CO-EXTRA

GM and non-GM supply chains: their CO-EXistence and TRAceability

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Dissemination Level	
PU Public	
PP Restricted to other programme participants (including the Commission Services)	
RE Restricted to a group specified by the consortium (including the Commission Services)	**RE**
CO Confidential, only for members of the consortium (including the Commission Services)	

WP 3: Economic costs and benefits of traceability coexistence

D.3.8 : Final survey instrument description for PTP analysis

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1.   Introduction

As part of Task 3.3, Deliverable 3.8 was designed to contain a template for the analysis of the descriptive data derived from the multi-country survey of consumers. It was decided by the project team that this template should govern the structure of the national reports that would be included in the Final Report (i.e. D3.6), and that the template should list the required analysis for each survey element, illustrated by a full analysis of one set of national data (UK), following the prescribed pattern. The template contained herein has been agreed by all partners, who will follow it in generating reports on their own national consumer surveys. As indicated above, these national reports will be included in the Final Report contained in D3.6, along with a reporting of the WTP analysis.

2.   Summary of national report structure and required analysis

The summary table below contains a report structure and a brief description of the analysis required in each section, together with an identification of the variables that should contribute data to each element. In Section 3 following is presented the national reporting template illustrated with UK data. This UK national report, in terms of its structure and content, has been signed off by all project partners and therefore represents the final reporting of the UK survey data.

Report section	Report sub-section	Data tabulation	Number on questionnaire
(1) Structure of sample	(1.1) Stratification variables	**Age distribution** Number of respondents in each of the 4 age categories.	2
		Household Income Number of households in each of the 5 household income categories.	3
	(1.2) Other socio-demographic variables	**Education level** Number of respondents achieving qualifications in each of the 3 education classes.	20
		Gender Number of male and female respondents.	19
		Household size Number of households in each of 8 household size categories. Numbers include adults and children.	21
		Children	22

|		Number of children in households, distinguishing between numbers of pre-school and school-age children. Households allocated to one of 4 classes based on number of children. Groups are: (i) zero; (ii) one; (iii) two; and (iv) three or more.	
(2) Food purchasing behaviour		**Factors affecting food purchasing behaviour** Tabulation of responses which indicate the importance of a range of factors in determining food purchasing behaviour. Should count responses which rate factors as Very Important only.	7
(3) Attitudes	(3.1) GM issues	**Awareness of GM issues** Number of respondents in each of 5 categories reflecting increasing level of knowledge of GM issues.	8
		Sources of information on GM issues Sources that respondents most trust to provide reliable information on GM issues. Tabulation of rank scores of each of a list of potential information sources. Rank scores represent frequency of nomination, weighted by the rank given (1, 2 or 3; where 1=highest) at each nomination.	9
		Attitudes to GM technologies Frequency of responses to a series of statements concerning GM issues. Respondents asked to indicate strength of agreement with each statement using a 5-point scale of increasingly strong agreement. Counts should include only responses of 'Strongly agree'.	12
	(3.2) Attitudes to organic products/methods	**Organic purchases** Proportion of previous month's household food budget spent on organic products. Convert percentage values given into 6 classes: zero; 1-10%; 11-25%; 26-50%; 51-74%; over 75%.	10
		Attitudes to organic issues Frequency of responses to a series of statements concerning organic issues. Respondents asked to indicate strength of agreement with each statement using a 5-point scale of increasingly strong agreement. Counts should include only responses of 'Strongly agree'.	11
	(3.3) Attitudes to risk	**Risk from different food production technologies** Respondents' perception of risk associated with a range of different food production technologies. Respondents asked to indicate level of perceived risk using a 5-point scale of increasing risk. Tabulation should include separate frequencies of nomination of risk categories: 'High' and 'Very high'.	23

3.   UK national report

3.1   The structure of the sample

3.1.1   Stratification variables

3.1.1.1 Age distribution

The distribution of respondents over age groups is determined by demographic patterns in the national population, together with effects of the sampling methodology i.e. the stratification methods. In this case, the sample is stratified by both age and household income, as these variables have been found in past studies to be significant determinants of attitudes to GM technologies. The stratification methodology required that the terminal sample contain representative numbers in each category of the stratification variables and so the age distribution seen in Figure 1 will be reflective of actual demographic trends in the target population. The figure shows a fairly even distribution of respondents over the age groups, with a tendency for lower numbers at the extremes i.e. 18-25 years and greater than 65.
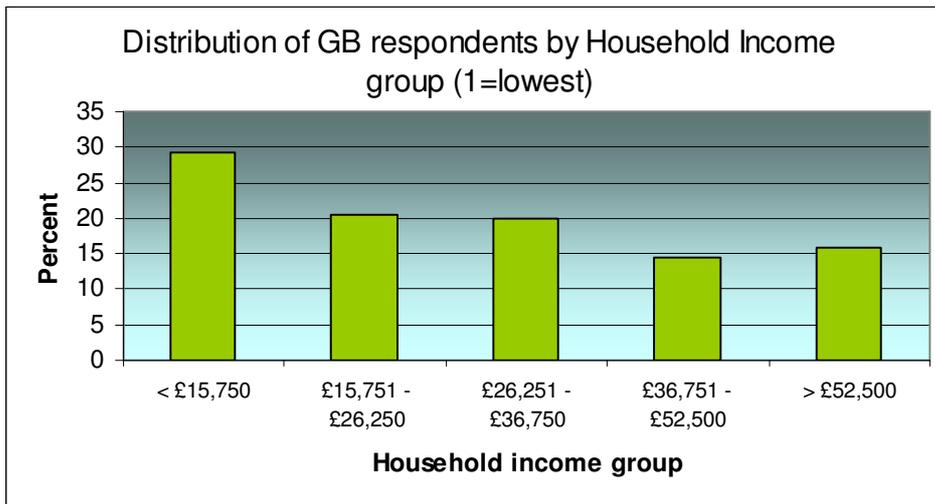
Figure 1
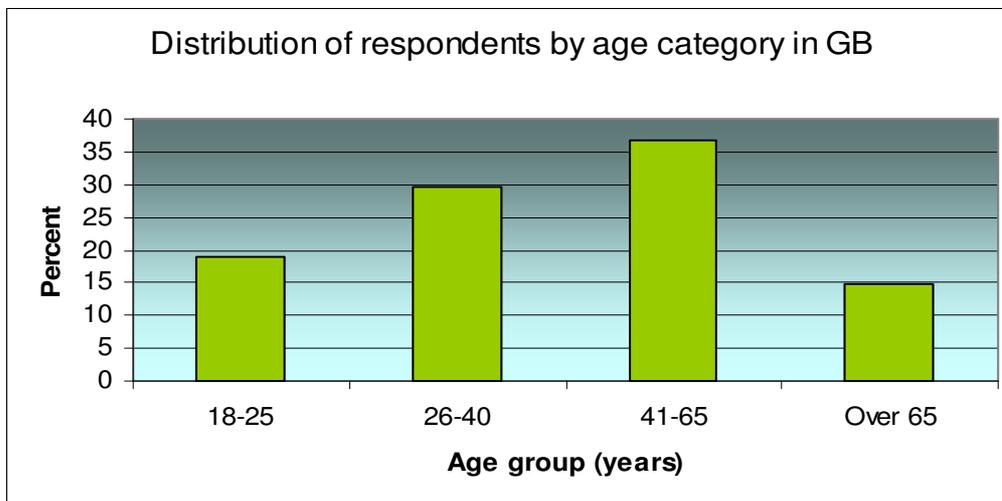
3.1.1.2 Household income

Figure 2 shows the distribution of respondents over the five household income categories. The stratification methodology required that the mid-income category capture average household incomes in GB and that numbers in each category approximately reflect the actuality in the national population. As can be seen from the figure, almost a third of all respondents lie in the lowest household income category, with roughly 20% of respondents

in each of the two higher income categories. The frequency distribution is skewed by smaller numbers of very high income households in the highest income category.

Figure 2

3.1.2   Other socio-demographic variables

3.1.2.1 Education level

Figure 3 shows the distribution of respondents by highest level of education attained. This distribution was not controlled by stratification at the sampling stage and will thus reflect trends in the national population. However, there will also be some gender effect i.e. the requirement that respondents be the primary food purchaser for the household significantly increases the likelihood that the respondent will be female (see Figure 4 below). In GB, around 40% of respondents left school at 16 years (or younger), meaning that they did not engage in any form of further (HNC, HND, NVQ levels 1-3 etc) or higher education, while around 25% went on to higher education.

3.1.2.2 Gender

As would be expected, the requirement that the survey respondent be the person responsible for household food purchases has led to a heavy weighting in favour of females (see Figure 4), with 71% being female and 29% male.
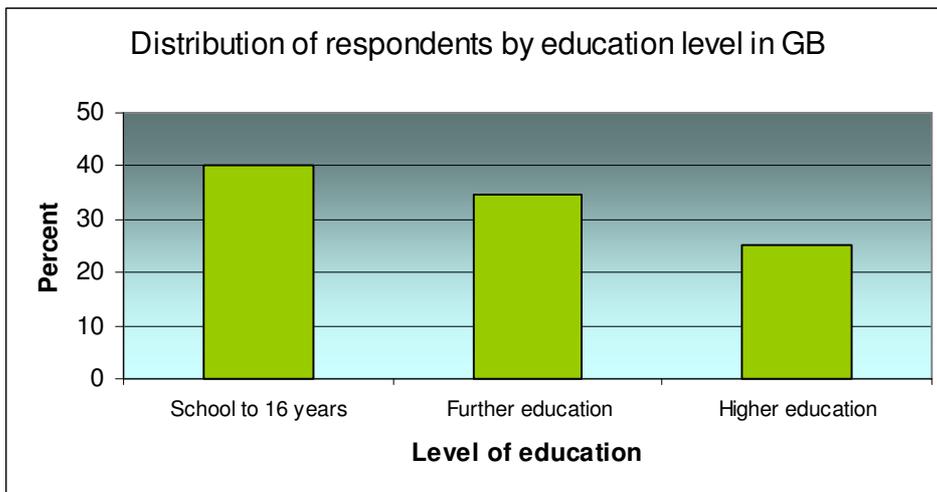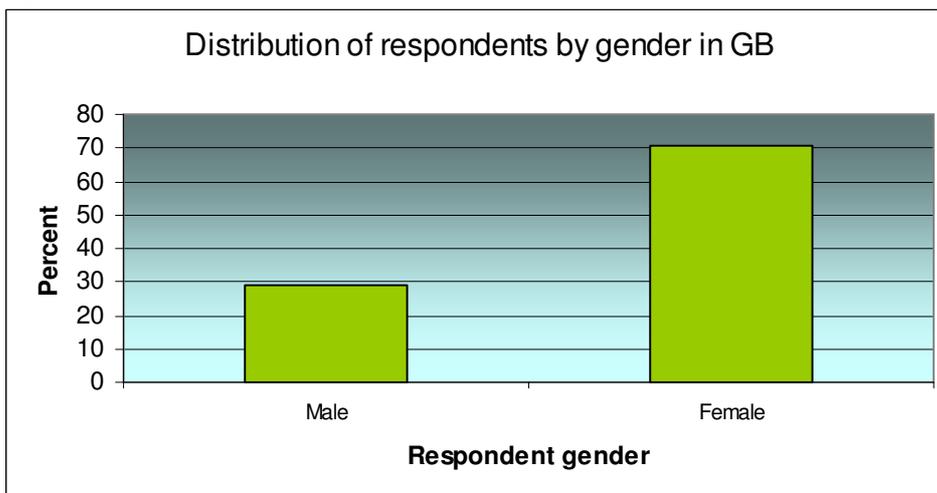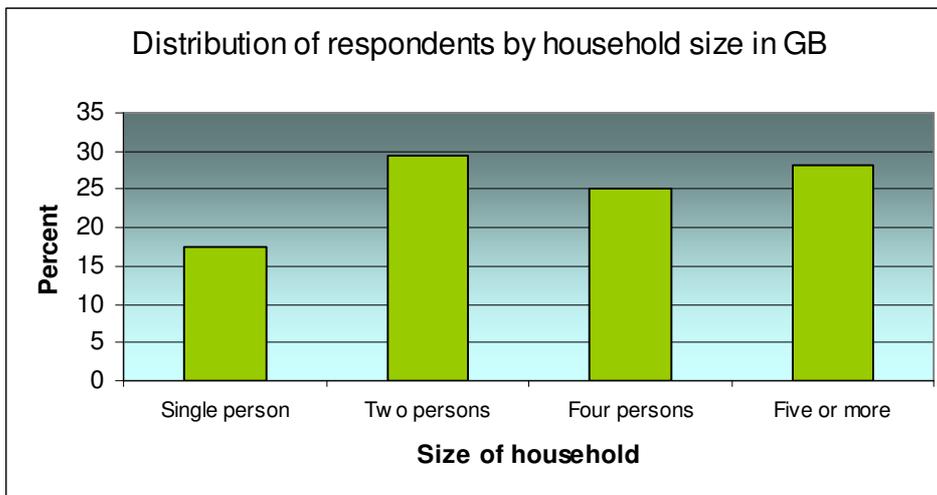
Figure 3

Distribution of respondents by education level in GB

Figure 4

Distribution of respondents by gender in GB

3.1.2.3 Household size

Figure 5 shows average household size of respondents in the sample. Household size was not controlled in the sampling and so is sampled randomly. At just under 30%, respondents most commonly belong to two person households reflecting the presence in the sample of the youngest and oldest respondents. Nearly 18% of respondents live alone.

Figure 5

3.1.2.4 Number of children

Figure 6 shows that more than 50% (57.9%) of the 352 survey respondents come from households with no children, with 20% having one child and roughly 18% having two. The figure also shows the frequency of pre-school age children in these households. Around a third of children in single child households are pre-school age and around a half in households with two children. There are very few households in the GB sample with three or more children (3.8%), and only a minority of these have pre-school children.

Figure 6
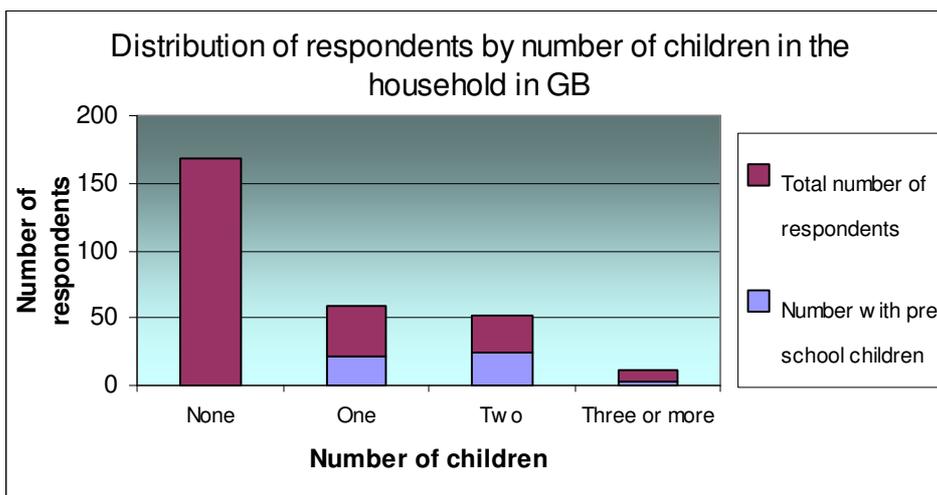
3.2.   *Food purchasing behaviour (factors affecting behaviour)*

As a means of assessing food purchasing behaviour, respondents were asked to indicate the importance of a number of factors in determining their food purchasing decisions by means of a five point ranking scale. These factors are listed in Figure 7. The data in the figure represents the frequency with which respondents indicated that they considered factors Very Important (i.e. the highest ranking of importance from the scale) in their food purchasing decisions. Respondents could rank more than one factor as Very Important.

As Figure 7 shows, product freshness is revealed to be the most important factor in the product purchase decisions of British consumers. This probably means that the product is visually or manually tested for freshness before purchase and that the Use-by date is consulted. In fact, the Use-by date is separately ranked, and is seen to be the third most important factor influencing purchase decisions. The next most important factor is Flavour. Also highly rated is product appearance. Taken together, the results suggest that the most important driver of food purchasing decisions amongst the GB sample is product quality and freshness. Product price is seen to be secondary to quality and freshness, but still important nonetheless. Brand and the where the product is produced are rated as least important by the British respondents.

Figure 7

3.3. Attitudes

3.3.1 GM issues

3.3.1.1 Awareness of GM issues

To gauge the level of awareness of GM issues in the population, respondents were asked to assess themselves using a 5 point ranking scale. Figure 8 shows the results of this assessment. The bulk of respondents (59.1%) stated that they believed themselves to be either not very well informed or not at all well informed about genetic engineering in food production. Only a minority (25.8%) believed themselves to be quite well informed or better.

Figure 8
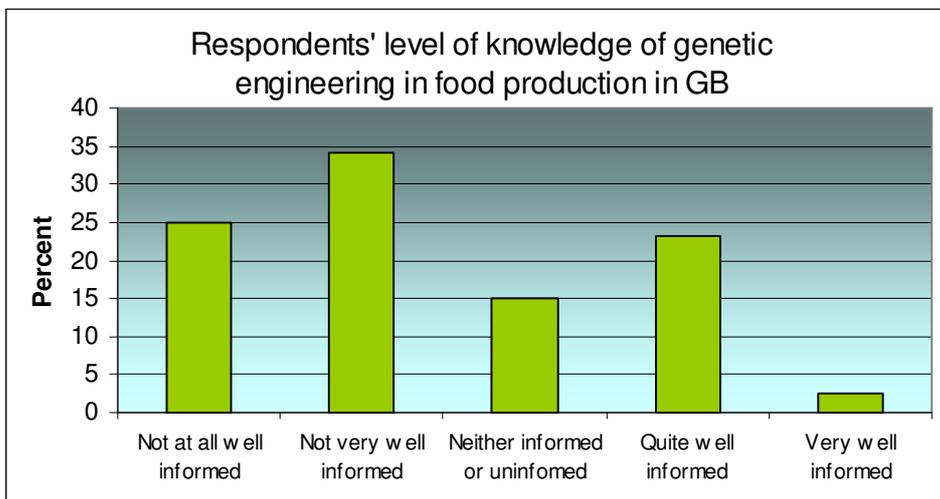
3.3.1.2 Sources of information on GM issues

Respondents were asked to indicate the sources that they most trusted to provide reliable information on genetic engineering in food production. Respondents indicated the three most trusted sources from a list, placing these three in rank order, where the most trusted source has a rank of 3. Figure 9 shows the results of this exercise. In the figure, scores are provided for each source reflecting both the frequency with which each source is nominated and the ranks obtained. British respondents clearly singled out the medical profession as their most trusted source. The next most trusted group are University Scientists, followed by Consumer Groups.

British respondents would appear to be favouring groups which they perceived to be informed about these issues and whom they believe to be impartial. This would explain

why University Scientists and Medical Doctors are preferred over Consumer and Environmental Groups who, by virtue of their vested interests, may be perceived as providing an overly-negative view of GM technologies. The public media are treated no better than average in terms of trust, which is a surprising outcome in view of the fact that consumers probably obtained the majority of their current knowledge of GM issues from media sources. It is possible that respondents believe that information obtained from the media is inadequate, due to its superficiality, the irregularity of information offerings and the often conflicting arguments expressed in the reporting of views on various sides of the debate. The sources least trusted by British respondents are Commercial Scientists (who might be perceived as biased), together with national and EU-government institutions, due to the fact that GB politicians are not widely perceived as honest brokers and the very considerable Euro-scepticism amongst the GB population. Figure 9 shows GB consumer views on a range of sources, where survey respondents were asked to rank the three most trusted sources
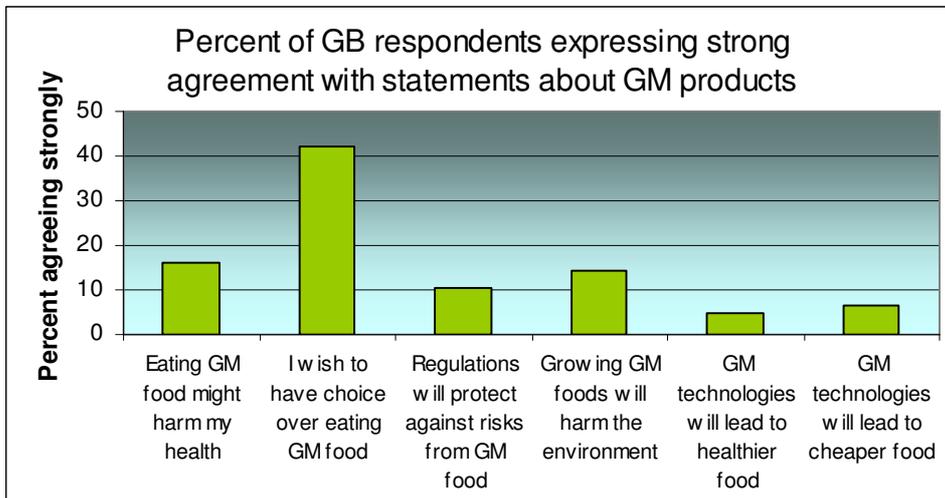
Figure 9
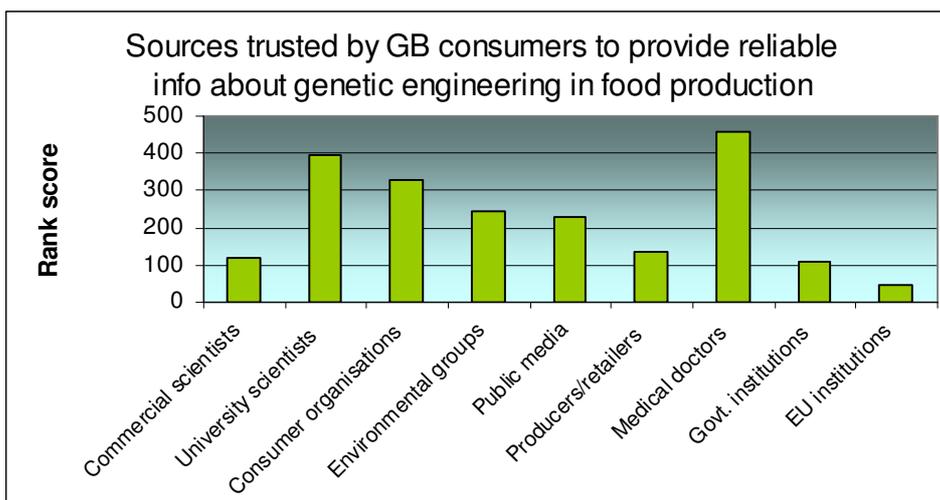
Note: Rank score is frequency of nomination multiplied by the attributed ranks.

3.3.1.3 Attitudes to GM technologies

As a means to gauging British consumer attitudes to GM technology, respondents were presented with a number of statements, expressing some different views of the GM issue and asked the extent to which they agreed with the statements. Respondents were asked to rank the extent of their agreement on a five point scale ranging from 'Strongly disagree' to 'Strongly agree'. The data in Figure 10 reflects the percent of respondents who responded 'Strongly agree' to each statement. The data are restricted to this one form of response, as it was found that large numbers of respondents responded either 'Agree' or 'Strongly agree' to all statements, and as a consequence, including responses of 'Agree' in the data makes

the level of responding to each statement relatively uniform and therefore somewhat uninformative.

Figure 10

As Figure 10 shows, levels of strong agreement with the statements are uniformly low, except in the case of the statement relating to a desire to have the choice over whether or not to eat GM foods. Here more than 40% of British respondents strongly agreed with this statement. This statement was included in the survey as a means of gauging the extent to which consumers wanted to be able to identify GM ingredients (i.e. they remained visible on product labelling) and decide for themselves whether they wanted to eat them or not. It is likely that the great majority of respondents interpreted the question in this manner. However, it is also possible, perhaps in a minority of cases, that some respondents agreed with this statement for a different reason i.e. they believed they were asking for GM to be allowed onto the market so that they could purchase it if they so wished.

Aside from this one statement, there are fairly low levels of strong agreement with the GM statements. Only around 5% of respondents agreed that GM technologies would lead to healthier food, with only slightly more believing that GM would lead to cheaper food.

On the basis of the above answers, it is perhaps possible to assume a consumer view that the purpose of GM technologies is to increase the profits of farmers and seed producers. Only a little over 10% of respondents believed that Government regulations will adequately protect them from any adverse consequences of GM technologies. This is consistent with the low levels of trust in both the National and EU government seen in Figure 9. Interestingly, however, only around 15% of respondents strongly believed that GM technologies would be harmful to human health and the environment. These findings taken together strongly suggest that British consumers are, at the present time, uncertain what to think about GM technologies (this is consistent with low levels of awareness of GM issues

reported in Figure 8) and their reaction to the issue is to reserve the right to refuse the product when the point of choice comes.

3.3.2   Attitudes to organic products/methods

Consumer attitudes to organic products were determined in two ways in the survey. First, by revealing actual organic purchasing behaviour and second, by a series of attitudinal questions. Respondents were first asked to estimate the percentage of their total food budget spent on organic products in the previous month. Figure 11 shows the results of this question. As can be seen, a significant proportion of British respondents, around 60% in fact, reported making some organic purchases in the previous month. This figure is somewhat higher than that reported in a recent Soil Association study (Soil Association, 2006), which indicated that around 41% of UK consumers purchased organic products at least once a month.

Thirty percent of survey respondents reported that organic purchases accounted for less than 10% of their food budget. Taken together, these data show mean that nearly 70% of British consumers spend less (and probably considerably less) than 10% of their food budget on organic products. Reflecting this, the average rate of organic purchases over the whole sample is only 12%. Only around 3.5% of British consumers, according to the survey responses, spend more than 50% of their food budget on organic products.
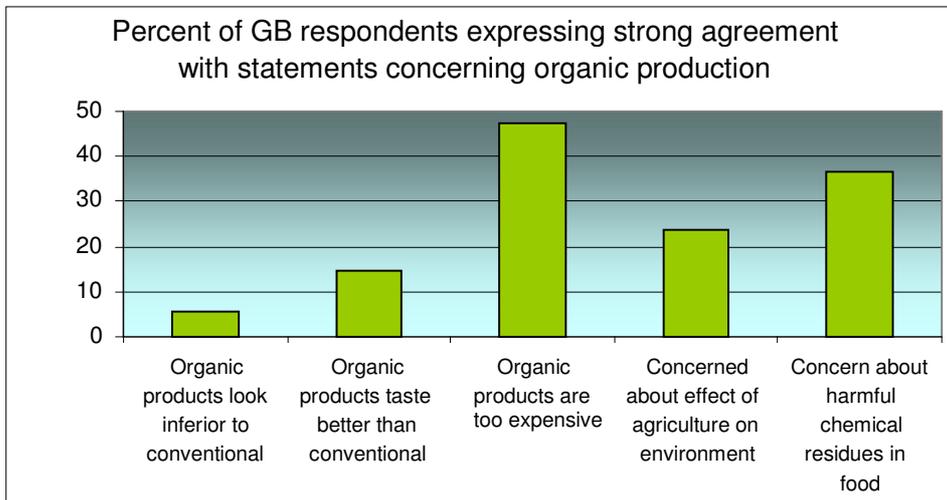
Figure 11
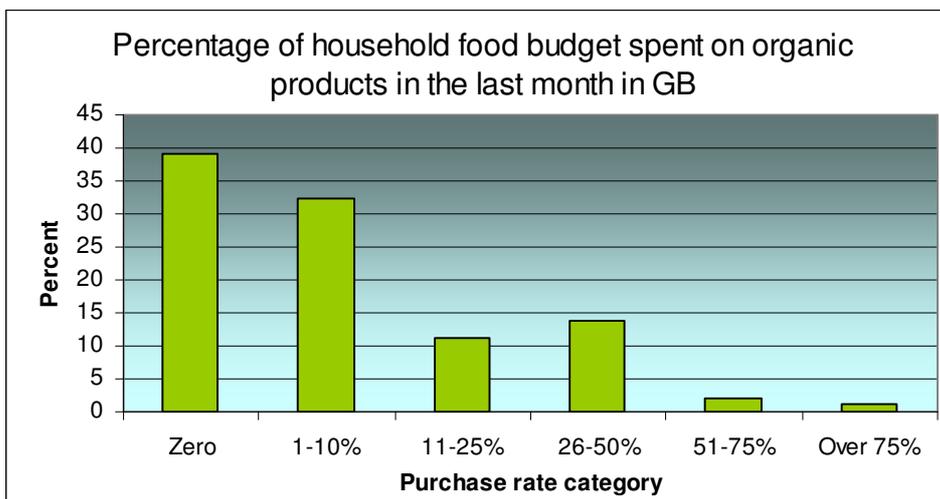
Respondents were also asked to indicate the level of their agreement with five statements expressing different sentiments in connection with either organic products or the effect of agriculture on the environment. Respondents were asked to express their level of agreement

on a five point scale ranging from 'Strongly disagree' to 'Strongly agree'. Figure 12 shows the percentage of respondents who 'Strongly agreed' with each statement.

Figure 12

A very low percentage of British respondents (around 5%) indicated that they felt that organic products looked inferior to conventional. The small size of this figure is slightly surprising, as this criticism of organic product offerings has commonly been levelled in the past. However, supermarket chains now dominate the supply of organic products, often using their own preferred and formerly conventional suppliers so it would appear that the issue of inferior product appearance has largely been successfully dealt with. Around 15% of British respondents strongly agreed with the statement that organic products taste better than conventional. There is some debate on this subject in GB at present, and it would appear that the majority now believe that organic products do not offer superior taste qualities to conventional.

A little over 20% of British respondents expressed strong concern about the effect of agriculture on the environment while rather more, some 36%, were strongly concerned about chemical residues in food. This finding is consistent with the literature on attitudes to organic products, which suggests that the primary motivation for buying organic foods is the assumed health benefits, even though the majority of consumers do believe that organic production is better for the environment. According to a recent Soil Association (2006) study, around half of UK consumers believed that a diet of organic products was healthier than a diet of conventional products. The strongest agreement, among British respondents, was with the statement that organic products are too expensive. Nearly 50% strongly agreed with this statement. This finding is also consistent with the literature and past studies, which reveal that negative price perception is the biggest single obstacle to the expansion of the organic market in GB. A recent Soil Association (2006) study, for example, reported 84% of UK respondents as believing that organic food was to expensive.

3.3.3   Attitudes to risk

Consumer attitudes to risk were tested using a series of attitudinal questions, which asked respondents to indicate the level of risk to human health they perceived to be associated with a range of food production technologies. Respondents were asked to rank each technology on a five point scale, from 'Very low risk' to 'Very high risk'. This series of questions also allows the respondent's perception of the risk associated with GM technologies to be compared with their perception of risk from a range of other common food production technologies.

Figure 13 shows that British respondents perceive the lowest level of risk, from amongst the list of potential risk sources, to be that from Pasteurisation. In this case, only a little over 10% perceived there to be at least High risk associated with this form of food treatment. Presumably, part of the perceived risk attached to this form of food treatment, stems from possible failure of the treatment to neutralise food-borne pathogens. From the point of view of this study, respondents attributed the second lowest levels of perceived risk to GM technologies. Around half of respondents perceived there to be at least a high risk from these technologies, but less than a third of those perceived this to be a Very high risk. On this dimension this technology thus compares very favourably to other food production technologies, particularly use of pesticides and artificial growth hormones in the production of animals, where upwards of 80% of British respondents perceived there to be at least a High risk. In addition, larger proportions of respondents perceived the risk of these technologies to be Very high. More than 60% of respondents perceived the risks associated with Irradiation and use of artificial colours and flavourings to be at least High.

Figure 13
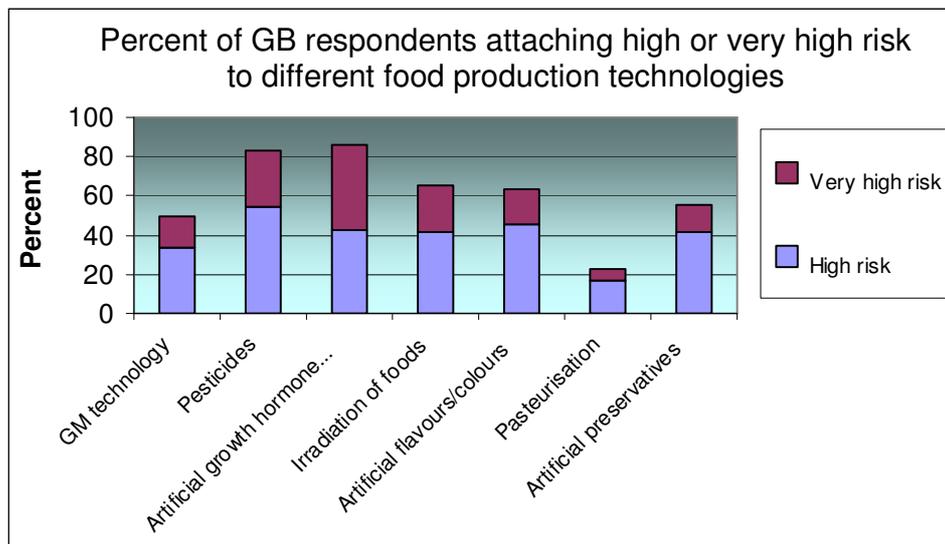
3.4 References

Soil Association (2006) Organic Market Report, 2006. Bristol, Soil Association.