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UK Consumers Priorities for Sustainable Food Purchases

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Abstract

Although interest in 'sustainable food' has grown substantially in recent years, an official definition for sustainability has yet to be agreed upon. 'Sustain: the alliance for better food and farming' provide guidance to consumers wishing to make more sustainable food purchases, in the form of seven guiding principles. Using these principles, this study seeks to assess UK consumer's priorities towards sustainable food. A detailed structured questionnaire explored shopping habits, attitudes to sustainable food components (organic, fair-trade, local food and animal welfare), stated purchasing behaviour and demographic information. Questionnaires were sent to 2,500 randomly selected Nottinghamshire (UK) residents. A response rate of 35.6% was achieved. The data reveals that consumers prioritise packaging, how food is produced and animal welfare when considering sustainable food components. Stated purchasing behaviour demonstrates that 'free range' and 'local' products are more likely to take precedence over other sustainability aspects. Future research will seek to compare and contrast stated and actual preferences by comparing the population survey results to actual purchasing behaviour from supermarket data.

Keywords: Consumer; sustainable food; purchasing behaviour; free range; local; animal welfare and JEL codes (if available)

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1. Introduction

Over recent years, interest in sustainable food has increased as consumers have become more exposed to, and aware of, issues surrounding sustainable food production and consumption. Food crises such as BSE, Foot and Mouth Disease, E-Coli together with growing consumer awareness of environmental concerns leading to perceived issues over conventional versus organic agriculture have been key drivers raising the profile of sustainable food production and consumption systems. Other drivers such as climate change, carbon footprints and food miles have further contributed to consumer interest in this area. However, recent concerns over food security, debates over food versus fuel, and the economic downturn place different pressures on consumers in their food purchasing behaviour, raising increasing conflicts between consumer desires and purchasing actions in light of different budget constraints. Nonetheless, interest in sustainable food raises important questions and issues for the farming and food industries, land use and environment aspects, and public health and nutrition, with public health agencies and Defra having an increasing focus on "sustainable food". It has been argued that many previous agri-food studies conducted have assumed an implicit consumer presence, without considering the role that consumer attitudes may play in shaping food systems (Selfa *et al*, 2008). However, mixed messages often exist for consumers in this area, with no clear definition of 'sustainable food' being available. Many frameworks draw on the Brundtland Report (World Commission on Environment and Development, 1987), whilst 'Sustain' (Sustain, 2009) provides a further basis for defining sustainable food aspects. These recognised definitions and advice thus provide an initial focus for the development of consumer understanding in this area, whilst equally providing considerable scope for assessing consumers' views more widely in respect to their food attitudes, behaviours and actions. Whilst researchers have previously captured data and provided analyses on specific areas of 'sustainable food consumption', e.g. organics (Fotopoulos *et al*, 2003), or ethical food purchases (Marylyn and Ahmad, 2001), capturing a more holistic view of sustainable food products has received less attention, albeit that more research is now emerging in this area (Clonan *et al*, 2009) (Klint Jensen, 2009) as consumer, industry and policy interest in sustainable food has grown. Recognising the growing interest in this area alongside the lack of clear definitions and advice for consumer to follow in respect to sustainable food choice, this paper seeks to add to this research area by examining consumer attitudes towards packaging, animal welfare and how food is produced.

2. Methodology and Data Capture

Questionnaire Development

A postal questionnaire formed the basis of primary data capture for this research. Constructs included in questionnaire for the attitudinal scale were based on the thematic categories that emerged from 11 qualitative interviews conducted with a broad sample of adults. Guidelines from Sustain (Sustain, 2009) provided the basis for construction of consumer guidance questions relating to sustainable food. Following piloting, the final attitudinal section consisted of 72 items and respondents were asked to choose the answer that best suited how far they agreed or disagreed with the statements using a 5-point Likert scale (Likert, 1932), ‘strongly agree’, ‘agree’, ‘neither agree nor disagree’, ‘disagree’, ‘strongly disagree’; ‘not applicable’ was also included. The items covered areas such as food provenance, production, packaging and transport, organic, local and fair trade food, seasonality issues, and attitudes towards meat. Food categories included were chosen to reflect advice provided to consumers by Sustain. For example, in the case of meat/poultry purchases, consumers were asked their purchasing frequency for ‘organic’, ‘free range’, and ‘local’ meat and poultry.

Prior to implementation, the questionnaire was piloted in a diverse population to ensure that the questions asked were clear and could be answered easily after the survey had first been assessed for content and face validity by a range of experts from the fields of sociology, psychology, public health nutrition and environment/agricultural science. The final questionnaire was divided into five sections and consisted of 158 structured questions.

Questionnaire Implementation and Response

Self administered postal questionnaires were sent to 2,500 Nottinghamshire residents randomly selected from five electoral registers that encompass both urban and rural areas: Nottingham City, Broxtowe, Rushcliffe, Gedling, & Erewash. The questionnaires were sent out during the first half of November 2008, with follow up letters sent to non responders during the second half of November 2008. Responses were received up to the end of January 2009. Completed questionnaires were returned from 842 respondents, providing a final adjusted response rate of 35.6%. Table 1 provides the summary statistics of respondents. Approximately 60% (40%) were female (male), with a relatively broad response by age categories, albeit that over 65% of respondents were aged 46 or above.

Data Analysis

Data were entered using EpiData software, v3.1 (Lauritsen *et al*, 2000). In order to reduce error, a 10% random sample of questionnaires were verified to determine error rate of <1% (Meeuwisse *et al,* 1999). All data were analysed using SPSS version 16.0 (SPSS inc., 2007).

Attitudinal statements from the questionnaire were grouped into constructs that were validated for internal consistency using Cronbach’s alpha. A score was developed for each of the constructs by allocating points for agreement as follows: ‘strongly agree’ = 5 points, ‘agree’ = 4 points, ‘neither agree/disagree’ = 3 points, ‘disagree’ = 2 points and ‘strongly disagree’ = 1 point. Negative statements were scored inversely. Purchasing frequencies for ‘organic’, ‘free range’, and ‘local’ meat and poultry were allocated using a four point frequency scale ‘always’, ‘often’, ‘sometimes’ or ‘never’.

Whilst the data obtained from the questionnaire was relatively wide ranging, the focus of this paper is the strands taken from the attitudinal section, reported purchasing data and key demographics of the respective participants.

3. Results

Ranking attitudinal statements (Table 2) in order of agreement demonstrates that consumers feel strongly about packaging around food, with 90% favouring loose fruit and vegetables for environmental reasons, and 78.6% noting that the amount of packaging is annoying. Additionally production issues surrounding food assume high importance, with 89.3% agreeing or strongly agreeing that supermarkets should take a greater role in ensuring responsible food production. Moreover, animal welfare issues ranked highly with 88.5% of respondents agreeing to the importance of this. Simpler information about environmentally beneficial food choices also appeals to consumers, with issues over government responsibility for food choice being noted. Interestingly, 78.3% noted that they were prepared to pay more for better quality products.

Analysis of sustainable food constructs (Table 3) reveals that consumers place the highest priority on how food is produced, followed by packaging and attitudes to seasonal food with respective mean scores of 3.81, 3.78 and 3.69 (out of 5). Similarly, information which is currently available for shoppers wishing to make more sustainable food choices ranks relatively highly (3.67) as does attitudes to meat (3.63) being ranked fifth in importance and local food (3.47) as sixth. , Consumers are, relative to these issues, less concerned about where food comes from (3.32), bottled water (3.32), organic food (3.19), food transport (3.14), fair trade (3.13) and fish (3.08).

Breakdown of stated purchasing data (Table 4) illustrates that consumers are most likely to buy free range eggs always or often (together accounting for 69.6%), followed by vegetables (46.8%), free range poultry (46.3%) local milk (44.3%), local eggs (36.3%) and local cheese (30.0%). Organic products exhibit lower numbers of consumers purchasing 'always' or 'often', as do 'Fair-trade' products and other assurance labelled products such as Red Tractor, RSPCA Freedom Foods, and Marine Stewardship Council approved fish.

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4. Discussion

Data presented in this paper shows that packaging is an issue of great importance to consumers, as has been previously evidenced (Incpen, 1997; Rokka and Uusitalo , 2008) and noted with respect to the purchase of loose fruit and vegetables and consumers responses to packaging in general. Mintel report that 'easy to recycle (biodegradable)' packaging is the primary attribute sought by consumers who are becoming increasingly aware of the environmental impact associated with food packaging (Mintel, 2010). Forecasted trends for food packaging predict 'an increasingly ethical consumer base now expects manufacturers to use smaller quantities of packaging' (Key Note, 2010). Hence the findings from this research reinforce these key aspects identified from contemporary conclusions from market research companies. The results of our study indicate that there is a strong desire for supermarkets to make sure food is produced responsibly. Within our questionnaire, items in the 'How my food is produced' section were focussed around quality and environmental aspects of food production, and both of these factors have been well documented in the literature as being of importance to consumers (Wandel and Bugge, 1997; Krystallis and Chryssohoidis, 2005).

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The majority of respondents value the importance of buying meat which has been produced with high standards of animal welfare, and DEFRA concur that there is sympathy from UK consumers for animal welfare (DEFRA, 2008). Other findings indicate that consumers are willing to pay more for products produced with higher animal welfare standards (Napolitano *et al*, 2008), which additionally meets with the findings from this current study whereby 78% of consumers were willing to pay more for better quality food. The frequency of reported purchases of free range eggs and poultry further strengthen the findings in respect to consumers' views on "how" food is produced, and could be the result of recent media attention highlighting non 'free range' methods of production.

More specific areas of consumption receive relatively less concern from consumers, for example organic production and fair trade products. Lockie *et al* (2002) suggest that contradictory information regarding the health and environmental benefits of organic food may deter consumers, who are often making decisions against "an array of competing imperatives, needs and desires"(Lockie *et al*, 2002). Our findings indicate substantially smaller percentages of consumers always or often buy organic or fair trade products in comparison to local and free range products. The price premium associated with organic products, combined with issues over availability of certain organic and fair trade products are argued to account for a large proportion of the difference in stated purchasing patterns observed between these product groups. Within our research we intentionally did not define "local" produce by a geographical definition (e.g. produced within 30 miles) or a product designation (e.g. Nottinghamshire"). Hence, by definition we are capturing consumers own perceptions of their definition of "local", which, for example, may include purchases from a local market without a specific definition of the region of production for the product. This additional feature may in part explain the relatively large emphasis on local food within our results, however, the clear pattern that emerges indicates that local produce is of very substantial importance, as has been previously evidenced (Kupiec -Teahan *et al*, 2009).

Fish consumption represents a particular product / consumption choice pattern resulting in potential confusion for consumers and may in part be a function of a more specific market mechanism. Further analysis of the data set (not presented here) suggests that consumers are uncertain over the sustainability issues that surround fish consumption, for example whether farmed fish is "sustainable" or not and this area warrants further investigation in order to provide more coherent results and conclusions than are possible from the current analysis of the data.

5. Conclusion

Using a detailed questionnaire sent to 2,500 Nottinghamshire residents, this paper has explored consumer's attitudes towards food production and consumption, specifically identifying consumer's priorities for sustainable food and their stated food purchasing behaviours. Key findings suggest that packaging and production methods are of importance to consumers, together with seasonal food, information provided to consumer and attitudes towards meat production. Local and free range products are purchased more frequently than organic and fair trade products, with free range eggs and poultry and local vegetables and milk being particularly popular choices, relative to other sustainable products considered within this research. Future research which compares and contrasts stated and actual preferences by comparing results from the population survey to actual purchasing behaviour from supermarket data is anticipated to reveal the extent of differences between stated and revealed preferences in sustainable food consumption.

Table 1 Percentage of Respondents by Gender and Age Group

Socio-demographic characteristics of the sample (n= 842)		**N**	**%**
Gender:	**Men**	**333**	**40.1**
	Women	**497**	**59.9**
Age (y):	**18-30**	**101**	**12.2**
	31-45	**185**	**22.4**
	46-60	**262**	**31.8**
	61-91	**277**	**33.6**

Table 2 Attitudinal Items with Highest Consumer Concurrence (top ten)

Attitude Statement	Strongly agree/agree		Neither Agree/Disagree		Disagree/ Strongly disagree	
Loose fruit and veg are a better choice for the environment	740	90.0	69	8.4	13	1.6
Supermarkets should do more to make sure food has been responsibly produced	734	89.3	77	9.4	11	1.3
I think it is important to buy meat that has been produced with good standards of animal welfare	711	88.5	79	9.8	13	1.6
I would prefer it if my food did not contain any added chemicals	689	86.0	86	10.7	26	3.2
It would be helpful to have simpler information about making better food choices for the environment	677	83.1	124	15.2	14	1.7
I don't like the ideas of lots of animals being reared indoors	654	81.1	116	14.4	36	4.5
I'm prepared to pay more for a better quality product	637	78.3	120	14.7	57	7.0
The rules should be changed to make it easier for British producers to compete with foreign imports	636	78.6	143	17.7	30	3.7
The UK government should take more responsibility for what kind of food is available to buy	636	78.0	126	15.5	53	6.5
The amount of packaging that food comes in really annoys me	635	78.6	113	14.0	60	7.4

Table 3 Consumer Priorities for Sustainable Food by Construct

	N	Min - Max score	Range	Mean	Cronbach's Alpha (no of items)
How my food is produced...	770	4-20	16	3.81	0.67 (4)
What do you think of packaging?	761	7-25	18	3.78	0.67 (5)
Seasonal food...	781	5-20	15	3.69	0.68 (4)
Information for shoppers...	779	9-25	16	3.67	0.39 (5)
Attitudes to meat...	730	19-45	26	3.63	0.75 (9)
Local food...	773	13-35	22	3.47	0.71 (7)
Where my food comes from...	670	12-30	18	3.32	0.64 (6)
What I think about water...	687	3-15	12	3.32	0.65 (3)
What I think about organic food...	714	14-45	31	3.19	0.70 (9)
How does food move around....?	774	3-15	12	3.14	0.61 (3)
Who is involved in producing my food...?	755	3-15	12	3.13	0.49 (3)
When I buy fish...	660	9-30	21	3.08	0.60 (6)

Table 4 Frequency of Reported 'Sustainable' Food Purchases

Food category	Always	Often	Sometimes	Never
Free range eggs	46.6	23.0	23.5	7.0
Local Milk	27.1	17.2	24.6	31.1
Free range poultry	21.2	25.1	37.9	15.8
Local eggs	18.7	17.6	38.9	24.7
Local vegetables	12.4	34.4	42.3	10.9
Local cheese	11.7	18.3	42.4	27.6
Fairtrade tea/coffee	10.2	11.3	34.8	43.7
Locally produced meat	7.7	22.2	48.8	21.2
Organic fruit & fruit juice	7.7	11.5	39.4	41.4
Organic eggs	7.7	6.9	23.9	61.5
Free range red meat	7.5	16.3	43.6	32.6
Locally produced poultry	7.0	15.2	46.2	31.6
Fairtrade fruit & fruit juice	5.3	14.4	44.2	36.0
Organic Milk	4.8	3.1	17.0	70.2
Organic poultry	3.7	8.4	35.3	52.5
Organic yoghurt	3.7	8.0	24.0	64.3
Red Tractor Approved Foods	3.4	8.4	18.1	70.1
Fairtrade chocolate	3.0	8.3	36.3	52.5
Organic vegetables	2.9	10.1	49.2	37.8
Organic breakfast cereals	2.4	4.2	17.6	75.8
Organic cheese	1.7	3.7	25.2	69.4
RSPCA Freedom Foods	1.6	2.9	15.7	79.8
Organic red meat	1.4	4.8	33.3	60.5
Marine Stewardship Council approved fish	1.3	5.1	18.7	75.0
Organic chocolate	1.0	3.6	18.2	77.2

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