10
DK/Unsure	42	16	-26
Q2 negative environment			
Total agree	57	85	+28
Total disagree	14	12	-2
DK/Unsure	28	4	-24
Q3 help British farmers			
Total agree	40	47	+7
Total disagree	23	39	+16
DK/Unsure	37	14	-23
Q2 profit driven			
Total agree	69	88	+19
Total disagree	9	9	0
DK/Unsure	22	3	-19
Q5 happy eaters			
Total agree	36	26	-10
Total disagree	35	59	+24
DK/Unsure	29	14	-15
Q6 lower pesticides			
Total agree	54	53	-1
Total disagree	17	29	+12
DK/Unsure	32	17	-15
Q7 producers benefit			
Total agree	56	77	+21
Total disagree	24	11	-13
DK/Unsure	19	10	-9

	NBD 1	NBD2	change
	%	%	%
Q8 not know enough about health			
Total agree	80	96	+16
Total disagree	7	1	-6
DK/Unsure	12	1	-11
Q9 medical benefits			
Total agree	32	60	+28
Total disagree	12	16	+4
DK/Unsure	56	25	-31
Q10 regulated carefully			
Total agree	21	18	-3
Total disagree	44	61	+17
DK/Unsure	36	21	-15
Q11 contamination risk			
Total agree	64	79	+15
Total disagree	17	15	-2
DK/Unsure	19	6	-13
Q12 unacceptable interfere nature			
Total agree	37	66	+29
Total disagree	29	20	-9
DK/Unsure	35	14	-21
Q13 help developing countries			
Total agree	50	63	+13
Total disagree	18	28	+10
DK/Unsure	32	9	23
Note: percentages may not add up to 100 and changes may not sum to zero, because of rounding Sample = 77			

Other consultations

211. The following paragraphs deal with a number of other consultations held by public bodies in association with *GM Nation? The public debate* or alongside it, and some initiatives supported or agreed by the Steering Board. We report factually on these but do not comment on the output, for which we take no responsibility. Many other initiatives by individuals and organisations were stimulated by the debate. We have not reported on these but note that the debate inspired a much wider interest and dialogue than that directly associated with *GM Nation? The public debate*.

Dorset County Council

212. On 1 February 2003 Dorset County Council, with the help of the Steering Board, staged the first event to form part of the public debate. It attracted over 200 people, including elected councillors and representatives of community and environmental agencies as well as 118 members of the general public.

213. The programme lasted all day. The morning session staged presentations intended to make people aware of the national GM debate, provide a basic understanding of GM technology and put over viewpoints both for and against commercialisation of GM crops. As one of four platform speakers, Malcolm Grant gave the background and context of the national debate. In the afternoon five concurrent workshops led by local and national experts were held in which participants explored key GM issues in depth: health; the environment; the economy; consumer choice; and the science of GM. A second environment workshop was set up to meet popular demand. The workshops were built on questions from our ongoing work in preparing the national debate. Apart from the

workshops, people were offered the chance to comment on a notice board.

214. Three key messages emerged from the event:

- (a) **the lack of information and the need for caution.** There was not enough clear and reliable information, especially on health and environment, to make the potentially irreversible decision to commercialise GM crops. A much better approach to risk assessment was needed, and a precautionary approach was required. Science alone could not provide all the answers – ethical and other aspects were also important;
- (b) **the potential impact on the farming industry.** Farmers deserved support in remaining competitive and viable but there was disagreement on how best to achieve this. Commercialisation of GM crops was only one of a range of issues for farmers in a competitive global market. Sustainable, organic and high-quality local products were alternative approaches which enjoyed support among participants. There was a cultural resistance in Dorset to the idea of GM crops, which were associated with monoculture and Americanisation of farming;
- (c) **the impact on the consumer.** There was a need to find out more about consumers and their views on GM foods. People should have meaningful choice about whether or not to consume GM products, and the freedom to grow non-GM crops themselves.

215. The event highlighted the complexity of the issues surrounding the commercialisation of GM crops – and people recognised that they needed much more discussion and exploration than was possible in one day.⁸

⁸ Dorset County Council/Dorset Agenda 21. Dorset GM Event Report. February 2003.

Food Standards Agency

216. On its own initiative, the Food Standards Agency launched a number of activities to gather people's views on GM food, including questionnaires, focus groups, a citizens' jury, discussion groups with young people and those on low incomes, a schools' debating competition, a video produced by London school students, and an open meeting of its Advisory Committee on Novel Foods and Processes. These were intended as a contribution to the wider debate set out the previous summer and were not formally associated with *GM Nation? The public debate*. In July it published their results in a report, "Consumer views of GM food."⁹

217. The FSA suggested that concern about GM food had decreased over the past three years, but that for many people any consumer benefits from it remained unclear and unproven. The potential impact of GM crops on the environment was the issue which gave rise to most concern. It worried people who were generally receptive to eating GM food. There was special concern that once GM crops were released into the environment there could be no turning back. This could produce cross-contamination and restrict choice between GM and non-GM food.

218. The FSA also reported that

- (a) customers wanted to be able to make an informed choice between GM and non-GM food and felt it essential to have clear and effective labelling;
- (b) although some people considered that GM could bring benefits in nutrition, quality and price, others thought it unnecessary given the choice of food currently available. Some people felt that the UK might be left behind technologically if GM was developed in the rest of the world;

- (c) most people acknowledged that there was little public understanding about GM food. They welcomed the presentation of basic facts and considered it important to have unbiased, accessible information;
- (d) consumers wanted further information on the safety assessment of GM food to be publicly available and wanted to know more about the regulatory bodies responsible for safety. There were continued concerns about whom to trust to resolve uncertainty. The BSE crisis had left some people with a distrust of scientists and government;
- (e) although it was recognised that GM food had been consumed outside the EU for some years with no suggestion of health problems, there were concerns about its potential long-term health effects;
- (f) there was a wide range of views on the potential economic benefits of GM to developing countries and its potential negative impacts on sustainability.

Citizens' Juries

219. During July and August 2003 two parallel citizens' juries were carried out in Hertfordshire and Tyneside by the DIY Citizens Jury Project of the University of Newcastle. Each jury heard from an identical set of witnesses and reached its own conclusions. The process was funded by the Consumers Association, the Co-op, Greenpeace and Unilever. It was supervised by an independent oversight panel, including Gary Kass of the Steering Board, whose members had a range of expertise in both citizen participation initiatives and issues surrounding GM foods and farming.

220. The results were published on 8 September in **The People's Report on GM Crops**, compiled by Newcastle University researchers.¹⁰

⁹ Food Standards Agency. Consumer Views of GM Food. May 2003.

¹⁰ Policy, Ethics and Life Sciences Research Institute, University of Newcastle. The People's Report on GM Crops. September 2003.

221. Each GM Jury called for:
- (a) a halt to the sale of GM foods currently available, and to the proposed commercial growing of GM crops. This conclusion was based on the lack of evidence of benefit and a precautionary approach;
 - (b) long-term research into the real risks of damage to the environment and the potential for harm;
 - (c) an end to blanket assertions that GM crops were necessary to feed the starving in the Third World, in view of the complex social and economic factors which lay behind starvation.
222. Their verdicts also included a critique of the high use of fertilisers and pesticides in current conventional agricultural practices, and proposals for additional incentives and support for smaller farmers and organic farming. They also called for bodies which regulate new agricultural and food technologies to be made more accountable to citizens.
223. The two juries also raised some wider issues. They condemned the “lip service” paid by the elected government to public debate on such a major issue as GM. They expressed concern that government communications and media coverage failed to give enough weight to the importance and complexity of the GM issue. They made proposals to curb the power of large agro-chemical corporations to impose new technologies on farmers and consumers, and to transfer liability for potential risks from GM technologies away from farmers and towards the corporations. Finally, they expressed concern that the gradual privatisation of scientific research is threatening the independent regulatory assessment of GM technologies, and called for future research to be more accountable to the population.

Democs

224. Democs (an acronym for “Deliberative Meetings Of Citizens”) is a card game devised by the New Economics Foundation (NEF)¹¹ to make it easier for people to work out, share and express their views on public policy issues. In place of numbers and suits, people organise their cards into “facts” (statements presented as facts about an issue) and “clusters” of argument. The game was used, with our agreement, at a major Tier 2 event in Edinburgh and offered by the NEF as an additional resource for organisers of Tier 3 events. The NEF have informed us that it was used in at least 18 of these, and they have identified and grouped three main themes and associated arguments which were chosen by players.
225. These were:
- (a) **“We don’t know enough”**. GM is too uncertain; we need more time and more information; maybe we have to take some risks;
 - (b) **“Who benefits?”**. GM is for the benefit of big business; “trade-offs” (other values besides financial outlay and return should be incorporated into decisions about GM); scepticism that the Third World will gain; there may be benefits;
 - (c) **“We’re mucking about with nature”**. Biodiversity will suffer; GM is unnatural.
226. The NEF mentioned four other frequent miscellaneous groups of argument: don’t give science too much weight; standardise regulation? (calls for impartial, worldwide regulation); we don’t trust the government; give people more say.

¹¹ See www.neweconomics.org

Isle of Man

227. In July 2003 the Isle of Man government issued a press release inviting comments on GM technology from the Manx people and visitors to the island. GM was also a leading topic for comment at two recent Manx Agricultural shows.
228. A total of 65 comments were received. The vast majority were not in favour of the introduction of GM crops to the island. The main concerns raised were:
- (a) the potential long-term effects on health;
 - (b) the potential impact on Manx farming.
There was a risk that old crop varieties would be lost and that the status of organic farms could be compromised. The island might benefit economically from being GM-free;
 - (c) Manx countryside and the environment, and the risk that GM crops might cross-pollinate with native flora.
229. However, some respondents also commented that there was no present proof that GM crops harmed health, and that if the island did become GM free it would be more difficult and expensive for farmers to source GM-free livestock feed and crop seed.
230. Most respondents also commented on the lack of independent research into the long-term effects of GM technology on health, farming and the environment.

The public debate and the economic and scientific strands

The public debate, the economic and the scientific reviews are three interdependent strands in Government's public dialogue on GM issues, and they provide Government with a remarkably comprehensive assessment. Each report makes its own findings, but a comparison between them will be important in understanding the complex nature of the issues surrounding GM and the ways in which different people respond to them. The three strands clearly share some common themes, which all three recognised from their inception. They kept in close touch with each other's work, and exchanged ideas and findings. We urge Government and all interested parties to read all three reports in the same spirit, so that each illuminates the others, and to examine their confluences and their divergences.

In particular, they might wish to consider what light is cast by the findings of the GM Science Review on the public attitudes which have found expression through the various elements of the debate. Do the key findings from the debate find resonance elsewhere in the initiatives which Government has supported to assist its decision-making about the potential commercialisation of GM crops? For example, is the public's cautious approach, its demand for more rigorous testing and its requirement for more research in specific areas borne out by the views of the Science Panel? Is its response to the potential benefits of GM in agreement with the assessment made by the Strategy Unit?

We wish to make one point strongly. Some readers may be tempted to distinguish a report on public opinion from reports on economics and science, on the basis that public opinion is "uninformed" or "irrational" while economics and science make judgements based on fact and method. We believe that such a distinction is wrong; both in principle and in the specific context of GM. Public opinion can and does interrogate the same issues as science and

economics and make equally valid judgments. For example, both our report and the economic report deal with the market for GM products and the influence of public attitudes, and both our report and the science report deal with issues of risk and uncertainty in agriculture and the environment. The public may well have different perceptions and values on these issues from economists and scientists and reach different conclusions but they are capable of arguing about them in the same terms. In addition, as this report shows, public opinion engages with a wide range of issues, many falling outside the disciplines of science and economics.

We suggest from the evidence of the public debate that there are no aspects of GM and its surrounding science and disciplines that need be or should be a closed book to the public.

Key Messages

We emphasise again that it was no part of our intentions in this report to say whether the public were right or wrong about any GM issue, even on matters of fact. With that in mind, we believe that the debate carries seven key messages about public attitudes.

1) People are generally uneasy about GM

Across the different elements of the debate, participants expressed unease about GM. They were uneasy not only about issues directly related to GM technology (is GM food safe to eat? what will GM crops do the environment?) but about a range of broader social and political issues. The mood ranged from caution and doubt, through suspicion and scepticism, to hostility and rejection. Despite the range of expression, among people who chose to take an active part in the debate these attitudes far outweighed any degree of support or enthusiasm for GM. These people expressed strongly the belief that GM technology and GM food carried potential risks and a majority rejected any suggested benefits from GM, except to the companies which promoted it. Such attitudes varied in intensity but they did represent the majority in all sections of the active participants in the debate.

Our analysis of the Narrow-But-Deep element suggests that among this sample of the general population people are less emphatic and less definite in their first response to GM issues. When asked to review their responses to the questions, people readily confirmed that they did not feel that they knew much about GM. Although they have strong anxieties about some risks from GM, particularly towards the environment and human health, they are more willing to accept that GM may offer some benefits. However, their predominant mood is one of uncertainty towards GM. People said that

they felt uninformed about GM and in the Narrow-But-Deep discussion groups they often felt unable to express an opinion on particular GM issues. Partly for this reason, they expressed little confidence in their own power to influence decisions about GM.

2) The more people engage in GM issues, the harder their attitudes and more intense their concerns

The Narrow-But-Deep sample also suggested that when people in the general population become more engaged in GM issues, and choose to discover more about them, they harden their attitudes to GM. Although they are more willing to accept some potential benefits from GM (especially medical benefits and other advantages for developing countries) they become more doubtful about the others and they express more concern/greater unease about all of the risks most frequently associated with GM. In particular, the more they choose to discover about GM the more convinced they are that no one knows enough about the long-term effects of GM on human health.

3) There is little support for early commercialisation

There is little support for the early commercialisation of GM crops. Among active participants in the debate just over half never want to see GM crops grown in the United Kingdom under any circumstances. Almost all the remainder want at least one new condition to be satisfied before this happens. They seek varying periods of delay so that new information, tests or research can identify and eliminate, or at least reduce to an acceptable level, the potential risks to the environment and human health.

The Narrow-But-Deep sample suggests that the general population does not share the unconditional opposition to GM of many active

debate participants. However, it also suggests that the general population would prefer caution: commercialisation of GM crop technology should not go ahead without further trials and tests, firm regulation, demonstrated benefits to society (not just for producers) and, above all, clear and trusted answers to unresolved questions about health and the environment.

4) There is widespread mistrust of government and multi-national companies

Alongside arguments over the potential risks and benefits of GM itself, both the open debate and the Narrow-But-Deep element also highlighted a series of political issues, manifested in a strong and wide degree of suspicion about the motives, intentions and behaviour of those taking decisions about GM – especially government and multi-national companies. Such suspicion is commonly expressed as a lack of trust. Here, mistrust of government applies both to government in general and in the particular and expresses itself through several avenues. One is the suspicion that the government has already taken a decision about GM: the debate was only a camouflage and its results would be ignored. In this way, GM links to a general mistrust of the motives and behaviour of modern governments, a general concern that they have secret agendas, and ignore the public's views. The GM debate also reflects a weakening of faith in the ability or even the will of any government to defend the interest of the general public. This was supported by the way in which people cited past disasters, especially BSE. They carried a double lesson, first, that government may not have adequate knowledge and advice to help them take the right decisions, and second, that government can be too close to producer interests.

The debate also highlighted unease over the perceived power of the multi-national companies which promote GM technology, and of such companies in general. People believe that these companies are motivated overwhelmingly by profit rather than meeting society's needs, and that they have the power to make their interests prevail over the wider public interest, both at home and throughout global society. Even when people acknowledge potential benefits of GM technology, they are doubtful that GM companies will actually deliver them. People are suspicious about any information or science which emanates from GM companies, or which is funded by them.

When given the opportunity to engage in GM issues, people do not rely exclusively on official sources or everyday media. They choose sources which they trust and which mean something in their personal life.

5) There is a broad desire to know more and for further research to be done

In all parts of the debate, both from active participants and the Narrow-But-Deep sample, people expressed a very strong wish – almost a longing – to be better informed about GM from sources they could trust. They wish to be able to resolve for themselves the contradictions and disputes, claims and counter-claims, in the existing body of information, science and research on GM issues. They want a corpus of agreed “facts”, accepted by all organisations and interests. They also want confidence in the independence and integrity of information about GM – the assurance that it does not reflect the influence of any group with a special interest for or against GM (including government and business). There was a general feeling that no one knows enough at the moment and that much more research is necessary.

6) Developing countries have special interests

There was a “debate-within-the-debate” on the potential role of GM for developing countries. This was acknowledged as a subject of special interest, to be judged on distinct arguments and values. In all parts of the debate, there was at least an initial assumption that GM technology might help developing countries produce more food and offer them medical, social and economic benefits. There was then a clear divergence between the views of active participants in the debate and those expressed in the Narrow-But-Deep sample. The former rejected, by a majority, the idea that GM technology would benefit developing countries: the latter supported it, and their support slightly increased after people got more engaged in GM issues.

However, in the context of the developing world opposition to GM was based less on negative feelings towards GM than on the view that there were better and more important ways to promote development, including fairer trade, better distribution of food, income and power, and better government.

On the issue of benefits to the developing world, people were particularly sceptical about the will of multinational companies to deliver them.

7) The debate was welcomed and valued

Although there was a widespread suspicion that government would ignore the debate’s results, people in all parts of the debate were glad that it had happened. People expressed their appreciation for the opportunity not only to express their own views, but to hear those of other people, including experts, to ask questions and acquire new information, and to take part in stimulating discussions. The debate generated a

great deal of voluntary activity, which deepened and multiplied as it got under way. The number of local meetings increased with each week of the debate, involving tens of thousands of people across the country by the end of the process. People were inspired not only to organise meetings and debates of their own but to take other personal steps to get engaged in GM issues – first-hand research, getting in touch with their council or their MP, writing a letter or e-mail. In spite of their suspicions of government, people expressed a real hope that their efforts in the debate would influence future policy.

Appendix A: Members of the Steering Board

Chair: Professor Malcolm Grant CBE*, Provost and President, University College, London

Anna Bradley*, Consumer Affairs Director for the Financial Services Authority

Dr Dave Carmichael*, arable farmer

Professor Phil Dale*, leader of the Genetic Modification and Biodiversity Research Group at the John Innes Centre, Norwich

Clare Devereux, Director of “Five Year Freeze”

Professor Robin Grove-White*, Professor of Environment and Society at Lancaster University

Judith Hann*, freelance writer and broadcaster

Lucian Hudson, Director of Communications at the Department for Environment, Food and Rural Affairs (on Steering Board for reasons of proper accountability for expenditure of public funds)

Gary Kass, adviser on public engagement in science and technology at the Parliamentary Office of Science and Technology

Professor Jeff Maxwell OBE*, former Director of the Macaulay Land Use Research Institute

Dr Paul Rylott*, Deputy Chairman (and Acting Chairman) of the Agricultural Biotechnology Council (ABC)

*also members of the Agriculture and Environment Biotechnology Commission (AEBC)

Appendix B: Aim and objectives for the GM public debate

Aim

Promote an innovative, effective and deliberative programme of debate on GM issues, framed by the public, against the background of the possible commercial production of GM crops in the UK and the options for possibly proceeding with this. Through the debate, provide meaningful information to Government about the nature and spectrum of the public's views, particularly at grass-roots level, to inform decision-making.

Objectives

To meet the overall aim, the public debate will seek to:

1. allow the **public to frame the issues** for debate so that the programme of debate focuses on what the public sees as the relevant issues;
2. **focus on getting people at the grass-roots level** whose voice has not yet been heard **to participate** in the programme¹;
3. create **new and effective opportunities** for deliberative debate about the issues;
4. enable (through dialogue with experts and other activities) **access to the evidence** and other balanced and substantiated information the public may want and need to debate the issues²;
5. create widespread **awareness** among the UK population of the programme of debate³, even if people do not wish to participate directly in events; and give widespread **opportunities to register views**⁴;
6. provide occasions within the programme of debate for **interactions** between members of the public in debate, and **mutual learning** between the public and experts;
7. seek to **complement** and inform the **economic and science strands** and in turn, as appropriate, utilise their outputs;
8. **calibrate the views of organisations** who have already made their views known⁶ by contrasting their views with other participants in the debate;
9. provide intelligent, qualitative information about public views emerging from the debate in a **report to Government** by end June 2003.

How will we know that the programme of debate has been successful?

Inevitably the overall assessment of the programme of debate will be largely subjective. The board believes that the assessment should draw on four main *indicators*⁶ of success:

- the extent of public awareness of the programme, the science and related issues. This will be gauged by media coverage, hits on the website, and direct communications that the debate is going on.⁷ The involvement of the public in an exercise like this has its limits and the steering board does not have a significant publicity budget. Even so, the board will seek within these constraints to maximise awareness of the debate. We also would want to know the extent to which

1 People who have expressed their views will not be excluded from participating, but neither will they be specifically targeted and will not be allowed to steer events in the programme of debate

2 This will include providing as wide an opportunity as possible for people to learn more about the science, including the levels of confidence on what is known and what is not known; and the wider economic, social, ethical and other issues

3 Above the age of 11

4 In at least the most basic way (e.g. by letter or internet)

5 This will involve capturing the dynamic of the debate between these two groups, noting areas of shared understanding and agreement (where this is apparent) and areas of remaining contention

6 Rather than quantifiable measures against numerical targets

7 It may be that the Understanding Risk team also secures funding for a public survey to provide data on public awareness. As part of this, it may be possible to compare the results with existing surveys of how many people say they want more information about GM. If this can reasonably be held to have reduced significantly, that could be one measure of success in relation to this objective. Low awareness figures on all of the above may indicate that the programme of debate has failed in this respect. Or – crudely – it may indicate the limits to the general public's interest in GM crop issues.

people had felt that they were able to participate if they had wanted to do so and whether they believed that participation would have been worthwhile.

- the views of participants in the debate about what they felt should be the criteria for success – both of particular events in which they participate and the programme as a whole. Did it feel easy to participate? Did people who took part get a chance to explore the issues fully? Did they have access to the information they wanted to intelligently debate the issues? Were they able to have a dialogue with experts? Did they recognise the issues for debate? (On the latter, this will indicate if the initial framing of the issues by the public has been successful.)
- the views of informed commentators – the extent to which they feel that the exercise has been credible and innovative, balanced, and has moved the debate beyond the polarisation that has so far characterised much of the discussion about GM crops. Also, their views on whether the report from the debate is sensitively drawn and provides an improvement on present understandings and characterisations of public views.
- the extent to which the report from the debate could reasonably be said to have had an impact on Government. Was information about public views emerging from the debate taken into account in decision-making? Also, the extent to which Government views the debate as a model for future public engagement. The independent evaluation underway by the *Understanding Risk* team should assist Government to do so.

Appendix C: The 13 Closed Questions

1. I believe GM crops could help to provide cheaper food for consumers in the UK
2. I am concerned about the potential negative impact of GM crops on the environment
3. I believe that GM crops could improve the prospects of British farmers by helping them to compete with farmers around the world
4. I am worried that this new technology is being driven more by profit, than by the public interest
5. I would be happy to eat GM food
6. I think that some GM crops could benefit the environment by using less pesticides than traditional crops
7. I think GM crops would mainly benefit the producers, and not ordinary people
8. I don't think we know enough about the long-term effects of GM food on our health
9. I believe that some GM non-food crops could have useful medical benefits
10. I am confident that the development of GM crops is being carefully regulated
11. I am worried that if GM crops are introduced it will be very difficult to ensure that other crops are GM free.
12. I feel that GM interferes with nature in an unacceptable way
13. I believe that GM crops could benefit people in developing countries

Appendix D: Location of Meetings

Post Code	Area	Total Requests	Of which meetings (30 or more feedback forms)*
AB	Aberdeen	18	4
AL	St Albans, Hertfordshire	9	1
B	Birmingham	53	11
BA	Bath	66	15
BB	Blackburn	16	3
BD	Bradford, West Yorkshire	9	3
BH	Bournemouth	85	10
BL	Bolton	12	2
BN	Brighton	86	11
BR	Bromley	11	3
BS	Bristol	130	34
BT	Belfast	31	9
CA	Carlisle	24	2
CB	Cambridge	50	8
CF	Cardiff	29	3
CH	Chester	25	1
CM	Chelmsford	46	4
CO	Colchester	33	11
CR	Croydon	16	2
CT	Canterbury, Kent	17	-
CV	Coventry	39	12
CW	Crewe	10	3
DA	Dartford	15	-
DD	Dundee	10	-
DE	Derby	43	2
DG	Dumfries	3	1
DH	Durham	7	2
DL	Darlington, Co Durham	12	-
DN	Doncaster, South Yorkshire	26	2
DT	Dorchester, Dorset	71	9
DY	Dudley, West Midlands	44	6
E	London	47	2

Post Code	Area	Total Requests	Of which meetings (30 or more feedback forms)*
E	London	47	2
EC	London	9	2
EH	Edinburgh	42	11
EN	Enfield, Middlesex	18	3
EX	Exeter	103	15
FK	Falkirk	4	1
FY	Blackpool	7	-
G	Glasgow	37	5
GL	Gloucester	96	10
GU	Guildford, Surrey	63	5
GY	Guernsey, Channel Isles	-	-
HA	Harrow, Middlesex	28	-
HD	Huddersfield	6	3
HG	Harrogate, North Yorkshire	6	2
HP	Hemel Hempstead, Hertfordshire	41	2
HR	Hereford	50	5
HS	Hebrides, Western Isles	-	-
HU	Hull	13	3
HX	Halifax, West Yorkshire	7	5
IG	Ilford, Essex	5	-
IM	Isle of Man	2	1
IP	Ipswich	47	7
IV	Inverness	21	19
JE	Jersey, Channel Isles	1	-
KA	Kilmarnock, Ayrshire	12	1
KT	Kingston-upon-Thames, Surrey	33	4
KW	Kirkwall, Orkney	3	-
KY	Kirkcaldy, Fife	42	1
L	Liverpool	18	1
LA	Lancaster	41	6

Post Code	Area	Total Requests	Of which meetings (30 or more feedback forms)*
LD	Llandrindod Wells, Powys	11	3
LE	Leicester	66	5
LL	Llandudno, Gwynedd	40	3
LS	Leeds	31	3
LN	Lincoln	25	4
LU	Luton	11	2
M	Manchester	31	6
ME	Medway	28	4
MK	Milton Keynes	22	3
ML	Motherwell, Lanarkshire	4	1
N	London	79	5
NE	Newcastle-upon-Tyne	45	4
NG	Nottingham	47	11
NN	Northampton	23	5
NP	Newport, Gwent	20	4
NR	Norwich	92	9
NW	London	51	4
OL	Oldham	11	1
OX	Oxford	83	12
PA	Paisley, Renfrewshire	4	1
PE	Peterborough	34	7
PH	Perth	12	3
PL	Plymouth	65	10
PO	Portsmouth	53	11
PR	Preston	28	4
RG	Reading	56	16
RH	Redhill	49	10
RM	Romford	12	2
S	Sheffield	43	11
SA	Swansea	70	11
SE	London	52	10
SG	Stevenage, Hertfordshire	26	1

Post Code	Area	Total Requests	Of which meetings (30 or more feedback forms)*
SK	Stockport, Cheshire	39	6
SL	Slough	15	3
SM	Sutton, Surrey	8	-
SN	Swindon	64	12
SO	Southampton	162	5
SP	Salisbury	37	10
SR	Sunderland	9	-
SS	Southend-on-Sea	18	5
ST	Stoke-on-Trent	33	6
SW	London	102	5
SY	Shrewsbury	92	16
TA	Taunton, Somerset	61	8
TD	Galashiels, Selkirkshire	2	-
TF	Telford, Salop	5	-
TN	Tonbridge, Kent	55	5
TQ	Torquay	55	8
TR	Truro, Cornwall	82	10
TS	Cleveland	12	1
TW	Twickenham	38	6
UB	Southall, Middlesex	8	-
W	London	53	5
WA	Warrington	18	3
WC	London	15	3
WD	Watford	23	8
WF	Wakefield, West Yorkshire	5	-
WN	Wigan	10	3
WR	Worcester	27	4
WS	Walsall	9	1
WV	Wolverhampton	17	1
YO	York	54	12
ZE	Lerwick, Shetland	1	-
Misc	(no postcodes)	65	9

*COI Communications assessed that anyone requesting 30 or more feedback forms would be organising a meeting.

Appendix E: The Feedback Form

GM NATION? The public debate

Now that you have taken part in *GM Nation?* The public debate, please use this form to let us know your views. Your views are very important. They will be given to the organisers of the debate, who will report the findings to the Government. Thank you for taking the time to respond. (Please note that you should only complete one form per person).

Your views on GM

To what extent do you agree or disagree with the statements below?

- 1) I believe GM crops could help to provide cheaper food for consumers in the UK
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 2) I am concerned about the potential negative impact of GM crops on the environment
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 3) I believe that GM crops could improve the prospects of British farmers by helping them to compete with farmers around the world
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 4) I am worried that this new technology is being driven more by profit, than by the public interest
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 5) I would be happy to eat GM food
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 6) I think that some GM crops could benefit the environment by using less pesticides than traditional crops
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 7) I think GM crops would mainly benefit the producers, and not ordinary people
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 8) I don't think we know enough about the long-term effects of GM food on our health
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly
- 9) I believe that some GM non-food crops could have useful medical benefits
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly

10) I am confident that the development of GM crops is being carefully regulated
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly

11) I am worried that if GM crops are introduced it will be very difficult to ensure that other crops are GM free.
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly

12) I feel that GM interferes with nature in an unacceptable way
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly

13) I believe that GM crops could benefit people in developing countries
Agree strongly Agree Don't know/unsure Disagree Disagree Strongly

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14) Under what circumstances, if any, would you find it acceptable for GM crops to be grown in this country?

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.....

15) Please use this space to express any additional views you may have

.....
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.....
.....
.....

Information about you

We would like to know a little about the range of people participating in the debate.
We would be grateful if you would answer the following questions:

1) Are you male or female?

Male Female

2) Which age group are you in?

Under 16

16-19

20-24

25-34

35-44

45-54

55-64

65+

3) Please enter the first part of your postcode here

4) Do you have any children or grandchildren under the age of 18?

Yes, children

Yes, grandchildren

No

5) Please indicate which of the following best describe(s) your involvement with
“GM nation? The public debate”. You may tick more than one.

A – I attended a meeting

C – I visited the website

D – I looked at the CDROM

E – I read the booklet

F – I watched the video

G – None of the above

6) Before taking part in *GM Nation? The Public Debate*, have you ever attended other meetings
to discuss GM issues?

Yes

No

Don't know

7) To what extent do you feel your views on GM have changed since you took part in
GM Nation? The Public Debate?

Changed a little

Changed a lot

Remained the same

THANK YOU FOR TAKING PART IN *GM Nation? The Public Debate*.

Appendix F: Letters composed by two reconvened discussion groups

King's Lynn

We, the undersigned, being the participants in the public debate at King's Lynn, wish to make the following statement:

Subsequent to our discussions as a group and our discussions individually with family members, friends and neighbours, we have been persuaded that the overwhelming majority of people have unresolved anxieties and questions regarding the possible adverse effects of GM crops on

- *human health*
- *wildlife*
- *the environment.*

We therefore wish to call on our government to extend the period of public debate for a further considerable time. Furthermore, the GM crops should not be grown commercially in this country until extensive and long-term research clearly indicates that there would not be any adverse effects.

We do not feel that pressure from the USA or the European Union should be allowed to force the British government into a decision that future generations may live to regret, and we see no reason to rush into such a very big and irreversible decision.

Sheffield

Dear Mrs M Beckett,

Thank you for taking the time to read this letter.

We are writing you on the subject of genetically modified foodstuffs.

Our organisation would like to know whether GM crops provide a sustainable solution to our food supply situation in the future, because we believe that many questions are still left unanswered.

We believe that the regulation of GM crops should be careful, ie regulation of the science (genetic variations) and these crops' proximity to "normal" crops.

We also believe that there is a need for transparency of information pertaining to GM crops.

We need to know the potential effects and the level of risk associated with eating said crops.

The regulation process needs to have accountability for producers and scientists.

The line that we really need, however, is an end to the confusion surrounding this issue. Some cold, hard facts would be nice.

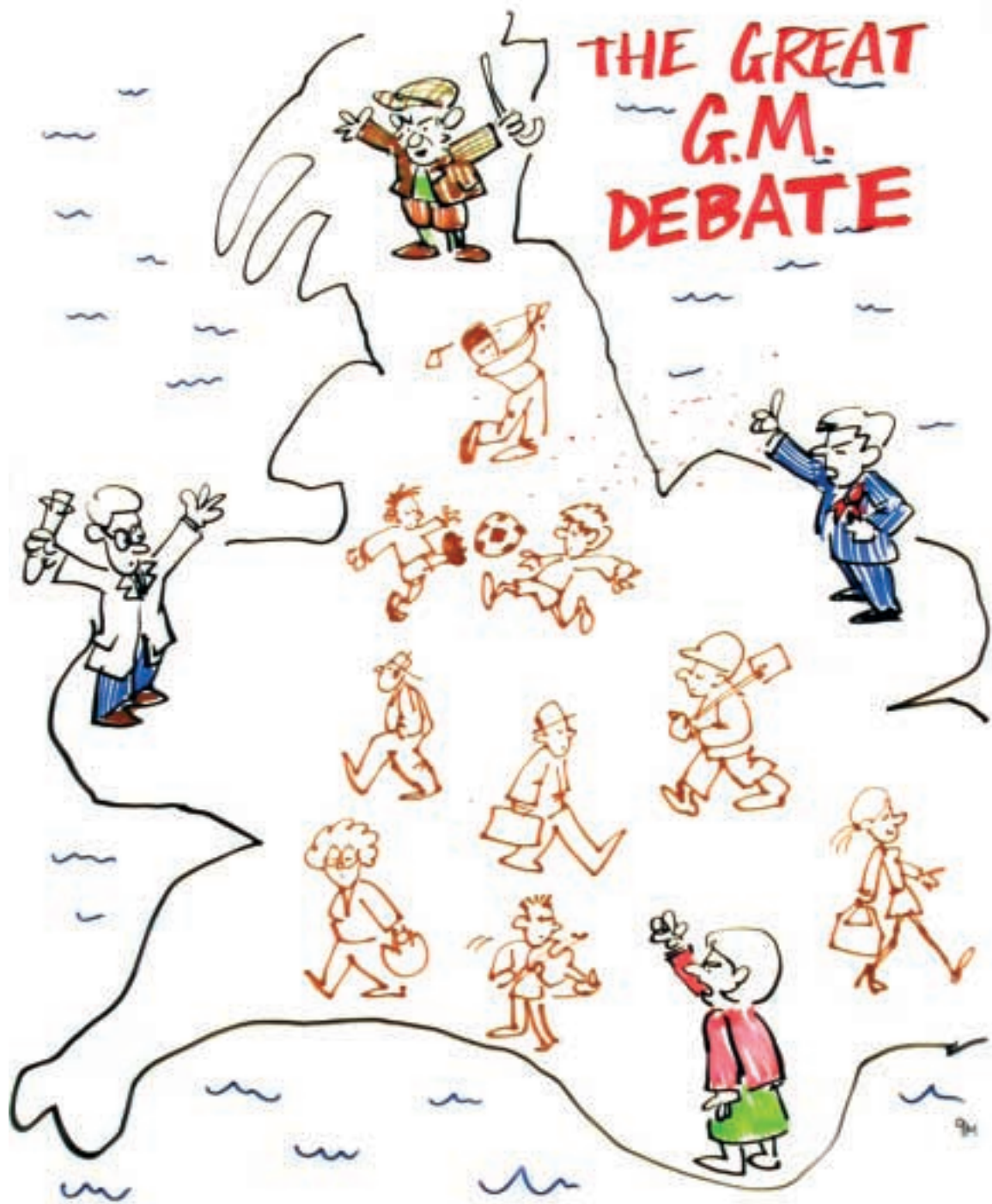
Appendix G: Outline of Expenditure

GM Nation? The Public Debate Programme

Initial desk research	£38,000
Foundation Discussion Workshops.....	£78,500
GM Nation toolkit (including website).....	£190,500
Organised GM Nation meetings	£118,500
Reconvened Discussion Groups.....	£55,000
Analysis of results.....	£31,000
Total	£511,500

Support costs

Steering board and related planning meetings.....	£19,000
Media launches and consultancy	£5,000
Initial website and stationery.....	£8,000
Preparation and publication of report	£30,000
COI Management Fee	£50,000
Travel and subsistence (including members' fees)	£26,500
Total	£138,500



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